

Commission of Inquiry
Respecting the Muskrat Falls Project

Hon. Justice Richard D. LeBlanc, Commissioner

WRITTEN SUBMISSIONS OF EDMUND J. MARTIN

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OVERVIEW

1. The Muskrat Falls Project has brought a host of significant benefits to this Province. Nalcor was created by the Government of Newfoundland and Labrador to carry out its policy of exploring and developing the natural resource potential of this Province, including in particular the Lower Churchill River. Mr. Edmund Martin was appointed to the position of CEO for the new Crown Corporation. Mr. Martin assembled a competent and qualified team and, together with Nalcor's Board of Directors, successfully led Nalcor for over ten years through the consideration, approval, and much of the construction phase of the Muskrat Falls Project.
2. This Inquiry is taking place quite early in the life of the Project, at a time when the challenges of costs and spending threaten to overshadow the longer-term positive attributes of this hydroelectric dam. From additional revenues for the people of this Province for years to come; to full ownership of a "clean" power asset to fulfill the needs of ratepayers; to an improved negotiation relationship with other provinces and consequent opportunities for commercial arrangements with other jurisdictions, this Project brings a wide range of benefits for Newfoundland and Labrador. We strongly encourage the Commissioner to take into account the evidence of those who testified that these and other benefits are the reason they supported the Project, both in 2010-2012 and today. It would do a disservice to the Project to focus only on its costs and criticisms, notwithstanding the framing of the Terms of Reference toward cost overruns and other challenges.
3. Mr. Martin oversaw the development of the Muskrat Falls Project from its nascent stages, when it was considered to be secondary to a larger, Gull Island development. He navigated it through extensive evaluation, consideration, and public debate. Nalcor equipped itself to carry out the Project with qualified individuals. Nalcor's internal project management team, with the help of external assistance, including a significant and long-

term partnership with SNC-Lavalin to manage this megaproject, has spent years shepherding this Project forward to its current status. During his time as CEO, Mr. Martin worked closely together with civil servants and politicians, including a number of different Ministers of Natural Resources and Premiers, to keep government fully apprised of the status of the Project. Mr. Martin and the Board of Directors were comfortable that at all times, the Province was fully aligned with Nalcor's strategic direction and decisions.

4. Nalcor and the Province spent considerable time and resources identifying and deliberating over available generation sources which could power this Province's future energy needs. In nearly every comparison scenario that was contemplated, no other viable option for power generation could come close to the nature and scale of the benefits that would accompany a Muskrat Falls dam development. Other sources proved costly, unstable, environmentally unsatisfactory, or some combination of all three. The Holyrood power generation facility, on which much of Newfoundland relies for its power, is highly fragile. It is not a sustainable or viable option for the future.
5. Prior to its sanction, the Muskrat Falls Project was found to be, and it continues to be today, the lowest cost option for reliable power generation. It fulfills the legislative mandate which has been created by the Government of Newfoundland and Labrador to balance reliability and cost in identifying power generation options. Prior to sanction, this was Nalcor's conclusion. At the time, it was supported by many external experts who, one after another, opined as to the options available to the Province of Newfoundland and Labrador and concluded that a Muskrat Falls development was the right path to follow.
6. It is an inescapable reality of this megaproject that there have been cost overruns. Unforeseen events have befallen the Project. It would be unreasonable to hold Mr. Martin and the Nalcor team to a standard of perfect clairvoyance in predicting the future with respect to these challenges. The obligation on Nalcor and its CEO was to act reasonably, diligently, and to make the best decisions possible in accordance with the facts which were

available at the time. When challenges arose, including cost overruns; identified risks; slow productivity; delays; or public criticism, Mr. Martin called on his team and addressed these issues in a diligent and timely fashion, with reasonable and careful attention to the details of the situation at hand. The Commission may find it necessary to comment on specific actions or decisions taken by Mr. Martin, but we caution against the application of any hindsight standard when weighing such decisions and actions. A “reasonableness at the time” standard is a more appropriate vantage from which to view the events of the past.

7. The performance of Mr. Martin in the role of Nalcor CEO has been praised by leadership, including former Premiers of this Province who worked closely with him on the Project effort. Nalcor’s efforts, and Mr. Martin’s personal efforts, to create commercial arrangements bringing the Muskrat Falls Project to life have brought billions of dollars in value to this Province, which will be realized over the long term. The efforts of Mr. Martin in leading his team to secure these benefits were indispensable and ought to be valued as such by this Commission.

Interpretation of the *Electrical Power Control Act, 1994*

8. In fulfilling the mandate set by the Terms of Reference, the Commission of Inquiry Respecting the Muskrat Falls Project (the **Commission**) may provide an interpretation of the meaning of the legislative language surrounding the “lowest possible cost” solution to provide reliable service to the ratepayers of Newfoundland and Labrador. We submit that the proper interpretation of section 3(b)(iii) of the *Electrical Power Control Act, 1994* (**EPCA**) might usefully draw on the related concept of finding the highest value option for the ratepayers of Newfoundland and Labrador.

*Commission of Inquiry Respecting the Muskrat Falls Project Order under
the Public Inquiries Act, NL Reg 101/17, s4*

9. The Terms of Reference specifically indicate the timeframe over which the Commission is to assess the reasonableness of Nalcor's determination that the Muskrat Falls Project (**MFP** or the **Project**) was the lowest cost option to provide reliable service to the ratepayers of NL: 2011 to 2067. Over this duration, it is indisputable that the preponderance of available information in 2010, in 2012, and in 2013 at critical junctures in the life of the Project, showed that the MFP was indisputably the lowest cost option available to the Province to provide reliable electrical power. Nalcor found this to be the case, as did external consultants and experts who advised Nalcor Energy (**Nalcor**), the Government of Newfoundland and Labrador (**GNL**), and other stakeholders at the time.
10. Two key principles ought to be taken into account in the Commission's assessment of lowest possible cost versus reliability. First, "*lowest possible cost*" can arguably be interpreted from another angle, being "*highest value*" to the ratepayers of Newfoundland and Labrador. There is an inherent friction between these two concepts, in that purchasing increased reliability also increases the cost associated with the infrastructure in question. For example, when the decision was taken to upgrade the reliability of the Labrador-Island Link (**LIL**) to ensure it could withstand more severe weather events, the cost associated with building each tower increased. The legislative mandate set by the EPCA is therefore a direction to government, and to Nalcor, to strike a balance between cost and reliability. Incurring cost is unavoidable.
11. Second, the framework through which "*lowest possible cost*" ought to be analyzed is not exclusively with respect to the capital cost of the Project, though much of the Inquiry's time has been focused on that point in keeping with section 4(b) of the Terms of Reference. The overarching purpose of the EPCA is to deliver electricity to ratepayers. The legislation directs Nalcor to determine the least cost option, but *viewed from the perspective of the ratepayer*. There has been evidence before the Commission that the capital costs of the Project may affect rates in the short term (provided the rates are not mitigated by

incremental value generated from the MFP such as from excess sales revenue and/or return on equity rebates), but this issue should be considered in the context of the likely long-term impacts upon the ratepayer. Taking the entire timeframe of 2011 through 2067, and not only in the short term, the vast majority of ratepayers in those years will undeniably benefit from the low-cost, clean power generation offered by the Muskrat Falls hydroelectric project.

12. Dr. Jergeas testified before the Commission respecting the changing views, over time, directed toward the Opera House in Sydney, Australia – a very famous and unique landmark which is recognizable the world over. He noted that when the building was constructed, the project was viewed as a failure because of the significant cost overruns associated with the construction efforts. However, with the passage of time, the perception of the building has completely changed for locals and international visitors alike. It is well known in this Province that when the Hibernia Project was first contemplated and sanctioned, it was vehemently criticized as a fool's errand. Today, it has been a highly productive and profitable fixture on the Grand Banks for many years. It is equally important that that current challenges associated with the Project not be permitted to diminish its positive attributes in the long term.

Testimony of Dr. G. Jergeas, 19 June 2019, pp14-15

13. Like the Sydney Opera House and Hibernia, the full depth and breadth of the benefits of the Muskrat Falls Project may not become apparent and understood for some time. For instance, Muskrat Falls can, and will shortly, begin to produce more electricity than this Province requires to meet its ratepayers' needs. Future potential for this electricity to bring gains to this Province, either through sale to another jurisdiction, or industrial growth, is very real, notwithstanding that this future potential has so far been set off against the challenges of front-end-loaded capital costs. There are multiple additional benefits associated with the MFP that will unfold over time. The fact that the future benefits are

present, but less readily quantified and understood, does not mean that they are not real, tangible, and available to the people of Newfoundland and Labrador (**NL**).

14. The early timing of this Inquiry during the life of the Project, in the midst of the construction spending phase and before the ratepayers of this Province have begun to receive its tangible benefits, creates a risk of an outsized focus on early costs. We urge the Commissioner to keep in mind the higher-level perspective mandated by the long-term timeline set by the Terms of Reference, even when examining the minutiae of contractor arrangements, consultants' advice, cost projections, and other details.
15. The Commissioner has identified the need to assess the reasonableness of decisions made at various times during the life of the Project, without reference to hindsight. We agree. It is imperative to remain mindful of viewing events as they unfolded at the time, free from undue influence of subsequent occurrences, as difficult as this task may be in practice. To assist the Commission, we have identified particular circumstances in this submission where we believe that the risk of hindsight influence is high.

*Interpretation of the Terms of Reference for the Muskrat Falls Inquiry, 14
March 2018, para 14, item 6*

16. Mr. Martin was granted full standing to participate in this Inquiry by the Commissioner's decision dated April 6, 2018. This submission therefore addresses a wide range of issues and facts, in keeping with Mr. Martin's right to full participation.

*Standing Application for Edmund Martin for the Muskrat Falls Inquiry
Decision, 6 April 2018*

EARLY LIFE OF MUSKRAT FALLS: NALCOR'S MANDATE

Nalcor's Mandate Shaped by GNL

17. From the mid-2000s onward, when Premier Williams came into office, the mandate of Nalcor to explore development of the Lower Churchill River was made plain. The choices

available to Nalcor in seeking out hydroelectric sources for the future were constrained by external forces, including in particular the mandate set for Nalcor by GNL.

18. Former Premier Williams' testimony contained the strong theme that from the outset, when he was leader of the Opposition in 2001, and continuing when he became Premier in 2003, he believed that NL had been treated unfairly in business and politics by the rest of the country. He campaigned on a platform of changing the status quo on this point. Developing hydroelectricity in the province was one of his main project platforms (along with addressing equalization and oil & gas development). His policy platform made it clear that developing the Lower Churchill was a high priority for his government.

P-00277, PC Party Blue Book, 2003, pp29-30

19. Mr. Williams testified that there was never a presupposition that there would be a development of the Lower Churchill "at all cost[s]". For example, the Gull Island scenario was dismissed after consideration, circa 2008, that developing such a large project would so far exceed the anticipated electricity demands of Newfoundland that it would potentially create a greater per-unit cost for the ratepayers of this province. The impact on the ratepayers was a primary consideration for GNL, and for Nalcor, at this time.

Testimony of Danny Williams, 1 October 2018, pp22-23

20. The Commission has heard evidence relating to the 2007 Energy Plan, promulgated by the government then in power. That document was the result of collaboration of a number of groups, including senior government officials in multiple departments, as well as external stakeholders.

Testimony of D. Williams, 2 October 2018, p30

21. Former Premier Williams' evidence before the Commission was that the decision to proceed with Muskrat Falls was not concluded in 2007. The Energy Plan identified the Lower Churchill Project (**LCP**) as the preferred option, but also kept other options in play

at that time. However, notwithstanding that a final decision had not yet been made in 2007, Nalcor had a clear mandate to explore the development of the Churchill River's hydroelectric potential.

Testimony of D. Williams, 1 October 2018, p86

22. Mr. Bennett testified to his understanding that Newfoundland Hydro was bound to follow the government's policy as it was set out in the Energy Plan. We submit that this mandate was continued following the creation of Nalcor.

Testimony of G. Bennett, 26 November 2018, pp3-4

23. Ms. Dunderdale testified that she was involved in the drafting of the 2007 Energy Plan, though the consultations leading up to it had been carried out by the previous Minister of Natural Resources. In a similar vein to Mr. Williams, she testified that the mandate of the Energy Plan was to push for the development of NL's natural resources for the benefit of Newfoundlanders and Labradorians. It also to set out the expectations of the Province so that companies and investors could better understand what would be expected of them in doing business in this jurisdiction.

Testimony of K. Dunderdale, 19 December 2018, pp66-67

24. Ms. Dunderdale testified that GNL and Nalcor mutually understood that before Nalcor would go ahead with a major project – such as developing Muskrat Falls – that there ought to be “alignment” between the two entities. In her view, Nalcor was an arm of GNL, designed to carry out public policy of government.

Testimony of K. Dunderdale, 18 December 2018, pp77, 79

25. The decision to go ahead with the Muskrat Falls development was not made by Mr. Martin alone, nor was it made by the Nalcor Board of Directors. It was a policy decision made by GNL. Its earliest roots predate the appointment of Mr. Martin to the position of Chief Executive Officer (CEO). Ms. Dunderdale testified that her view was that pursuing

development of the Churchill River, in some form, was a government policy decision. In her view, this was distinct from the statutory mandate to find the lowest-cost option for reliable power delivery, which is not a government policy decision. Any decision to sanction was contingent on demonstrating the economic viability of the Project.

Testimony of K. Dunderdale, 20 December 2018, pp63-64

GNL's Design of Nalcor as Independent Set the Stage

26. From late 2012, day-to-day oversight and management of the Project was intended to be, and it was, expressly and clearly placed on Nalcor, and not on GNL. The legislative framework enacted by GNL communicated their intention that the Project be carried out at some distance from the direct supervision of GNL officials, though their connection to the Project did not completely disappear.
27. In December 2012, the *Energy Corporation Act* was amended to accommodate new sections relating to the Project. GNL expressly increased the autonomy enjoyed by Nalcor in entering into contracts relating to the Project, distancing itself from the day-to-day operation of the Project. This was accomplished by adding section 3.1 to the legislation, which amendment was proclaimed in force on November 29, 2013. The amended section provides that Nalcor may enter into contracts on its own behalf in relation to the Muskrat Falls Project, and provides that the Crown is not liable in tort, contract, or otherwise for the consequences of those contracts.

*NL Reg. 118/13
An Act to Amend the Electrical Power Control Act, 1994, the Energy
Corporation Act, and the Hydro Corporation Act, 2007, SNL 2012, c 47, s 6
and see Energy Corporation Act, SNL 2007, cE-11.01, s 3.1*

28. The plain effect of this amendment was to bestow Nalcor with an arm's-length ability to evaluate, enter into, and bear the consequences of contracts specifically relevant to the Muskrat Falls Project. Nalcor was expressly given additional latitude to take steps to move the Project ahead. This is quite the opposite of communicating any intention by GNL that

there was any need for increased oversight or control exercised by GNL, by Cabinet, or by the Department of Natural Resources.

29. In practical terms, when Nalcor went to the market and sought bids on its proposed scope of work, and bids were received, there was expressly no formal obligation on Nalcor to bring the resultant contracts to GNL for review or approval, by legislative design. It was open to GNL to design the legislation such that Nalcor would be required at particular intervals; based on a particular magnitude of contract; or other criteria, to seek and obtain the approval of the Lieutenant-Governor in Council in respect of its contracting activities. No such mandate was imposed. Mr. Martin's practice of providing GNL with high-level updates with respect to contracts; risk assessments; scheduling details; and so on, all of which are discussed later in this submission, was fully in keeping with the legislative mandate communicated to Nalcor from GNL. The nature and content of the updates were expressed in an easily understood manner, and without request for amendment.

NALCOR WELL-EQUIPPED TO CARRY OUT MUSKRAT FALLS PROJECT

Nalcor CEO has a Broad Suite of Responsibilities

30. The CEO of Nalcor is required to oversee a wide range of businesses. When Nalcor was created, Mr. Martin was technically appointed to lead six separate corporations.¹ In 2012, Nalcor had six separately identified lines of business: Newfoundland and Labrador Hydro; Churchill Falls; Oil & Gas; Lower Churchill Project; Bull Arm Fabrication; and Energy Marketing. When GNL recruited a CEO to lead Nalcor, the mandate was broader than just hydroelectricity, or the development of the Lower Churchill specifically.

P-01638, Nalcor 2012 Business and Financial Report, pp6-7

¹ These are Nalcor Energy - Oil and Gas Inc.; Nalcor Energy Marketing Corporation; Nalcor Energy – Bull Arm Fabrication Inc.; Churchill Falls (Labrador) Company Limited; Newfoundland and Labrador Hydro; and Nalcor Energy.

31. Mr. Martin was recruited from within the oil & gas sector to lead Nalcor. The oil resources on the Grand Banks are an incredibly important part of this Province's natural resource sector. Mr. Martin's experience and record was a natural fit for Nalcor's mandate of developing energy resources on multiple fronts. Mr. Williams testified that Mr. Martin was "*an extremely competent, thorough, ethical individual to head up a team*". He had no concern that Mr. Martin's background was primarily in the offshore oil & gas industry. Mr. Williams acknowledged that Nalcor is a complex operation, and that the primary task for the CEO is to develop and manage a team by providing leadership, all tasks which he felt comfortable relying on Mr. Martin to carry out.

Testimony of D. Williams, 1 October 2018, p20

32. Mr. Martin had a strong background in project finance and in management gained through his work on other megaprojects. Witnesses positively commented on Mr. Martin's suitability for the role of CEO, including his negotiation experience and savvy; his courtesy and professionalism in dealings with others; his honesty; and other positive attributes. Former Premier Marshall testified that he "*had confidence*" in Mr. Martin and his negotiating team.

P-01807, CV of Edmund Martin, p5
Testimony of D. Williams, 1 October 2018, p20
Testimony of T. Marshall, 6 November 2018, see e.g. pp 29, 33

33. The criticism that Mr. Martin lacked hydroelectric-specific experience when he joined Nalcor is misplaced. The Commission heard expert testimony to the effect that experience in megaproject management in oil and gas – which Mr. Martin had gained through his time working on the White Rose and Hibernia projects – is transferable. Since technical project work is not expected to be completed by the CEO in any business, including Nalcor, the specific type of megaproject being contemplated is less important than leadership and

project management skills, so long as there are other members on the team who do have hydroelectric-specific experience.

Testimony of Professor Flyvbjerg, 17 September 2018, p20

Testimony of Dr. G. Jergeas, 19 June 2019, p39

Testimony of G. Bennett, 25 June 2019, pp78-79

34. It would not have made sense for GNL to appoint an individual who lacked oil & gas expertise or experience into the then-newly created role of CEO of Nalcor. NL was then promoting itself, and continues to promote itself, as a champion of oil & gas development on the Grand Banks and elsewhere. Mr. Martin's skills and experience were entirely pertinent to a role that was broader than just exploring the possibility of developing the Lower Churchill.

Essential Roles of the CEO

35. The essential role of the CEO is to oversee and implement the statutory mandate imposed upon Nalcor to meet this Province's energy needs in the manner that strikes a reasonable balance between the conflicting statutory criteria of "lowest possible cost" and "reliable service".
36. The multiple roles being fulfilled by the CEO also influence the level at which the CEO was expected to be familiar with the day-to-day management of the Project. It was not only expected, but necessary, for Mr. Martin to rely on others, such as the project management team (**PMT**), to carry out daily oversight and technical work. In 2012, for example, Muskrat Falls was not the only project being pursued by Nalcor, though it was the single largest item. The 2012 Nalcor Business and Financial Report shows that Nalcor's various business divisions were taking on many and varied projects, as well as operating large ongoing businesses with respect to reliability, financial stability, safety, environmental and

asset management performance. Mr. Martin's role was to oversee these business divisions, not to perform the day-to-day work on their behalf.

P-01638, 2012 Nalcor Business and Financial Report, pp8-13

37. During Mr. Martin's tenure, the safety culture at Nalcor improved dramatically. For example, the 2012 Business & Financial Report details a drastic improvement in safety statistics: a 65% reduction in lost-time injury rates since 2002; a 64% drop in the frequency of high-potential incidents since tracking began in 2008; and a 54% increase in reports in safety-related observations over 2007 figures. Mr. Martin's tenure as CEO was marked by many successes in the leadership of the company.

P-01638, 2012 Nalcor Business and Financial Report, p8

CEO Assembled and Relied on Qualified, Competent Team

38. As CEO, Mr. Martin was responsible to appoint qualified individuals into key roles, who in turn (or with the participation of the CEO, in some instances) identified and recruited appropriate employees, independent contractors, and external contractors to carry out the project in question. After appointing these key individuals, or in some cases continuing their tenure from their prior role (as with Mr. Bennett, whose tenure with NL Hydro predated Mr. Martin), it is the CEO's job to stay informed at an executive level, to manage significant milestones, and be responsible for strategic planning and major decision-making.
39. Mr. Bennett testified to the trade-offs that were necessary during the recruitment of PMT members. He categorized the choice as, in some cases, between recruiting an individual who had megaproject management experience which was local but arose in the oil and gas sector; versus someone who was totally unfamiliar with our climate, culture, and so on but who had worked on a hydroelectric dam construction project. In many cases, both skill sets could not be found within the same individuals, thus it was necessary to make choices based on candidates' skills in light of the necessary functions of the job. This is a

reality experienced by all employers in hiring, and it underscores the practical difficulties with filling the roles with highly experienced candidates in a niche market.

Testimony of G. Bennett, 26 November 2018, p15

40. Nalcor made reasonable efforts to recruit, and succeeded in hiring, individuals with hydroelectric-specific experience. In particular, Nalcor sought out the expertise of SNC-Lavalin (**SNC**), who had recent and local hydroelectricity project experience, to assist with the engineering and design. This mitigated the potential for challenges due to any lack of hydroelectric-specific experience among the Nalcor PMT.
41. Hydroelectric experience within the PMT certainly assists, and adds value. The testimony of the experts before this Commission was that this is not the only path to recruiting qualified individuals. Since oil & gas project management experience is, to a significant extent, transferable, hydroelectric-specific experience is not the only possible solution.

Testimony of Dr. B. Flyvbjerg, 17 September 2018, pp20-21
Testimony of Dr. G. Jergeas

42. Brendan Paddick testified that he experienced a “*surprise epiphany*” when he joined the Nalcor board in 2016 relating to the “*quality of the people*” on the Nalcor team. He spoke to their “*dedication*”, “*professionalism*”, and “*preparedness*”. The new Board of Directors supported the senior leadership team associated with the Project, and presumably the new CEO concurred with this approach, as the leadership group continued with the Project. This is a testament to the quality of the individuals who are fulfilling the roles. It also speaks to the consensus between former and current Nalcor management as to the competence of the team that was assembled by Mr. Martin.

Testimony of B. Paddick, 18 June 2019, p26

Executive Committee Created and Implemented

43. Mr. Martin created an oversight committee for the Project. Nothing turns on the fact that this committee was referred to as an “Executive Committee”, rather than a “Steering Committee”. This committee was independent of Mr. Martin, in that he was not a member. He testified that it was his decision to create this entity, and that the reason for doing so was because he wished to implement oversight of the MFP. The effect is that the Executive Committee maintained a level of independence from the CEO.

See *P-00109, Nalcor Energy Response to Grant Thornton Question 1.3 re Steering Committee dated July 3, 2018 Testimony of E. Martin, 10 December 2018, pp77-78*

44. The Commission heard testimony from members of the Executive Committee, including Messrs. Bennett, Humphries, and Sturge, to the effect that the Executive Committee did not meet regularly. The implication is that it was not particularly effective in carrying out its mandate. Mr. Martin’s testimony was that he did not know, at the time (i.e. prior to DG3), that the Executive Committee was not meeting on a regular basis. In fact, the evidence suggests that the Executive Committee met every other week, usually on Wednesday afternoons.

See e.g. *Testimony of G. Bennett, 26 November 2018, p28 Testimony of E. Martin, 10 December 2018, p77 P-01414, Email dated June 19, 2012, 1:05:08 PM from Charles W. Bown to BrianCrawley@nalcorenergy.com re LCP Executive Committee, p1*

45. The Project Steering Committee Charter draft which was presented to Mr. Martin during his direct examination by Commission Counsel was not finalized. However, the Executive Committee went on to prepare its own guidance document, the *Committee Charter and Terms of Reference*, which served an effectively equivalent purpose. This document was circulated among the Executive Committee in mid-2011.

P-01450, Committee Charter and Terms of Reference (draft), pp2-7

46. Following its creation and the appointment of individuals to sit on it, the Executive Committee was no longer the personal responsibility of Mr. Martin. He had already carried out his role, going so far as to cause the creation of a Project Steering Committee Charter in draft for approval. This committee provided input at DG2 and at DG3, which was part of their mandate. From the perspective of the CEO, the Executive Committee functioned as it was intended to do by providing this input.

*P-00109, Nalcor Energy Response to Grant Thornton Question 1.3
P-01318, Project Steering Committee Charter (draft)
Testimony of E. Martin, 10 December 2019, p75*

CEO Responsibly Managed the PMT as to Cost, Schedule

47. Mr. Martin's oversight of the PMT was aimed at encouraging them to manage the Project effectively. The PMT was advised that they had limited and tightly controlled funding, so as to ensure they operated in a cost effective manner. Likewise, Mr. Martin was very careful to, when considering projected schedule or costs growth, direct the team to make all efforts to find ways to mitigate challenges to the schedule. This was an entirely reasonable management choice vis-à-vis the PMT.
48. Mr. Martin testified that his belief as to the best way to manage the PMT was to communicate to them that they had a limited amount of money, and time, with which to complete the Project. His view of his own mandate with respect to the PMT was to be firm with them, and keep the pressure on by demanding rigorous justification for each Approval for Expenditures (**AFE**). Mr. Martin's testimony was that it was normal for a project team to request additional time and budget, which he would typically not permit without rigorous mitigation and review. In his view, the proper role of CEO is to keep a tight lid on granting additional leeway in cost, scope, and timelines, so that the PMT would manage these items so as to avoid overruns – in a sense, motivating them to meet the realistic, approved , limits set out for them.

Testimony of E. Martin, 11 December 2018, p50

49. Mr. Martin's commitment to keeping the file within budget was demonstrated in his reluctance throughout his tenure to change the AFE amounts, as communicated to the PMT, without ample evidence that it was necessary to do so. This approach to managing a project team was supported by the testimony of Professor Klakegg in Phase III, who encouraged demanding but realistic goals, and restraint in increasing the budgeted amount given to the project execution team so as to protect the project from overruns.

*Testimony of Professor Klakegg, 24 July 2019, pp11, 25
P-04438, Governance Frameworks: The Norwegian State Project Model
and other schemes. Preconditions and effective elements – suggestions for
Newfoundland and Labrador, Prof. O.J. Klakegg, p17*

50. Mr. Westney's testimony respecting the budget management practices of executives is aligned with the approach taken by Mr. Martin to managing the PMT aggressively. His testimony was that executives tend not to acquiesce to a project team's requests for budget and schedule amount increases. Mr. Westney testified that it was critical to maintain a distinction between strategic and tactical risks, so that the contingency is not excessive. He understood that executives do not wish to have an excessive, unassigned contingency amount which could be viewed by the PMT as a "slush fund".

Testimony of R. Westney, 16 November 2018, p12

51. Mr. Westney further testified that maintaining aggressive management of costs, without an unassigned slush fund in the form of a large contingency, has a positive impact on the PMT's management of operations teams (the same logic could also reasonably apply to management of external contractors). In his view, the PMT would tend to say "no" to requests for additional features, or at a minimum to require justification for the additional spending request. In other words, maintaining a tight control on amounts approved to be expended, as communicated to the PMT, tends to have a positive effect, in his view, on their management of cost requests from contractors or sub-contractors.

Testimony of R. Westney, 16 November 2018, p69

ALTERNATIVES TO MUSKRAT FALLS DEVELOPMENT CONSIDERED AND REASONABLY DISMISSED

52. The other options to provide reliable electrical power that were available and considered by Nalcor did not meet the criteria of being the lowest-cost option for reliable service to the ratepayers of this Province. The viable options available to Nalcor to secure reliable energy for the future were limited. Nalcor made extensive efforts to identify and evaluate alternative options to the MFP, and it reasonably selected to recommend going ahead with the Project on the basis of all the information that was available to it at the time, including lowest cost within the context of highest value.
53. We do not intend, in this submission, to canvass the technical attributes of each potential alternative, such as wind energy, natural gas, combustion turbines, and so on. This task is better left in the context of this Inquiry to counsel for Nalcor, and to the experts who have provided opinions to stakeholders over the years. As CEO of Nalcor, Mr. Martin's responsibility was to ensure that these options were identified and canvassed by the technical teams (or external consultants assisting them); to report to GNL on the potentially viable options and to offer Nalcor's opinion and guidance as to which was the lowest-cost option for reliable service. Once the mandate had been decided at each decision gate, the CEO's task was to move ahead with implementing that mandate.

Waiting until 2041 and Taking No Action was Not Feasible

54. It was not feasible in 2010, nor would it be feasible now, to take limited or no action to create power generation sources for the island of Newfoundland, in reliance on the singular possibility that Newfoundland could negotiate a viable deal to rely on Upper Churchill power in 2041. Taking this approach would be to put all of Newfoundland's "eggs in a single basket", so to speak, and place control of future power supply and cost in the hands of Hydro-Québec. This approach was neither politically, commercially or technically palatable to Newfoundland and Labrador.

55. The policy mandate from GNL that Newfoundland and Labrador would not “sit on its hands” until 2041 was clear from the earliest days of Nalcor. Starting with the 2007 Energy Policy which expressly mandated that Hydro, and later Nalcor, explore the possibility of developing the Lower Churchill River for hydroelectric production, this sentiment was clear. In November 2012, GNL published the article, “*Upper Churchill: Can we wait until 2041?*”, which plainly set out GNL’s position that it had no intention of taking no action.

P-00061, “Upper Churchill: Can we wait until 2041?”

56. There were at least two reasons for this prior to 2010, both of which hold true today. First, the unreliability and uncertainty of striking any deal at all with Hydro-Québec – let alone being guaranteed a favourable and viable deal – for the supply of Upper Churchill power.
57. Second, there will continue to be a need for reliable power on the island of Newfoundland during the over 30 years which remained between 2010 at DG2, and 2041. In 2010, the Holyrood generation plant was projected to be insufficient to meet the capacity demands of a populous portion of island ratepayers through 2041, and the incapacity was anticipated to begin as soon as 2015.

*P-00216, Nalcor Energy Presentation dated September 23, 2010 re
Island Energy Supply and Lower Churchill – Option Evaluation and
Recommendation, p5*

58. Ms. Dunderdale testified to the political unpalatability, up to 2012, of no project, excepting a transmission line connecting the Upper Churchill to the Avalon Peninsula sometime in advance of 2041. She felt that this approach would have resulted in Newfoundland having too much dependence on Quebec. In her view, Quebec had not shown itself to be willing to assist NL. Quebec would have significant leverage over NL in any future negotiations relating to the 2041 purchase of Upper Churchill power.

*Testimony of K. Dunderdale, 18 December 2018, p69
P-00061, “Upper Churchill: Can we wait until 2041?”*

59. The comments of Morrison Park Advisors before this Commission are pertinent with respect to the non-viability of depending on acquiring either Upper Churchill Power and/or transmission through Quebec in 2041. In their view, the infeasibility of this approach is compounded by NL's lack of success to date before the Quebec transmission regulator, and the weak negotiating position that Newfoundland and Labrador will find itself in respecting the price of purchasing Upper Churchill power from CF(L)Co.

P-04445, Report to the Muskrat Falls Inquiry: Review of Several Financial Issues Relating to the Decision to Proceed with the Muskrat Falls Project, Morrison Park Advisors, May 2019, pp26-27

60. In order to wait until 2041 and then acquire power from the Upper Churchill, NL would have been required to build (or cause to be built) sufficient transmission capacity from the Churchill River to the Avalon Peninsula, in any event. Mr. Bennett testified that the advice Nalcor received was to the effect that the LIL/LTA made more economic sense if construction was not delayed until 2041 (or until shortly in advance of 2041).

Testimony of G. Bennett, 26 November 2018, p43

Mr. Martin reasonably did not negotiate with Quebec prior to DG2

61. As discussed above, Premier Williams and Premier Dunderdale each had no interest in negotiating with Quebec for a deal that would take effect in 2041. In this environment, it was quite reasonable for Mr. Martin not to pursue negotiations with his counterparts at Hydro-Québec for the purchase of Upper Churchill power, or any other arrangement. The evidence before the Commission shows that Mr. Martin took into account the preferences of the government of the day when determining Nalcor's strategic direction.
62. Moreover, Mr. Martin found it reasonable not to pursue negotiations with Quebec based on his assessment, in light of Quebec's own supply and demand projections, that they would have a shortfall of capacity by 2041, and not a surplus of power ready for sale as identified in Hydro-Québec's strategic plan. Since as early as 2006, Quebec has

consistently promulgated information showing they anticipate requiring additional capacity to supply their own needs in the future.

Testimony of E. Martin, 10 December 2018, p58
Testimony of E. Martin, 13 December 2018, p75
P-00273, Using Energy to Build the Quebec of Tomorrow, Quebec
Energy Strategy 2006-2015, p33
P-00255, Hydro-Québec Strategic Plan 2009-2013, p14
P-04468, Hydro-Québec Strategic Plan 2016-2020, Setting new sights
with our clean energy, pp8-9

63. In declining to enter into negotiations with Quebec, Mr. Martin did not overlook a reasonable alternative source of power. Rather, he educated himself as to the facts which would face his negotiating adversary, and concluded that they would be unlikely to strike an advance deal with Newfoundland which secured advantageous prices for electricity where transmission through Quebec was the only option. In response to questioning from Commission Counsel as to why Newfoundland would not simply be able to acquire power from Quebec if Newfoundland was willing to pay market price, Mr. Martin advised that that if NL's only potential vendor of power is Quebec, there is no certainty that market price would be made available to NL. Perhaps more importantly, there were no guarantees that any arrangement at all with Churchill Falls (Labrador) Corporation Limited (**CF(L)Co**) would come to fruition, given that Hydro-Québec controls 34.8% of CF(L)Co.

Testimony of E. Martin, 10 December 2018, p64

64. Morrison Park provided this Commission with an objective analysis of the relative negotiating positions of Quebec and NL in a variety of scenarios. In their view, NL's ability to negotiate a favourable deal with Quebec for 2041 is heavily circumscribed should NL maintain an Isolated Island scheme, with no alternative connection point to the North American grid. Quebec would continue to maintain all control over the only point of access to markets. In the meantime, its own circumstances might permit it to walk away from the negotiating table if needed, "*the definition of a strong negotiating position*". In Morrison

Park's conclusion, NL's negotiation position for a 2041 deal would not have significantly improved over its status when the original Upper Churchill deal was negotiated should NL maintain an Isolated Island scheme, with no alternative connection point to the North American grid.

P-04445, Report to the Muskrat Falls Inquiry: Review of Several Financial Issues Relating to the Decision to Proceed with the Muskrat Falls Project, Morrison Park Advisors, pp28, 34

Nalcor and GNL Thoroughly Evaluated Alternative Generation Options

65. A significant part of Nalcor's work leading up to DG2 was the evaluation of alternative generating options. Nalcor's task was to consider whether new forms of power generation – including wind, tidal, nuclear, and so on – were feasible. This assisted in reaching the narrower comparative analysis which was ultimately done at DG3. An array of expert opinions were available to Nalcor during its viability evaluation of other power generation options.

Nalcor Conducted Internal Evaluation of Alternatives Prior to DG2

66. Nalcor's PUB submission, which was prepared in 2011, is the most comprehensive summary of the work done internally at Nalcor to evaluate the options for long-term future power generation. While this document was assembled after DG2, Mr. Bennett testified that it is representative largely of work that Nalcor completed prior to the end of 2010, particularly by the Systems Planning team.

Testimony of G. Bennett, 26 November 2018, pp30-31

67. The testimony before the Commission from Mr. Kean, Mr. Martin, and others was that Nalcor had internally spent considerable time evaluating non-Lower Churchill power generation options. Mr. Kean testified that he had been asked to prepare many economic models during 2010, each of which incorporated different assumptions into the financial modelling.

Contemporaneous Reports Supported Dismissal of Other Generating Options

68. Nalcor and GNL each engaged external experts to review other potential sources of energy for the Province. None of these reports disclosed viable options for the Province's long-term energy future or goals that were as cost-effective, reliable, or efficient as Muskrat Falls.

69. Hatch Engineering studied the possibility of using wind power prior to DG3 in its *Wind Integration Study*, delivered August 7, 2012. They concluded that in an Isolated Island scenario, wind energy could be added to the grid starting incrementally in 2014, 2020, 2025, and 2035 respectively, with the ultimate outcome being to add a conservative total of some 300MW in wind energy by 2035. This would contribute positively to Newfoundland's energy grid, in that wind energy is "clean" and sustainable. However, wind energy cannot viably provide for 100% of the island's energy needs under any circumstances. Manitoba Hydro International also evaluated the possibility of wind power for GNL in October 2012, with a similar conclusion, and this information was incorporated into the DG3 CPW analysis as outlined in their report entitled, "Manitoba Hydro International Review of the Muskrat Falls and Labrador Island Link and the Isolated Island Option October 2012."

*P-00057, Wind Integration Study – Isolated Island, Hatch Engineering,
esp. at section 7*
*P-00059, Review of the Wind Study for the Isolated Island of
Newfoundland, October 2012*
*P-00058, Review of the Muskrat Falls and Labrador Island Link and the
Isolated Island Option, October 2012*

70. Natural gas and liquefied natural gas ("LNG") were explored as potential fuel options to either continue powering Holyrood, or to fuel a new or upgraded combustion turbine arrangement. LNG was found not to be a viable or cost-effective option to power Holyrood (or its replacement) into the future.

71. Nalcor was criticized, following DG2, for dismissing LNG as an option to power Holyrood, on the basis that the advice supporting this conclusion dated from 2001. Thus, additional evaluation was carried out both by Nalcor and by GNL after DG2 to remedy any potential oversight, and more importantly, to determine whether LNG now represented a viable option. The conclusions of these external studies were available to GNL, and to Nalcor, prior to DG3.

72. Ziff Energy Group prepared a formal report in October 2012 canvassing the possibility of using LNG – whether imported or locally sourced – to power the Holyrood generating station into the future. Their unequivocal conclusion was that LNG was “*not a viable replacement ... While natural gas is physically available offshore Newfoundland and Labrador, it is not available on commercially viable terms for power generation.*”

P-00060, Natural Gas as an Island Power Generating Option, 30 October 2012, Ziff Energy Group, p5

73. A separate independent consultant, Wood Mackenzie, subsequently performed its own independent analysis of the work carried out by Ziff. They not only supported Ziff’s conclusion that constructing LNG facilities in the province was not a viable solution to the Province’s energy needs, but went further, opining that the likely cost of creating the infrastructure necessary to do so would exceed the estimates provided by Ziff.

P-00064, Review of “Grand Banks Natural Gas as an Island Electric Generation Option”, November 2012, Wood Mackenzie

74. No consultant whose evidence is available to the Commission, including Grant Thornton, has reached the opinion that Nalcor made an unreasonable determination with respect to determining that LNG was not viable for Newfoundland.

P-00014, Grant Thornton Phase I Report, section 1.1.3, pp15-17

75. Nalcor’s decision to dismiss options other than the Isolated Island and the Interconnected Island cases was supported by the expert opinions available to it at the time.

Expert Evidence before the Commission Supports Nalcor's Determination

76. In its report prepared for Phase I, Grant Thornton reviewed all of the alternative options considered by Nalcor in its PUB submission, including nuclear, natural gas, wind energy, and so on. Grant Thornton offered no direct criticism of Nalcor's decision to dismiss options other than the five which were presented in September 2010 to the Board of Directors, and to the Minister, based on the information available to Nalcor prior to DG2.

*P-00014, Grant Thornton Phase I Report, pp24-25
P-00216, Nalcor Energy Presentation dated September 23, 2010 re
Island Energy Supply and Lower Churchill – Option Evaluation and
Recommendation, p9*

DETERMINATION OF MUSKRAT FALLS AS LEAST-COST RELIABLE OPTION

Method of Evaluation and Approval met Industry Standards

Cumulative Present Worth is Appropriate Method to Objectively Weigh Options

77. By DG3, Nalcor had narrowed the possible options for future power generation down to just two. These were known as the Isolated Island and Interconnected Island. Nalcor then engaged in a comparative analysis, using a cumulative present worth, or CPW, method to compare their relative costs.

78. Subsequent reviews have approved of Nalcor's choice to use Strategist software and the CPW methodology: Grant Thornton approved of the method itself, and they also noted the approval of the CPW method received by Nalcor from MHI and from the Consumer Advocate. While other methods are available to project cost and risk, such as those detailed by Morrison Park in its report to this Commission, a CPW method has been found to be entirely appropriate.

*P-00014, Grant Thornton Phase I Report, p42, lines 10-11
P-04445, Report to the Muskrat Falls Inquiry: Review of Several Financial
Issues Relating to the Decision to Proceed with the Muskrat Falls Project,
Morrison Park Advisors, p38*

79. Mr. Martin, with his background in finance, well understood the implications of using a CPW analysis method, and its strengths and shortcomings. The decision to use this

method was made consciously in light of the specifics of the situation. The choice to exclude the cash inflows and outflows of certain costs and benefits was made to ensure the analysis would not skew the results too far in favour of the Interconnected Island option. For example, the exclusion of the value of excess sales and the potential cost of carbon were not included in the CPW analysis which drove the results in favour of the Isolated Option.

80. Ms. Dunderdale testified to a similar understanding, during her discussion of the impact of the P-factors on the comparative analysis. She understood that the comparison numbers selected were somewhat weighted in favour of the Isolated Island. Put another way, for example, the CPW framework handicapped the MFP option so that the future sales of additional, unused power would not irretrievably sway the analysis.

Testimony of K. Dunderdale, 17 December 2018, pp57-58

81. Nalcor performed sensitivity testing to evaluate the CPW to test the impact of changes in specific assumptions. Numerous cases were considered, reflecting variance in input factors, including capital cost change; continuing to operate Holyrood through 2041; variance in conservation amounts; low load growth; and other scenarios. This scenario testing is reflected in Nalcor's 2011 submission to the PUB. Of the alternatives presented to the PUB, just one comparative scenario reflected that the costs of the Isolated or Interconnected Options would be equal. Every other scenario showed the Interconnected Island option as less costly, often by an amount in the billions of dollars.

P-00077, Nalcor's Submission to PUB, 10 November 2011, section 7.2, esp. p134

Timeframe of 50 Years is Appropriate to Assets under Consideration

82. The timeframe selected for the CPW analysis has received some criticism, including on the basis that it is said to have a deleterious effect on the Isolated Island option. The Terms of Reference mandate that this Commission consider whether the MFP is the lowest-cost

reliable option over the timeframe of 2011 through 2067. Over that timeframe, the MFP is irrefutably the appropriate option.

83. Mr. Martin testified that his recollection of the reason to use a 50-year life was that it was “*industry standard*”. This is accurate, but it does not tell the entire story. In fact, the industry standard is not to always select a 50-year timeline, but instead to select one that reflects the life of the asset being considered. Grant Thornton indicated that the timeframe selected was “*within acceptable utilities industry practice*”, and also that tying the life of the asset to the reference timeframe is common in the utility industry.

*Testimony of E. Martin, 13 December 2018, p29
P-00014, Grant Thornton Phase I Report, p42*

84. Different timeframes were sensitivity-tested by Nalcor at DG2. The identification of Muskrat Falls as the lowest-cost reliable option remains accurate, even if the analysis is truncated at 2041.

*P-00077, Nalcor’s Submission to PUB, 10 November 2011, section 7.2,
esp. p134*

Need for Balance between Options in Comparative Analysis

85. With respect to the CPW analysis, Mr. Martin testified to using a probability factor of P50 in both the Interconnected Island and the Isolated Island analyses to ensure consistency between the two options for power generation. In some instances, an approach that favoured the Isolated Island option was selected out of an abundance of caution.
86. Nalcor set up the inputs to the CPW analysis such that the two options were characterized in as fair and even-handed a manner as possible. Mr. Kean, with his background in risk evaluation and management, testified to his belief that using a P50 cost factor for each option within the CPW was appropriate, to ensure that the comparison was not unfairly weighed in favour of one or the other – an “apples to apples” set-up.

Testimony of J. Kean, 8 November 2018, p29

87. The Isolated Island scenario was not the subject of a formal probability distribution analysis by an external or internal expert. Mr. Harrington testified that the basis for preparing the Isolated Island estimate inputs was that of a “desktop” or “rule of thumb” basis, and that the numbers themselves had come from the external engineering firms that prepared them.

Testimony of P. Harrington, 19 November 2018, p58

88. The selection of P-factors is primarily associated with capital cost estimates. In the comparative analysis, development of the Lower Churchill was most significantly impacted by its single largest item, i.e. the capital cost associated with the construction of the MFP.
89. On the Isolated Island side of the analysis, however, the most significant line item was the cost of fuel for thermal generating plants. As discussed in the next section, a probabilistic analysis of oil prices was available to Nalcor in the form of the varying PIRA “cases” (“high”, “low”, “expected”, and “reference”). Each of these cases is directly associated with a P-factor. Increasing the probability factor associated with petroleum prices into the future significantly increases the projected cost of fuel, and therefore strongly penalizes the Isolated Island in comparison to the Interconnected Option. Probabilistic predictions of oil prices were taken into account in the Isolated Island cost analysis. Mr. Bennett testified that oil prices were the key price driver on the Isolated Island side of the comparison.

Testimony of G. Bennett, 26 November 2018, p56

90. The capex associated with improving Holyrood and adding additional generating infrastructure to replace and supplement Holyrood and was not insignificant, but not as significant as the fuel costs. In addition, the Isolated Island capital works were spread out well into the future which significantly reduces the present value impact of this capital expenditure in the CPW analysis. Thus, even if a formal probability curve had been prepared to evaluate capital costs on the Isolated Island side of the CPW, the impact of a

higher or lower P-factor on capex costs for the Isolated Island Option would likely not be great when considered in the context of the impact of selecting a higher or lower price prediction case on both capital and fuel.

91. The external potential benefits of a Muskrat Falls development, including the potential for producing extra energy which could be sold into the North American grid for profit, were intentionally excluded from Nalcor's analysis. This decision to exclude some of the anticipated benefits of the Interconnected Island proposal from the comparison analysis was the subject of some criticism from Morrison Park, on the basis that Muskrat Falls was not favoured sufficiently – directly opposing Nalcor's efforts at the time to curb allegations of favouritism of the Interconnected Option. At the time, the decision was taken to ensure that the MFP option was not unfairly favoured in the comparison analysis (or, to ensure the Isolated Island options were not unduly handicapped).

P-04445, Report to the Muskrat Falls Inquiry: Review of Several Financial Issues Relating to the Decision to Proceed with the Muskrat Falls Project, Morrison Park Advisors, pp76-77

Reliance on Oil Price Forecasts in Isolated Island CPW Analysis was Reasonable

92. The most significant single item on the Isolated Island side of the CPW analysis at DG3 was the price of oil. It represented some 60% of the cost of generation.
93. The oil forecast prepared by PIRA, and relied upon by Nalcor, included four versions of the price forecasts: "high", "low", "expected" and "reference" versions. The "reference" version was the "most likely" price outcome. By contrast, the "expected" version was a probability-weighted average of the other three forecasts. PIRA's methodology for predicting the long-term oil price outlook was explained in detail in a report prepared for the Department of Natural Resources. PIRA, the provider of the fuel price forecasts, uses probability analysis and curves to predict oil prices.

P-00129, PIRA's Forecast Methodology and Assessment of Future Oil Price Trends, updated 26 October 2012

94. Nalcor engaged Westney Consulting to offer its views on the appropriate risk allocation for a DG3 decision. Westney accepted the mandate at the time without reservation, notwithstanding testimony from Westney representatives before this Inquiry that evaluating future oil prices was not within its typical expertise. That being said, Westney has been considered an expert in probability process and analysis by Nalcor and other companies which utilize their services, which is a similar process to that used by PIRA in preparing its oil price forecasts. In its opinion prepared July 16, 2012, Westney's advice to Nalcor was to use the "expected" version on the basis that it took into account a wider range of long-term probabilities.

*P-01160, Letter from Westney Consulting Group dated 16 July 2012
(draft)*

*P-00131, Nalcor Work Task Order LCP hiring Westney Consulting Group
to review PIRA numbers 12 July, 2012*

95. There was a valid reason that Nalcor did ultimately not accept the advice of Westney as to which oil price forecast was suitable. The PIRA oil forecast column that was ultimately used in the CPW analysis – the "reference" case - favoured the Isolated Island option in that it predicted somewhat lower oil prices over time than did the "expected" case. It was therefore optimistic, and assisted the Isolated Island in terms of the CPW analysis. To the extent that this has been criticized during this Inquiry, that criticism does not support any unfair advantage provided to the Interconnected Island option. In addition, both the "reference case" and the "expected case" are based on probabilistic analysis. If that analysis was adjusted to a higher P-factor such as P75, the CPW preference for Interconnected Island case would be very significantly higher. Nalcor, and Mr. Martin, were making every effort to ensure that the Muskrat Falls option was not unfairly favoured in the CPW.

Testimony of E. Martin, 13 December 2018, p76

96. Grant Thornton did not criticize Nalcor's choice to use the "reference" price forecast. Their analysis matches the evidence given by Mr. Martin to the effect that using the "expected" price forecast would have raised the price of the Isolated Island option.

P-00014, Grant Thornton Phase I Report, p49, lines 17-20

Isolated Island Scenarios Not Viable

97. Maintaining the status quo, meaning that Newfoundland would continue to have an isolated electric system within the island, was reasonably determined to be infeasible at the DG2 stage.
98. The "Isolated Island" option initially represented a group of generation and planning options, all of which were united by the commonality that they did not contemplate any interconnection to the North American electricity grid. Nalcor narrowed down these options to ultimately determine which configuration of the Isolated Island option would be used in the CPW at DG3. Nalcor used Strategist software to accomplish this task.

Holyrood too Fragile, Environmentally Problematic to Maintain Until 2041

99. The Holyrood generating plant has reached the end of its useful lifespan, having been commissioned in 1971. It is dependent on environmentally unfriendly oil-fired electricity generation. This may have been the status quo in Newfoundland for many years, but that does not mean we should, or can continue it into the future.
100. Holyrood itself, and the electricity grid which relies on it, is notoriously frail. It does not meet the basic criteria of long-term reliability which is critical to the legislative mandate placed upon Nalcor. It was reasonable to surmise in 2010 that Holyrood would logically continue to decline in reliability as it continued to age.
101. This is supported by testimony before the Commission. Paul Humphries testified that the Isolated Island – in any configuration – is "*fragile*", and that it is less reliable than an interconnected system. Moreover, updating Holyrood with new combined cycle

combustion turbines (**CCCTs**) was studied by Nalcor. The CPW for new CCCTs was found to exceed the Holyrood extension-of-life plan by some \$700M. That would have supplied power for the island through only to the mid-2030s.

Testimony of P. Humphries, 13 November 2018, pp 15, 20, 51-52

102. In its 2011 submission to the PUB, Nalcor identified a risk that Holyrood, which has already surpassed its expected lifespan, may not be permitted to continue to operate in the relatively near future owing to potential federal regulations limiting the amount of permissible greenhouse gases. When the PUB submission was drafted, the federal government had already begun to legislate in the area of limiting carbon emissions.

P-00077, Nalcor's Submission to PUB, 10 November 2011, p76

103. The information available to electricity planners in 2010 indicated that demand would increase, and that there would be a capacity shortage as of 2015. Within a short few years, the supply available on the island would not be adequate. This increased the pressure on Nalcor to make plans to secure a long-term source of electricity generation without delay.

P-00077, Nalcor's Submission to PUB, 10 November 2011, p35

Oil Dependence Not Sustainable for Future

104. The Isolated Island option requires Newfoundland to continue to rely on petroleum products, and thus to be subject to the need to purchase those petroleum products, to produce electricity for its citizens.
105. There was ample evidence during Phase I predicting, from a 2010 and 2012 viewpoint, the likelihood of a rise in petroleum prices. Looking long-term, any commodities market is potentially subject to highs and lows. Those who are completely dependent on a particular commodity are at the mercy of broader market prices and supply.
106. A contemplated long-term dependence on the price of petroleum products to feed the Holyrood generating plant was determined not to be sustainable from cost and

environment perspectives. This is based both on the specific predictions available to GNL and to Nalcor at the time, and also on the common-sense reality that Newfoundland and Labrador was purchasing petroleum on the open market to supply Holyrood (and it continues to do so today). Projections available to Nalcor prior to and following DG2, as set out in Nalcor's formal submission to the PUB, show that two reference sources dating from January 2010 and May 2011, respectively, each predicted the consistent escalation of thermal fuel oil costs through 2025.

P-00077, Nalcor's Submission to PUB, 10 November 2011, Table 8, p46

107. Even when the price of oil fell after 2011-2012, the changes to the U.S. to Canadian exchange rate caused the cost of fuel in Canadian dollars to continue to be unsustainable because fuel is priced in U.S. dollars. The result is that when the price of oil is converted to Canadian dollars from U.S. dollars at a lower exchange rate, the price in Canadian dollars is pushed higher. In determining the impact on cost of thermal generation in Newfoundland and Labrador, both oil price and exchange rate fluctuations have to be considered together.
108. Oil dependence is also not sustainable in the long term. The national and international level of concern around climate change has reached new heights even in the few years since Muskrat Falls was approved. The ratepayers of this Province have every reason to believe that oil-dependent generation is not only undesirable, but it may also be made unlawful in the relatively near term (perhaps prior to 2041, or alternatively, perhaps within the lifetime of Muskrat Falls). There is also the possibility that "carbon tax" plans or similar could make the use of petroleum products for the production of electricity prohibitively expensive. This exposure to the cost of carbon was excluded from the CPW analysis. If included, it would increase the CPW preference for the Interconnected Island Option.

Nalcor Sought Input of External Advisors to Evaluate MFP and CPW Analysis

Nalcor Accessed External Consultants for Risk Evaluation

109. There has been no shortage of independent reviews of the Muskrat Falls Project. Over the years, this has included a combination of reviewing non-LCP generation options, discussed above; reviewing the merits of the CPW analysis and determining which is the lowest possible cost-option for reliable service; and evaluating the technical and engineering-based aspects of the Muskrat Falls and LIL construction project itself.
110. Westney Consulting Group first became involved with the Project in 2007, when it responded to an RFP for risk assessment and risk management work. In the years following, Westney was engaged between July 2008 and 2012, primarily to conduct risk assessments to evaluate both Muskrat Falls and a Gull Island-first scenario (in July 2008), including preparing formal reports, conducting workshops, and otherwise working closely with the Nalcor PMT. Westney Consulting was engaged again between 2015 and 2017 on a series of new engagements for the Project.

Testimony of R. Westney, 16 November 2018, p3

111. A primary purpose in engaging Westney, starting from the earliest connection between Westney and Nalcor, was to acquire risk management services. Westney was to identify strategic risks – items that could impact the Project but which were outside of the PMT's direct control – as well as tactical risks, and then to engage in project planning. Their role, from the earliest stage, was to assist the PMT to identify and overcome internal bias, and ensure that risks were being identified and mitigated.

Testimony of R. Westney, 16 November 2018, pp9-10
see also P-01143, Email re Westney Risk Assessment Services, 6
September 2007

112. Independent Project Analysis, Inc. was engaged in 2008 to evaluate the Project's readiness, delivering a Gap Closure Report that identified shortcomings in Nalcor's

planning. They delivered an updated report prior to DG2 in September 2010. They concluded that Nalcor was well-prepared to pass through DG2 at that time, and better prepared than the typical project at a comparable stage. They recommended that Nalcor take steps to ensure alignment among its team, particularly as the team was added to, on key project elements.

P-01022, Independent Project Analysis – Pacesetter Evaluation of the Muskrat Falls Generation Project and Island Link Transmission Project, September 2010

and see P-00895, Summary of IPA's Review of the Muskrat Falls Project and Island Link Transmission Project Prepared for Nalcor Energy dated September 2010

and see P-01538, IPA Pacesetter Evaluation of LCP - June 2008 - Review Findings and Observations - Gap Closure Plan - Updated 30 August 2010

113. Nalcor engaged an Independent Project Review (**IPR**) team to assist in assessing the MFP planning process. The IPR team was comprised of five well-qualified individuals, who provided their opinions to Nalcor as to the Project's readiness to move ahead at each of DG2 and DG3. The IPR process is specifically designed to assist Mr. Martin as the Gatekeeper, and thus it is of particular note from Mr. Martin's perspective. Critically, at DG3, the IPR team concluded, "*The IPR Team finds that best practice risk analysis processes were followed that can reasonably be expected to indicate adequate and realistic cost and schedule allowances*".

P-00507, Presentation – Lower Churchill Project – Decision Gate 3 – Independent Project Review – Final Report dated August 31, 2012 (Updated), p14

Independent Reviews of the CPW Options were Conducted

114. Nalcor underwent a public review process before the Board of Commissioners of Public Utilities (**PUB**) during 2011 and early 2012 to evaluate whether, in the PUB's opinion, which of the Interconnected Island or the Isolated Island represented the lowest-cost option for reliable service. This process was instigated at the direction of GNL. The PUB ultimately declined to provide a recommendation to GNL.

115. During the PUB process, Manitoba Hydro International (**MHI**) provided the PUB with an external review of the two alternatives (and some variations) considered in the CPW. The review considered the technical and financial aspects of each of the two projects. MHI concluded that the Interconnected Island option represented the lowest-cost reliable option.

P-00048, MHI – Report on Two Generation Expansion Alternatives for the Island Interconnected Electrical System (Volume 1), January 2012, p21

116. In a report commissioned by the Consumer Advocate for Newfoundland and Labrador and delivered in November 2011, Knight Piésold Consulting reviewed the Interconnected Island option and the Isolated Island option to determine which would best satisfy the mandate of the EPCA to pursue the lowest possible cost option for reliable electricity service. These experts concluded that they were in agreement with Nalcor that the Interconnected Island option was the proper approach for power supply for the period 2011-2067.

P-01530, Knight Piésold Report dated November 2, 2011 - Consumer Advocate for Newfoundland and Labrador - Two Generation Expansion Options - High Level Review Report, p4

117. Nalcor commissioned Navigant Consulting Ltd. to conduct an Independent Supply Decision Review, and they delivered a report dated 14 September 2011. Following an extensive review and comparison of the Isolated Island alternatives and the Interconnected Island alternatives, they concluded that, “*the Interconnected Island alternative is the long-term least cost option for the Island of Newfoundland*”.

P-00042, Navigant Independent Supply Decision Review, p8

External Reviews Commissioned by Other Parties Were Available to Nalcor

118. Nalcor also had access to external reviews commissioned by other parties. This included reports prepared by MHI and ultimately the Independent Engineer. These reviews were focused on the MFP (or a particular aspect thereof).

119. The Independent Engineer delivered a draft report, followed by a final report, to the federal government in late 2013. The draft delivered prior to financial close, and it was finalized on 30 December 2013. This report is primarily focused on the technical merits of the project, as designed.

P-01930, Nalcor Energy - Independent Engineer's Report - Lower Churchill Project dated December 30, 2013 (final)

120. MHI was also engaged by GNL, following the PUB process, to provide an assessment of the MFP. The resulting report, dated October 2012 and entitled, "Review of the Muskrat Falls and Labrador Island HVdc Link and the Isolated Island Option", was included in the support package prepared for DG3. After evaluating the Interconnected Island and Isolated Island options in detail, MHI concluded that Nalcor's work was "*skilled, well-founded, and in accordance with industry practices*". They also concluded that the Interconnected Island option represented the least-cost option.

P-00121, Decision Gate 3 Support Package Appendix A, MHI Report to GNL, pp111-113

Utility of Consultancy Engagements is Finite

121. It is said that one can have "*too much of a good thing*". The criticism that the MFP has not been sufficiently reviewed, internally or externally, is not warranted. While there is a level of external review and assistance that is helpful, at some point saturation is reached. Conflicting outside opinions and the necessary investigations can begin to weigh on the megaproject, slowing decision-making and potentially having a negative effect on the morale of the individuals on the PMT. This is the case with the MFP, and the continuing external reviews done by multiple parties. This view was put in evidence before the Commission both from those within Nalcor and expert witnesses.

122. To be clear, seeking external expertise in a particular area is prudent and appropriate. The submission is simply that involving too many consultants, beyond a certain point, brings diminishing returns.

123. The sense that the MFP had been exhaustively reviewed was the subject of commentary from the executive team within Nalcor. Mr. Martin testified that no megaproject with which he had been involved in his career had been reviewed to this extent, by a “*huge margin*”. Mr. Martin testified to the limitations associated with multiple consultants’ reports and the dangers of “paralysis through analysis”. At some point, a decision must be made by the leadership of the company. Mr. Stan Marshall testified that the North Spur aspect of the Project had been “*studied to death*”.

Testimony of S. Marshall, 2 July 2019, p12
Testimony of E. Martin, 11 December 2018, pp 25, 75

124. GNL was also aware of the exhaustive scrutiny which had been focused on the Muskrat Falls Project prior to DG3. In August 2011, GNL (as distinct from Nalcor) declined to follow the recommendation of the Joint Review Panel to the effect that GNL should seek a full review of the cash flow benefits of the Project, before sanctioning it. Ms. Dunderdale testified that the reason this choice was that GNL had a lot of faith that in the eight years since Nalcor had been studying MFP, it had been sufficiently examined. GNL concluded at that stage there would be little benefit derived from additional scrutiny.

Testimony of K. Dunderdale, 18 December 2018, p67
and see *P-00051, Government of Newfoundland and Labrador’s Response to the Report of the Joint Review Panel for Nalcor Energy’s Lower Churchill Hydroelectric Generation Project, 15 March 2012, recommendation 4.1, p1*

125. Members of the PMT testified that external reviews were not only numerous, but that they also impeded the ability of the PMT to continue with their own work effectively. Nalcor had a very full agenda in the 2010-2011 timeframe. Mr. Kean testified that the DG2 support package did not get finalized until June 16, 2011, owing to a vacancy on his team and his

own workload. For example, the DG2 risk assessment package was not finalized until some six months after the formal date of DG2. The evidence was that this delay resulted from a lack of resources to get the underlying work concluded.

*Testimony of J. Kean, 7 November 2018, p56
P-00808, Nalcor Energy – Lower Churchill Project – Gate 2 Project Risk
Analysis, 16 June 2011*

126. The Commission has heard evidence of the negative impact on Nalcor, in terms of allocation of resources in the form of the attention of its senior and junior staff, including management, of the information demands imposed by external reviews. Mr. Harrington testified that he made attempts to limit the way in which external consultants, such as MHI, accessed information so as to make the review in line with the mandate given, while being more efficient and less time-consuming for the PMT. His approach – which we suggest was borne from the need to continue productive work while also managing the demands of the reviewers – was to give only the information that was requested and relevant to the mandate. This was an attempt to limit the day-to-day impact of these reviews on the organization and avoid unnecessary costs that would result from the expansion of the consultant's mandate.

Testimony of P. Harrington, 20 November 2018, pp10-15

127. Certainly, by the time of the MHI review in April 2012, Mr. Harrington was concerned about controlling the scope of review so as to minimize the demand on Nalcor's resources. Information requests took time away from other Project-related endeavours. Mr. Harrington testified that the scope of the MHI review could not include risk analysis, as Nalcor had not completed the analysis to date (which was underway with Westney) and thus MHI would not be able to successfully review it. The evidence suggests that Mr. Martin brought the concern of the PMT back to GNL, who subsequently revised the scope

of the MHI work to remove the risk assessment component. These events speak to the time and resource pressures being experienced by the PMT.

*P-01178, Email from P. Harrington dated 4 April 2012
Testimony of P. Harrington, 20 November 2018, p8*

128. Mr. Paddick offered significant praise to Nalcor for managing the number of access to information requests, external reviews, demands for information and review, and in the meantime completing the day-to-day work of building a hydro megaproject and running Nalcor's other businesses. In his view, "*any other organization literally on planet earth would collapse*" if faced with a similar level of organizational stress.

Testimony of B. Paddick, 18 June 2019, p21

129. The Commission heard expert evidence to the effect that retaining multiple consultants has limited utility. Professor Klakegg's advice to the Commission is that external reviews of projects are "*resource demanding*", and thus should be used both judiciously and effectively. It is impossible for a company to follow competing recommendations from outside consultants, highlighting the finite utility of retaining experts. He further testified that the value added by additional analysis, as time passes, is diminishing. We submit this is strongly correlated with the need for leadership to make a timely decision based on good judgment, rather than adding to previously accumulated external input.

*P-04438, Governance Frameworks: The Norwegian State Project Model and other schemes. Preconditions and effective elements – suggestions for Newfoundland and Labrador, Prof. O.J. Klakegg, pp14, 59
Testimony of Prof. Klakegg, 24 July 2019*

130. Dr. Jergeas testified that while consultants bring value to the project, "*the judgment belongs to the leaders of the organization*" who are free to accept or reject the recommendations of the external consultants as they deem appropriate. It is inevitable that as the level of review increases from different consultants and groups, there will arise conflicts in the recommendations.

*P-04438, Governance Frameworks: The Norwegian State Project Model and other schemes. Preconditions and effective elements – suggestions for Newfoundland and Labrador, Prof. O.J. Klakegg, p59
Testimony of Dr. G. Jergeas, 19 June 2019, p28*

131. Nalcor also had internal expertise available, and occasionally the knowledge and experience on the PMT differed from the opinions of an external consultant. Nalcor had also engaged SNC for the express purpose of availing of SNC's hydroelectric dam expertise. Commission Counsel's approach of pointing to an expert's report that contains one or two items (out of many) that differs from what Nalcor ultimately chose creates a significant risk that many of the important, useful aspects of that report are not considered in the proper context. For instance, the amount of focus on the comments by Westney surrounding "P1 to P3" probability of schedule was unfounded. Commission Counsel unfairly presented an interpretation which Westney's comments simply did not have, to Nalcor, at the time. This issue is discussed in detail later in this submission.
132. Mr. Martin testified that it is the responsibility of the CEO and other leaders in the organization to make decisions. His accountability was to be aware of the risks (including associated mitigation plans and activities) and benefits in doing so. It was always open to Nalcor leaders including the CEO to accept or decline the advice of consultants in so doing.

Testimony of E. Martin, 12 December 2018, p32

Nalcor Completed a Reasonable Evaluation and Quantification of Cost Risks

Contingency Allocated for Tactical Risks

133. Prior to sanction, the MFP budget contained a contingency amount assigned to tactical risks which had been identified pursuant to the exhaustive risk identification exercise completed by Westney and Nalcor, working together. The P50 value assigned to the tactical risks identified at DG3 was \$368M. This amount represented just under 7% of the total budgeted amount at that time.

P-00130, DG3 Project Cost and Schedule Risk Analysis Report, p268

134. Mr. Harrington provided the Commission with information about the items that were included in the 2012 estimate, and the reasoning of the PMT surrounding the identification of risks. Westney's advice was that there were a small number of specific strategic risks which could happen outside Nalcor's control, in addition to the tactical risks which then remained. This exercise also produced a Westney comment that, should these risks occur, the schedule would have a 1% to 3% likelihood of being met. This will be addressed more fully below.

Testimony of P. Harrington, 19 November 2018, pp87-88

135. At DG3, the summary included in the Westney QRA contained the following key information:

The [base] estimate, plus an amount to reach the P50 on the results curve, should represent the cost at which the project can be executed according to the plan exclusive of external uncertainties.

Mr. Harrington testified that he understood this passage to mean that Westney was approving the use of a P50 value for the tactical risk contingency. This conclusion proffered by Westney does not take into account strategic risk, or "external uncertainties".

*Testimony of P. Harrington, 19 November 2018, pp89-90
P-00130, DG3 Project Cost and Schedule Risk Analysis Report, p265*

Completion Guarantee Served Equivalent Purpose to "Management Reserve"

136. An adequate management reserve was available, in the form of the GNL completion guarantee. Commission Counsel have focused on the fact that no pool of funding entitled, "management reserve", was maintained in relation to the MFP. This submission places an inordinate focus on form over substance, and it should not be accepted. The characterization that there was *no* management reserve established is not correct.

137. Mr. Martin's position is that there was a management reserve for the MFP. However, it did not appear in the format of an AFE, or an internal Nalcor formally budgeted amount. Instead, the Province's completion guarantee served an equivalent function. Mr. Martin testified that it was not his habit to use the term, "management reserve". The use of different terminology is of no moment.
138. Mr. Martin also testified that recognition that unknown potential costs outside of the PMT's control and the approved AFE could occur was understood by both the Board and GNL. Once understood, it was then the ability to fund such costs that ensured a "management reserve" existed and was available in the event such costs materialized. It is not normal practice to put aside money to "sit in an account", waiting for such costs to materialize. Rather, it is the understanding that an organization (Nalcor and GNL) has the ability to provide the money to cover such events.
139. Ms. Dunderdale's testimony was that she was not familiar with the phrase, "management reserve". The fact that she was not aware of this specific phrase is irrelevant when it is placed in the context of her clear testimony that she was advised, by Mr. Martin, that the Project had a potential for cost overruns in the amount of approximately \$500M. Mr. Martin's testimony was that the potential cost overrun that could occur but was unknown at that time was in the "*hundreds of millions*". He said, "*I wasn't thinking billions*".

Testimony of E. Martin, 11 December 2018, pp17, 58, 83

140. Their respective accounts of the communications between Nalcor and GNL as to cost overruns, then, contain striking similarities. Moreover, both of them testified that these conversations occurred between the CEO and the Premier. Ms. Dunderdale also testified, under cross-examination, that the conversation might have taken place on a "*casual*" basis between only the two of them, and that there was nothing in writing. It is not an answer to this evidence to say that other witnesses have not corroborated this account. If there was

indeed a casual conversation, one would not expect those other witnesses to have known that the discussions even occurred.

Testimony of K. Dunderdale, 17 December 2018, p72
Testimony of K. Dunderdale, 20 December 2018, p19

141. The Commission heard expert testimony from Dr. Jergeas that there is a lack of clarity as to the standard applicable to the classification of a management reserve. He referenced consulting with colleagues in preparation for his testimony, and receiving no indication of a consensus on this point. Should the management reserve amount be included within or outside the budget? We submit that it should make no difference, so long as the substantive concept has been addressed during the project planning phase, and the reserve is able to be funded.

Testimony of Dr. G. Jergeas, 19 June 2019, pp49, 52

142. Professor Klakegg has offered evidence before the Commission that the practice in Norway is to identify an “*allocation to cover uncertainty*”, which we submit is similar to a management reserve set aside for strategic risks. However, in Norway, the allocation for uncertainties is not actually funded. The state self-insures by accepting that they will address cost overruns beyond the formally approved cost limit. This is a similar approach to what was undertaken by MFP and Nalcor/GNL.

P-04438, Governance Frameworks - The Norwegian State Project Model and other schemes. Preconditions and effective elements - suggestions for Newfoundland and Labrador, p17
Testimony of Professor Klakegg, 24 July 2019, p57

143. The Terms of Reference direct this Commission to take into account “best practices” as a yardstick for Nalcor’s budgeting and planning choices. This includes the treatment of the concept of “management reserve”. The MFP absolutely had a sufficient “management reserve”, in the form of GNL “self-insuring” the Project. Moreover, as discussed elsewhere in this submission, GNL was aware of the potential cost of that self-insurance. Any criticism

of Nalcor's approach of keeping a management reserve by another name ought to take into account the wide variety of practices within the industry on this point.

CEO's Management of Contingencies was Reasonable

144. Mr. Martin's choice to use a P50 factor to fund the Project was based on the best information that was available to him at the time, and was made to ensure that the Interconnected Island option was not unduly favoured.
145. Mr. Martin demonstrated during his testimony that he has a deep understanding of the way in which the P-factor probability distribution curve works. A CEO must understand the concepts that are being presented, and then to make the difficult decisions based on the information that they have. Mr. Martin more than met this obligation when it comes to P-factors.
146. Mr. Bennett testified that he concurred with the use of a P50 evaluation, though a higher probability factor "*also had merit*".

Testimony of G. Bennett, 26 November 2018, p57

147. The Inquiry heard significant testimony surrounding P-factors and their appropriate selection, calculation, and so on. Mr. Martin, and others, gave accurate testimony as to how P-factors work. Inputs are fed into the computer algorithm that produces a probabilistic distribution curve. Each point on the curve has a dollar value and associated probability factor assigned to it. A contingency expressed as a dollar value can alternatively be expressed as a percentage of the base cost estimate. The percentage value of contingency compared to the base estimate is not derived from the P-factor curve. Any evidence before this Commission to the effect that a particular P-factor is always associated with a specific percentage of contingency compared to base estimate regardless of the project being considered; or that it is equivalent to an informal way of expressing the level of confidence in one's estimate of value or timing; is not reliable. Each

project will yield a unique probability curve and therefore a unique relationship between a particular P-factor and associated cost.

Testimony of E. Martin, 12 December 2018, pp57-58

148. The Commission heard some testimony which unfortunately demonstrated a fundamental misunderstanding of the concepts driving P-factors. For instance, Mr. Mallam seems to testify that an estimate that is based on a higher P-factor should numerically reflect a particular contingency percentage. In Mr. Mallam's testimony, this would not be based on a Monte Carlo analysis, but instead a "best estimate". This is fundamentally wrong. It appears to turn on the incorrect notion that an estimated P-factor, whether high or low, often translates directly to a percentage-based contingency: e.g. a P50 would always lead to a 25-50% contingency amount, regardless of the project being considered. Counsel for the Concerned Citizens Coalition, Mr. Budden, asked Mr. Martin in cross-examination a series of questions that promulgated this foundational misunderstanding. This is a significant misapprehension of the concept of P-factors and probability curves. We wish to caution the Commission against this conceptual error which arose during the presentation of evidence.

Testimony of E. Martin, 12 December 2018, pp46-54
Testimony of J. Mallam, 17 October 2018, pp15-16, 31

149. Some testimony suggested that the Muskrat Falls Project should have been approved at a P90 confidence level. This is mathematically problematic. Near the extremities of a probability curve, the curve flattens out such that there is little practical difference between the values associated with P85, P90, or P95, for example. The suggestion that a P85 or P90 probability factor ought to have been applied by Nalcor should be approached with caution by the Commission.
150. Mr. Harrington testified that there is much less meaningful distinction between P-values after a certain point. Westney's advice to Mr. Harrington was that the extremes of the

curve (outside P25-P75) are largely “noise”. Mr. Kean relayed that Westney had always advised that the very edges of the probability curve were unreliable in that they were “very scattered and very unpredictable”. The written reports of Westney, and the slideshows they prepared, do not mention the possibility of using anything outside the P25 to P75 range. The selection of P50 is within that range.

Testimony of P. Harrington, 19 November 2018, p31
See e.g. P-00130, Decision Gate 3 Project Cost and Schedule Risk
Analysis Report, p274
Testimony of J. Kean, 7 November 2018, p110

151. The Commission heard expert evidence to the effect that while risk probability can be assessed, it is always up to the executive or project owner to make the ultimate decision as to how much money to allocate to the project budget. For instance, Mr. Westney testified that Westney Consulting does not give recommendations to executive- or CEO-level individuals as to what level of project risk ought to be accepted within the business case. The choices surrounding how to manage the company’s finances are outside of the ordinary scope of project planning and management expertise.

Testimony of R. Westney, 16 November 2018, p51

Expert Testimony before Commission Supports use of P50 Factor

152. There has been evidence before the Commission which supports the use of a contingency amount that is equivalent to a P50 probability level. Despite the assertions of Commission Counsel, the expert evidence has not been unanimous in recommending a high P-factor (e.g. P75 or more).
153. Dr. Jergeas testified to the inherent uncertainty in any construction project, which uncertainty is magnified by the larger scale of a megaproject. In his view, this should not discourage leadership from taking risks which they reasonably believe will benefit stakeholders. He supports the use of business judgment and experience. At the end of the day, a contingency quantification can best be summed up as a “guesstimate”. He said,

“we need to encourage our professional[s] not to be afraid to make decision[s].” According to his research, the average contingency on all megaprojects studied was 9.3% of the total project value. This is close to the contingency range ultimately selected by Nalcor.

Testimony of Dr. G. Jergeas, 19 June 2019, pp 20, 27

154. Professor Flyvbjerg’s written report discusses a tiered approach to assigning contingency amounts. Different P-factor levels of contingency amounts are appropriately communicated to different entities within the megaproject framework. While he acknowledges the need for the project funder to be aware of the higher costs implicated by a P80 probability estimate, he supports the use of a P50 project contingency for spending amounts delegated to the project management. External contractors, for their part, should receive an optimistic, low-confidence estimate in the P30 range so as to better manage cost expenditures on the project.

P-00004, Report for the Commission of Inquiry Respecting the Muskrat Falls Project by Dr. Bent Flyvbjerg dated August 2018, p22

155. Richard Westney testified that a P50 valuation is appropriate for a tactical risk contingency. Some organizations prefer to have a higher or lower P-factor, depending effectively on their risk tolerance. It is only for strategic risk that the P-factor ought to be higher. Of course, as risks are identified, quantified, and evaluated, they change in nature from strategic risks (those that are influenced by factors outside of Nalcor’s control) to tactical risks, those that can be mitigated by efforts of the Project proponent.

Testimony of R. Westney, 16 November 2018, pp54, 69

156. Richard Westney testified the choice of P-factor – whether high, low, or P50 – carries consequences for a megaproject. In his experience, management tends to resist increasing the contingency amount higher than P50. If the contingency amount is

dedicated to specific items, management often does not find it palatable to fund the project with an extra, large sum of money which could be put to other uses.

Testimony of R. Westney, 16 November 2018, p69

157. Nalcor's experience with respect to the project estimation process, contingency and cost overruns is hardly unique to Muskrat Falls. Professor Flyvbjerg's report presented evidence for the Commission from many other hydroelectric megaprojects where similar issues arose.

P-00004, Report for the Commission of Inquiry Respecting the Muskrat Falls Project by Dr. Bent Flyvbjerg dated August 2018

Strategic Risks were Managed and Mitigated

158. Nalcor underwent a robust process to identify a wide range of risks, both strategic and tactical, which could affect the Project going forward. Westney was engaged to categorize and evaluate the various risks to the Project. The process of strategic risk analysis arose at each of DG2 and DG3, and each time Nalcor successfully mitigated the potential for those risks to arise.
159. Nalcor summarized its risk mitigation efforts up to DG2, and their impact on cost contingency, in its 2011 submission to the PUB. A strategic risk reserve contingency was not required, in its view, because opportunities had arisen in 2010 and 2011 that cancelled out the amount of the strategic contingency provided for earlier. First, progress on securing the Federal Loan Guarantee and/or other federal government contributions had progressed favorably, although not yet finalized, which had a potential benefit to the Project in the estimated (at that point in time) over \$600M in the form of lower interest rates. Second, technical uncertainties relating to the LIL had been settled by the choice of a Voltage Source Converter technology, which retired some costs related to that particular risk.

P-01003, Technical Note – Strategic Risk Analysis and Mitigation, pp1-2

P-00264, Nalcor Energy Report – Muskrat Falls Project Summary of Pre-Sanction – Briefing Note as Requested by Nalcor Legal Counsel McInnes Cooper, p20

160. After DG2 and prior to DG3, when the Premier’s letter funding the MFP to completion was received, it was understood within Nalcor that funding for strategic risk contingency would be funded by GNL, as set out in the Premier’s letter on 18 October 2011.

P-00868, Letter dated October 18, 2011 from Premier Kathy Dunderdale to Edmund J. Martin re Objections and intentions of the Government of Newfoundland and Labrador in support of the Lower Churchill Projects P-00264, Nalcor Energy Report – Muskrat Falls Project Summary of Pre-Sanction – Briefing Note as Requested by Nalcor Legal Counsel McInnes Cooper, p20

161. By DG3, Nalcor, working together with Westney, was working with three primary identified strategic risks. Westney’s advice to Nalcor was that these three strategic risks were likely to “dominate”, as Mr. Harrington put it. The three risks were:

- (a) schedule risk of time extension;
- (b) performance risk associated with lack of productivity; and
- (c) skilled labour risks, comprised of wage rates and a potential completion bonus for skilled tradespeople.

Testimony of P. Harrington, 19 November 2018, pp65-66, 69

162. The P50 value of the strategic risk calculated by Westney leading up to DG3, based on its risk management workshop and consultations with the Nalcor PMT, was \$497M. By DG3, the information available to Mr. Martin was that the particular potential strategic risks driving this \$497M had been mitigated. The amount properly associated with those particular risks, given their mitigation, was therefore zero. Mr. Harrington also testified to his belief that these risks, in terms of their subject matter, had been mitigated.

*P-00130, Decision Gate 3 Project Cost and Schedule Risk Analysis Report, p287
Testimony of E. Martin, 11 December 2018, p18*

163. Mr. Martin's evidence is clear that he received specific information from the PMT that the substance of each of the enumerated strategic risks had been mitigated. He described that a reasoned and logical process had been followed respecting each of these risks, as follows.

(a) Respecting schedule risk, Mr. Martin was aware that SNC had prepared the schedule in reliance on their expertise. Four major specific schedule challenges had been identified and addressed by the Nalcor team, and these were:

- (i) **Missing weather windows.** Nalcor sought GNL approval to make a series of expenditures prior to sanction for the express purpose of ensuring that the construction season in 2012 was not missed entirely (as the sanction date was getting increasingly later as time passed). Excavation was removed from the main contractor packages and awarded as a stand-alone so that it would not hold up other, later items.
- (ii) **Timely placement of concrete.** Nalcor arranged for dual-streaming of concrete production, and made physical changes to the concrete formula, to maximize concrete availability and increase the weather severity in which construction work could proceed.
- (iii) **Ability to place cofferdams and RCC dams without flooding.** This item was part of the mitigation efforts discussed in item (i).
- (iv) **Availability of labour.** Nalcor had initiated a promotional effort to go to Western Canada to recruit labour and meet with workers, as well as meeting with unions to promote the Project.

Testimony of E. Martin, 11 December 2018, pp51-52

- (b) With respect to the risks surrounding productivity rates, the labour agreement terms had been structured to improve daily productivity rates; the IBEW agreement was a single union agreement for the transmission; measures had been taken to shift responsibility for meeting productivity measures to the individual contractors; and finally, the schedule estimate was based on having the site active for only six days of the week, and not seven, which was actually put in place.
- (c) With respect to the collective agreement issues, the potential for a skilled labour completion bonus was eliminated when the agreements were concluded without including any such completion bonus for skilled tradespeople. Moreover, any uncertainty surrounding the potential for higher wage rates was also removed when the agreements were settled.

Testimony of E. Martin, 11 December 2018, pp 50-52, 54

164. The strategic risk contingency for potential issues identified in the Westney analysis and valued \$497M was not “removed” at DG3. This amount was presented and accepted as mitigated and therefore not specifically required. Mr. Martin further testified that additional potential unknown risks outside the control of the PMT could still exist in the amount of hundreds of millions of dollars and made this clear in discussions with Premier Dunderdale and the Board of Directors. Once understood, it was then the ability to fund such costs that was the essential point and such funding was covered by the completion commitment letter from GNL – in essence a “management reserve” then existed and was available in the event such costs materialized.

Testimony of E. Martin, 11 December 2018, pp53-54

165. The DG3 risk assessment is comprehensive; it includes multiple supporting exhibits; it relies on the input of external consultants; and it deals with challenges and risks in a pragmatic way, including the specific risk of schedule slippage. The team carefully

reviewed the Project, including its known risks, and presented them to Mr. Martin in the role of Gatekeeper. Effectively, Nalcor made a determination which was within its prerogative not to accept Westney's advice that the P50 value of the strategic risks was \$497M at DG3, because those particular risks had been mitigated. Provision for other potential unknown strategic risks was then made through the completion commitment letter from GNL.

P-00130, Decision Gate 3 Project Cost and Schedule Risk Analysis Report, esp p18

166. Mr. Martin has testified that when the PMT asked for additional funding in the Project budget, and they could not provide him with a valid and supportable reason that the funding was critically needed, his response was to decline the request. It appears that the position of Commission Counsel is that Nalcor (or Mr. Martin) ought to have maintained a robust funded contingency which was not assigned to any particular risk, but was simply "floating". With respect, this is anathema to principles of financial management, and would not have been acceptable to Mr. Martin with his strong finance background. It was not Mr. Martin's practice to maintain an unassigned funded contingency. Each of the identified risks had been mitigated, according to the information available to Mr. Martin at the time. There was therefore no reason to maintain an *actively funded* contingency. The funding for the contingency was still available, in a different format: a guarantee from GNL.

Testimony of E. Martin, 11 December 2018, pp51-52, 56

167. When questioned as to his intention to maintain a strategic risk contingency by Commission Counsel, Mr. Martin advised that his intentions were different, for different purposes. He advised that for the purposes of the PMT and the contractors' budgets, that he did not intend to communicate to them that they had access to a strategic risk amount. For the purposes of funding – securing a contingency in the form of a GNL guarantee or other sources of new money – he always intended that this money would be available in

the event of an occurrence of an event outside management's control which was unforeseen.

Testimony of E. Martin, 11 December 2018, pp14-15

168. The approach taken by Mr. Martin, of maintaining different budget amounts for different audiences, is absolutely in keeping with the advice of at least two experts before this Commission. First, Professor Flyvbjerg provided evidence supporting the use of different budget projections depending on the intended audience – a “tiered” approach. His written report set out that advising the project team of a P50 amount was appropriate, though a higher amount, based on a higher P-factor, could be kept in reserve by management. Second, the evidence of Professor Klakegg in Phase III was that in Norway, the practice is to identify a contingency amount, but not to actively fund this contingency amount. Instead, government provides a guarantee in reliance on the representations of the project management team with respect to the likely amount of any overrun. This approach is strikingly similar to the pattern which was followed by Nalcor with respect to the MFP. It is a legitimate option for funding a megaproject.

*P-00004, Report for the Commission of Inquiry Respecting the Muskrat Falls Project by Dr. Bent Flyvbjerg dated August 2018, p22
Testimony of Professor Klakegg, 24 July 2019, p57*

169. Crucially, once strategic risks have been identified, quantified and determined that they can be mitigated by the PMT, it is no longer appropriate to classify them as *strategic risks*. Once they are identified and mitigated, they are tactical risks by their very definition. Tactical risks are *known risks which can be mitigated by the PMT*. Strategic risks are *unknown risks, outside of the control of the PMT*. Strategic risks which materialize, become known and are mitigated, change their classification. Thus, once Nalcor was able to better grasp, understand and quantify the challenges associated with strategic risks, some of those items were shifted into the category of *tactical risks*.

Selection of Different Scenario is not a “Change” in P-factor

170. Commission Counsel point to what they allege is a “change” in the selected P-factor for the MFP, between 2008 and 2010. Mr. Martin’s submission is that there was no “change” in the P-factor, in the sense of looking at a single model and requesting that the P-factor be reduced. A series of models were developed over time, some of which incorporated a P50, and others of which incorporated a P75.
171. In 2008, Nalcor was considering development of the LCP starting with Gull Island, rather than Muskrat Falls. A Gull Island development would be structured primarily as a project whereby the majority of the power would be sold into markets outside of NL for profit. Other combinations and timing of developments were run using different configurations and modelling parameters, all based on selling power into markets outside of NL.
172. The move from a primarily Gull Island scenario to a Muskrat Falls option, intended primarily to meet the need for more power to NL, was a fundamental change in approach. This change was driven by the converging situations of the identification of need for more power in NL, coupled with a clearer understanding that transmission through Quebec was unlikely. Once the Muskrat Falls option for NL power was identified as one of the options for comparison, P50 was utilized as the appropriate P-factor, as it had been used by other utilities (BC Hydro, Manitoba Hydro, and Hydro-Quebec), as well as by multiple oil/gas projects. It is statistically classified as the most likely outcome.
173. Mr. Kean gave a presentation to Messrs. Martin and Bennett which included an explanation of various pertinent terms surrounding risk analysis, including “management reserve”, “strategic risk”, “tactical risk”, the concept of P-factors, and other related concepts. The presentation makes reference to maintaining a management reserve, in addition to a tactical risk contingency at P50, plus a strategic risk contingency funded at P75. This presentation dates from 2008, which is the timeframe during which Gull Island was receiving primary consideration.

*Testimony of J. Kean, 7 November 2018, pp48-49
P-00901, Newfoundland Hydro Presentation dated June 10, 2008 re
Lower Churchill Project – Cost, Schedule & Risk Update to Gatekeeper*

174. Commission Counsel have pointed to what they allege is a “change” in the selected P-factor by DG2. This is not what actually occurred. During 2010, Nalcor was considering a number of different scenarios, and a lot of modelling of different variations was ongoing. Mr. Kean testified that he was asked to change the P-factor in the estimate projection as simply one of a number of permutations that were considered prior to DG2. Mr. Bennett also testified to his recollection that many different project planning models were tested in this timeframe of summer 2010, leading up to DG2. Mr. Martin’s position is that this was not a conscious change intended to have a negative or positive effect on the Project.

*Testimony of G. Bennett, 26 November 2018, pp52-53
Testimony of E. Martin, 10 December 2018, p87*

175. Mr. Kean does not recall being specifically asked to change his MFP projections from P75 to P50. The evidence shows is that the Gull Island-first estimate scenario was prepared at a P75 level, in 2008, and later a MF-first estimate scenario was prepared at a P50. Commission Counsel characterized this as a “change”. However, the inputs are into two totally separate models – a different choice was made at two different times.

Testimony of J. Kean, 8 November 2018, p36

176. There is also evidence before the Commission that Nalcor had considered the impact of a P75 amount on all potential project variations being considered, as late as April 23, 2010. Mr. Kean advised the Commission that he was not asked to prepare any estimates using a P50 factor until approximately mid-2010. Mr. Harrington’s recollection was also that a P50 input was introduced into the modelling being done by Nalcor in approximately August, 2010.

*Testimony of E. Martin, 12 December 2018, p74
Testimony of J. Kean, 8 November 2018, pp10-11*

Testimony of P. Harrington, 19 November 2018, p28

177. Mr. Kean could not recall who had asked him to use a P50 input in 2010. He testified that it might have been Mr. Martin or Mr. Bennett, but under cross-examination, he thought that it might have been Nalcor Investment Evaluation or Mr. Auburn Warren. Unfortunately, Mr. Kean's recollection on this point does not materially assist the Commission. His recollection is that the timing of the appearance of the P50 input coincided with a greater focus on the CPW between Isolated and Interconnected Island options. This aligns with other evidence heard by the Commission surrounding the importance of promoting fairness when comparing options.

Testimony of J. Kean, 7 November 2018, pp53-54
Testimony of J. Kean, 8 November 2018, pp10-11, 63

Westney did not Recommend a Particular P-factor to Nalcor

178. During the Inquiry, there has been a consistent overstatement of the level and strength of guidance that was provided by Westney to Nalcor respecting P-factors. Westney did not "recommend" that Nalcor use a particular P-factor at any time. This is not a fair characterization of the testimony, or of the written Westney reports. The evidence of the PMT members is clear, and consistent with that of the Westney witnesses on this point, that the issue was little discussed. Westney's task was simply to prepare the probability curve for schedule and cost based on data analysis. Project planning choices were made exclusively by Nalcor.

179. Westney's task was to create the P-factor probability curve. It did not include recommending that Nalcor use a particular P-factor in setting its contingencies. Once the probability curves for each of schedule and risk had been prepared, it was possible to evaluate either a value or a date, on the basis of the curve, and determine what P-factor had been assigned to that value.

180. Keith Dodson, who worked closely with the PMT and who was personally involved in many meetings and conversations over the years, testified that there was “*almost no discussion*” of P50 or P75 factors between himself and either Mr. Kean or Mr. Harrington for Nalcor. We submit that there was ample opportunity to have had a fulsome discussion on the appropriate P-factor to be selected, if this was part of the advice that Westney intended to give to Nalcor at either DG2 or DG3. For instance, Messrs. Harrington and Kean attended in Houston for extended meetings with Mr. Dodson, in June 2012 at which they finalized the risk register.

Testimony of P. Harrington, 19 November 2018, pp84-85
Testimony of K. Dodson, 25 February 2019, p22

181. Mr. Harrington stated that any recommendation that was given to him as to the appropriate P-factor was given “*informally*” only. The Gatekeeper, Mr. Martin, received only the information included in Westney’s formal report. Mr. Westney’s view was that there was no need for Westney Consulting to take any steps beyond having an informal conversation with the PMT, letting them draw their own conclusions as to what was in the best interests of Nalcor. It is reasonable to assume that the key recommendations – those that Westney would be willing to stand behind – would be contained in the formal report.

Testimony of R. Westney, 16 November 2018, pp52, 56
Testimony of P. Harrington, 19 November 2018, p35

182. Mr. Dodson testified that Westney Consulting never gives instructions to a project owner as to how they should fund their project; “*we give guidance*”. Despite this, Mr. Dodson suggested to the Commission that he preferred a P90 range for this project. He also testified that he had recommended to Nalcor that because MFP was a public project, that it should be funded by the project owner at a P75 level for strategic risk, and a P50 on tactical risk. This self-contradicting testimony offered by Mr. Dodson must be accorded little weight. Under cross-examination, Mr. Dodson’s own testimony was that Westney’s

recommendations as to the P-level to choose for strategic risk should not be relied upon for financial decisions. Mr. Dodson also acknowledged while on the stand that the written report prepared by Westney did not include a firm recommendation, only a range of values set out on the probability curve.

Testimony of K. Dodson, 25 February 2019, pp 9, 17, 21

183. Mr. Dodson's testimony that he did not make a recommendation as to which P-factor was advisable was in line with the protocol followed by Westney Consulting generally. Richard Westney testified that their practice, as a company, was not to make recommendations as to which P-factor ought to be chosen by an organization. They merely provide information assigning a probability factor to a particular cost or date. It is up to the organization to evaluate the level of risk that it is willing to accept. Mr. Westney's testimony during Phase I, as to his own beliefs surrounding the use of a value that merits a P75 probability score for the MFP, does not change the fact that Westney Consulting's reports did not recommend any specific P-factor to Nalcor in 2010 or in 2012.

Testimony of R. Westney, 16 November 2018, p13

184. Westney Consulting provided their advice in writing to Nalcor. This document, like any consultant's report, should contain all of the pertinent information that a reader – including the CEO or the Board of Directors – needs to understand in the event that they were not personally interacting with the expert consultant. It would be puzzling for a consultant to intend to make a firm recommendation and expressly choose not to include it in their formal, written report. Messrs. Martin and Harrington both testified to the absence of this purported P-factor "recommendation" in the written Westney reports.

Testimony of E. Martin, 12 December 2018, p62
Testimony of P. Harrington, 19 November 2018, p35

Nalcor Identified and Mitigated Schedule Risks

185. The scheduled first power date for the Project has been somewhat delayed from the initially projected timelines. However, the schedule which was projected prior to Project sanction was not unreasonable, though it is acknowledged to have been aggressive. The indications to Nalcor at the time in 2012 were that the target of first power during 2017 was achievable. The fact that first power was not actually achieved in 2017 – a hindsight evaluation – does not impact upon the reasonableness of Nalcor’s assessment in 2012.

Third Party Schedule Reviews Supported Nalcor

186. Several third-party experts reviewed the schedule and came to conclusions supporting its achievability.

187. MHI concluded in October 2012 that the proposed schedule was comprehensive, detailed, consistent with best industry practice for similar projects, and was appropriate and reasonable to meet the requirements of DG3.

P-00058, “MHI - Review of the Muskrat Falls and Labrador Island HVdc Link and the Isolated Island Options dated October 2012”, pp 9, 12

See also *P-00048, “MHI - Report on Two Generation Expansion Alternatives for the Island Interconnected Electrical System (Volume 1: Summary of Reviews) dated January 2012”, pp 58, 59*

188. The Independent Project Review team concluded that Nalcor had made excellent use of the interval between DG2 and DG3 to complete early works and protect project milestones. They found that best practices had been followed to develop adequate and realistic schedule allowances.

P-00083, Lower Churchill Project - Decision Gate 3 - Independent Project Review Presentation dated August 31, 2012, pp13, 14

189. MWH Canada (Nikolay Argirov), acting as Independent Engineer on behalf of Canada, commented that Nalcor’s schedule was “*generally complete*”, but that they could not come to a conclusion on likelihood of completion on schedule until larger contracts were awarded and under construction.

P-01986, Interim Independent Engineer's Report - Lower Churchill Project prepared by MWH Americas, Inc. dated November 29, 2013, p208

190. None of the experts who reviewed the schedule concluded it was unrealistic or that completion of the project on time was improbable.

P-01846, Nalcor Energy - Muskrat Falls Project - Reasonableness of the Attainability of 2017 First Power dated October 18, 2018, p 4, para 7

191. Contractors on the Project proposed schedules based on 2017 first power. Two key contractors, Astaldi Canada Inc. and Andritz Hydro Ltd., agreed to significant liquidated damages in their contract documentation, should they fail to meet their schedules.

P-01865, Muskrat Falls Corporation and Astaldi Canada Inc. - Civil Works Agreement - Construction of Intake and Powerhouse, Spillway and Transition Dams - Agreement No. CH0007 dated November 29, 2013, p75
P-01884, Muskrat Falls Corporation and Andritz Hydro Canada Inc. - Supply and Install Agreement - Supply and Install Powerhouse and Spillway Hydro-Mechanical Equipment - Agreement No. CH0032-001 dated December 18, 2013, pp76-77

192. The final Project Control Schedule was prepared by SNC, in reliance on their internal hydroelectric-specific expertise. The schedule itself, and the many parties involved in its preparation and review, confirmed that achieving first power in 2017 was viable when construction started on the Project.

P-01846, Nalcor Energy - Muskrat Falls Project - Reasonableness of the Attainability of 2017 First Power dated October 18, 2018, p8

193. Mr. Keith Dodson, of Westney Consulting Group, testified that though he brought certain risks to the attention of the PMT, that he on behalf of Westney effectively deferred to the more local and recent hydroelectric-specific experience of SNC in making project management projections, for example with respect to expectations of productivity and concrete placement. This advice was not directly challenged by Westney, its chosen external risk assessment advisor. Nalcor acted reasonably in taking the advice of SNC with respect to productivity levels.

Testimony of K. Dodson, 25 February 2019, p7

194. Mr. Dodson acknowledged that SNC added value to the MFP planning in 2012 by bringing information about their recent experience gained in hydroelectric dam construction in northern Quebec, which showed a more optimistic projection of productivity. Mr. Dodson acknowledged that Westney's more general information could not contradict the specific experience recounted by SNC on the issue of productivity rates. Westney and Nalcor ultimately chose a more optimistic view of productivity in 2012 (versus 2010) based on SNC's experience.

Testimony of K. Dodson, 25 February 2019, pp3, 5

Westney's Incomplete Picture of Schedule

195. Much of the criticism against Nalcor and its supporting contractors' conclusion that first power in 2017 was achievable is based on a time-risk analysis prepared in 2012 by Westney Consulting Group. In that document, Westney postulated that there was just a 1% to 3% probability (P1 to P3) of achieving first power in July 2017 based on the specific exercise that the time-risk analysis was designed to address – a stress analysis to identify key risks. This document has received outsized speculation at the Inquiry relevant to its importance at the time. Unfortunately, the assumptions and underpinning information driving Westney's 2012 conclusion as to the schedule risk were incomplete, as this was the design of the exercise. Other parties, including independent reviewers, Project contractors, and internal Nalcor staff, quite reasonably, did not view the projected schedule itself in such a dim light.

P-00833, Westney Consulting Group presentation re Nalcor Energy - Analysis of Potential Management Reserve and Lender's Owner Contingency for the Lower Churchill Project dated May 23 to June 4, pp14-15

196. Westney's use of the term "P1 to P3" in 2012 is not the "canary in the coal mine" that it has been made out to be. The Commission ought not to accept Commission Counsel's

view of Westney's projection without considering the following problems and actual purpose and design of the exercise underlying it.

197. SNC and Nalcor prepared the detailed schedule with more than 10,000 lines. The information that was provided to Westney to conduct its stress-testing of the schedule in 2012 was a simplified version of this document for the purpose of identifying those factors which had the highest likelihood of causing great difficulty in achieving the schedule for the purpose of ensuring the PMT was focused on mitigating the risks which could have the greatest positive impact. This schedule, with fewer than 100 actions and therefore sensitive to even minor delays, was provided with the primary goal as stated of identifying key global schedule drivers.
198. Westney's time-risk analysis of Nalcor's schedule was not an analysis of the full 10,000 line-item "Project Control Schedule", on the basis of which the Project was sanctioned. Westney's conclusions were therefore not based on an analysis of the project's schedule, but rather was a test to ferret out those items of greatest concern. Westney did not have as broad information as did SNC and Nalcor with respect to the details of the schedule.

*P-00130, Nalcor Energy - Lower Churchill Project - Decision Gate 3
Project Cost and Schedule Risk Analysis Report dated October 1, 2012*

Testimony of Paul Harrington, 20 November 2018, p35

Testimony of G. Bennett, 28 November 2018, p62

Testimony of E. Martin, 11 December 2018, pp41-42

Testimony of E. Martin, 14 June 2019, pp138-139

*P-01846, "Nalcor Energy - Muskrat Falls Project - Reasonableness of the
Attainability of 2017 First Power dated October 18, 2018", p3, para 2*

199. In preparation for DG3, in 2012 the summarized schedule was provided to Westney for stress-testing with the goal of identifying key global schedule drivers. Stress-testing is not equivalent to a probability analysis of the schedule.

*P-00833, Westney Consulting Group presentation re Nalcor Energy -
Analysis of Potential Management Reserve and Lender's Owner Contingency for
the Lower Churchill Project dated May 23 to June 4, pp 14-23*

*P-00130, Nalcor Energy - Lower Churchill Project - Decision Gate 3
Project Cost and Schedule Risk Analysis Report 1 October 2012, pp 9, 14-15*

*P-01846, Nalcor Energy - Muskrat Falls Project - Reasonableness of the Attainability of 2017 First Power dated October 18, 2018, p 17
Testimony of E. Martin, 14 June 2019, p140*

200. Nalcor's Project Control Schedule was constructed on the basis of a 6-day work week, while Nalcor planned from the outset of the project to operate on a 7-day work week. This built an approximately 8 month, or 14%, "schedule reserve" into Nalcor's schedule at sanction. Westney's conclusions on schedule probability do not contemplate this generous schedule float, as their analysis was based on a 6-day work week schedule.
201. Mr. Kean testified to this 14% schedule reserve. It appears that the 14% schedule reserve information was not communicated to Westney, neither as an update following the conclusion of their DG2 work, nor when they were re-engaged to provide advice in advance of DG3. This creates an obvious pitfall with relying on the Westney time analysis. Commission Counsel simply seized upon the Westney statement of a P1 schedule if one or more of the global drivers came to pass, and hypothesized the negative outcome that the schedule was doomed from the outset. Commission Counsel did not evaluate what Westney had actually been commenting on.

Testimony of J. Kean, 7 November 2018, pp111-112

202. Nalcor's schedule at sanction had planned first power in July 2017, whereas Nalcor's public commitment was that first power would be attained in 2017. This extension made for a further 4 to 5 month "schedule allowance". This was not factored into Westney's time-risk analysis.

*P-00130, Nalcor Energy - Lower Churchill Project - Decision Gate 3 Project Cost and Schedule Risk Analysis Report dated October 1, 2012, p15
P-01846, Nalcor Energy - Muskrat Falls Project - Reasonableness of the Attainability of 2017 First Power dated October 18, 2018, p 4, para 6*

203. Mr. Harrington clarified that Westney's advice was that achieving *full* power in mid-2017 had a probability factor of P3, rather than achieving *first* power at P3, should one or more

of the global drivers occur. The time difference between first power and full power is at the least several months, as each of the four units are brought on-line and tested, in sequence, over time.

Testimony of P. Harrington, 21 November 2018, p21

204. Commission Counsel raised issues surrounding the indication received from Westney as to the schedule, following mitigation measures, showing a probability of “P1 to P3” for a first power date of mid-2017. Mr. Harrington testified that when he received this indication from Westney, he could not understand or accept their conclusion. In other words, based on his judgment and his knowledge of the mitigation measures that had been put in place to avoid missing critical-path items identified in the time-risk analysis, he did not believe that Westney was correct in their assessment of “P3” for the dam operation date. It was open to him, in his position on the PMT, not to accept this particular perspective of an external consultant.

Testimony of P. Harrington, 20 November 2018, p34

205. The consistent communication to Mr. Martin from the PMT, both before and after Westney’s analysis and subsequent actions of the PMT, was that the schedule was aggressive, but achievable. Mr. Martin was specifically advised of the mitigation measures relating to schedule that had been put in place, and he and Mr. Bennett both testified to the particular items that he had been advised would positively impact the schedule and increase the built-in schedule “buffer”. Mr. Martin therefore took prudent steps to assess the reasonableness of the schedule-related evaluation that was being presented to him, which is in keeping with the proper role of a CEO. In return, the PMT provided him with a legitimate series of reasons not to accept the assessment of Westney. This assessment, i.e. that the schedule was achievable, was supported to Nalcor by SNC at the PMT level.

Testimony of E. Martin, 11 December 2018, pp34, 51-52
Testimony of G. Bennett, 28 November 2018, p64

206. The evidence surrounding the appropriate P-factor for a megaproject have primarily focused on cost items. To be clear, the advice of the experts respecting the proper assignment of schedule probability differs. Mr. Westney testified that he would expect many construction projects to have an aggressive schedule, in the range of P30.

Testimony of R. Westney, 16 November 2018, p17

207. Nalcor's choice to accept SNC's expertise vis-à-vis specific schedule criteria over that of Westney was entirely reasonable. Mr. Dodson conceded that SNC's understanding of the productivity rates was based on the hard data SNC had collected from their work on the hydroelectric dam projects they had completed in Quebec in the relatively recent past. Westney, who had access only to general market data, had no basis on which to contest SNC's views. Mr. Dodson recounted that SNC was very "*confident*" that they would be able to get a sufficiently knowledgeable team on the project that they could replicate the more productive progress they had been able to achieve on their other recent projects.

Testimony of K. Dodson, 25 February 2019, pp 3, 5, 7

CEO Accepted Project Schedule and Cost Estimate created by PMT and Experts

208. The schedule and cost estimates for the Muskrat Falls Project were prepared by the PMT and experts who had been engaged to assist Nalcor. These items were presented to Mr. Martin in 2012.

Testimony of G. Bennett, 25 June 2019, pp87-89

209. SNC, being responsible for engineering on the project, completed the large majority, estimated at 70 percent, of the project cost estimate. Mr. Kean testified that SNC prepared approximately 70% of the DG3 base estimate, with Nalcor providing the other 30%.

Testimony of J. Kean, 7 November 2018, p41

210. With respect to schedule planning, an expert at SNC with over 30 years' experience in hydroelectric projects led the preparation and updating of the approximately 10,000-action Project Control Schedule.

*P-03695, Spreadsheet prepared by R. Power, p1
Testimony of P. Harrington, 20 November 2018, p34
P-01846, Nalcor Energy - Muskrat Falls Project - Reasonableness of the
Attainability of 2017 First Power dated October 18, 2018, p3.*

211. After extensive consultation with the PMT, Mr. Martin accepted the proposed schedule and cost estimate. He made the final call on the contingency and reserve levels to be allocated for associated risks, and ensured funding was available. These decisions were made based on the information presented to him about schedule, cost, proactive and reactive risk mitigation measures in place, and on his knowledge of industry practices at the time of sanction. The PMT fulfilled their obligations by preparing and presenting such information to Mr. Martin, and he made the decisions required of him as CEO.

Testimony of G. Bennett, 25 June 2019, p89

212. To equate setting contingencies and reserves for cost and schedule to imposing a fixed, rigid schedule and base cost estimate on the PMT would be inaccurate and misleading. Regardless of how the cost estimate and project schedule are labelled, Mr. Martin did not create them, nor did he impose them on the PMT.

EXAMINATION OF CURRENT AND FUTURE BENEFITS OF MUSKRAT FALLS

213. Government's view, which was shared by Mr. Martin, was that the broader suite of short and long-term benefits of the MFP outweighed its specific shorter-term expenses and challenges – expenses and challenges that the broader suite of benefits provides the opportunity to mitigate for the benefit of NL ratepayers. The Commission has been focused on the decision to sanction, and the parties have been advised that the hearing is not intended to consider the broader suite of both shorter and longer term benefits.

Commission has Mandate to Consider Benefits of Muskrat Falls Project

214. We submit that the Order-in-Council, and the Interpretation of the Terms of Reference of this Commission, each contain an indication that it is not only appropriate, but necessary, to take into account the benefits and value of the Project in deliberations.
215. First, the Commissioner's Interpretation of the Terms of Reference direct that the Commission will take into account the "*business case*" which led up to sanction, "*specifically the case advanced by Nalcor, and accepted by Government, for the need, financial viability, costs and benefits*" of the Project. As just discussed, the evidence shows that for the key decision-makers within GNL, this consideration of the business was *not* only a consideration of costs and burdens at the time.

*Interpretation of the Terms of Reference for the Muskrat Falls Inquiry, 14
March 2018, para 29*

216. Second, the Order-in-Council expressly directs that the Commissioner take into account the appropriate "*balance between the interests of ratepayers and the interests of taxpayers*". Certainly, the EPCA, section 3(b)(iii), which was referred to many times during the hearings, directs a focus on "consumers in the province". However, the interests of NL's taxpayers may differ slightly from the narrower interests of ratepayers (presumably, in having the lowest possible power purchase rates). To the extent that benefits of the Project accrue to taxpayers – meaning residents – of this Province as a whole, this is an appropriate focus for the Commissioner's concluding report.

*Commission of Inquiry Respecting the Muskrat Falls Project Order under
the Public Inquiries Act, NL Reg 101/17, s5(e)*

GNL and Nalcor Witnesses Testified they were Persuaded by Future Benefits

217. The evidence shows that the key decision-makers at the time were heavily influenced by the broader suite of benefits over time represented by this Project. Former Premiers Williams and Dunderdale, and Mr. Martin, all cited future benefits as the ultimate reason

that they supported and pursued the development of the Lower Churchill in the 2010 and 2012 timeframe.

218. Ms. Dunderdale testified to the three “*significant*” areas of longer-term monetary benefit to the Province arising out of the Project. These are dividends paying to the Province for its equity investment; profit from the sale of excess power; and water rentals. She also testified to her view that the Project carried environmental benefits.

*Testimony of K. Dunderdale, 19 December 2018, p15
and see P-00067, Government of Newfoundland and Labrador Paper re
Sanction Decision on the Muskrat Falls Project, 5 December 2012*

219. Mr. D. Williams testified that when GNL brought the Project into existence, they contemplated that the benefits would be long-term – some 50 years – while acknowledging that the costs would be borne up front. His view was that the short-term costs could not be separated from the “*big picture*” of the long-term benefits.

Testimony of D. Williams, 2 October 2018, p17

220. Mr. Martin gave evidence before the Commission that when he attended for meetings at government to assess whether Muskrat Falls was a viable option on its own merits – leaving aside the comparison with an Isolated Island alternative – that the discussions invariably turned to the benefits that the Lower Churchill would bring to the people of this province. It is plain that the broader suite of benefits into the future of the Project did, in fact, materially influence the decision-makers within GNL and otherwise.

Testimony of E. Martin, 11 December 2018, pp6, 8

Benefits of the Muskrat Falls Project

221. The impetus for this Inquiry was, in part, a desire to determine what brought the Muskrat Falls Project to where it is today. Understanding what went wrong with the Project requires consideration not only of select, pre-identified problems, but also what its objectives were from the outset.

222. The Muskrat Falls Project was sanctioned to realize a wealth and diversity of benefits, one of which was supplying reliable power to NL ratepayers over its life at the lowest possible cost. The remainder of the benefits recognized by Nalcor, Newfoundlanders, and GNL in deciding to sanction the project, have unfortunately been left out of the discussion. Virtually all of these benefits remain today and will remain for the future. Mr. Martin submits that the benefits of this Project must be considered by this Commission in order to ensure a balanced and reasonable understanding of the full spectrum of the Project.
223. Muskrat Falls, the LIL, and the Maritime Link provide more reliability than Newfoundland's isolated system ever had. Mr. Humphries of NL Hydro described the current isolated electrical distribution system as "*fragile*". The Maritime Link and the LIL provide two conduits to bring power to island customers, and they permit access to backup power in the case of a failure. Nalcor is now able to import electricity during any failures or planned outages, leaving ratepayers unaffected in terms of power access and, overall, better off. While failure at the generation source is of less concern with a hydroelectric generating station, the LIL has already shown its ability to displace Holyrood supply power in the case of a failure at the aging Holyrood station.

Testimony of P. Humphries, 13 November 2018, pp 15, 20, 51-52
Testimony of Stan Marshall, 2 July 2019, pp79-80

224. Interconnection with the North American power grid brings further benefits beyond reliability of supply. Interconnection gives NL access to North American energy markets, empowering the Province to market our significant hydroelectric resources. Access to spot markets enables us to purchase when demand and prices are particularly low, store that energy in our reservoirs, and sell at peak demand for significantly higher prices. Spot market access, with reservoirs for energy storage, can be the source of significant trade revenue.

P-01645, BC Hydro - Integrated Resource Plan - Appendix 6A - Portfolio Results dated November 2013, pp6, 14-37

225. The longevity of electricity supply from the Muskrat Falls generation plant, with appropriate maintenance, should not be overlooked. While the lifespan of the project for the purposes of a comparative CPW analysis was placed at 50 years, the real operating life and continuing benefit is likely to last significantly longer. Much like Churchill Falls or the Hoover Dam, Muskrat Falls will likely have a lifespan of 75 years or more during which it can be expected to provide energy to supply industry, exports, and domestic customers long after the 50 year timeframe has expired.
226. The value of equity investment in an asset like Muskrat Falls and the LIL is absent in a system reliant on non-renewable resources for production of electricity. This investment provides the Province with a significant ongoing stream of income throughout the life of the Project. The increased equity invested in Muskrat Falls and the LIL drives this return even higher. This massive local construction project has also brought employment, skills training, megaproject and hydroelectric experience, and other indirect benefits for the NL economy. The alternative to this investment and the resulting benefits is payment of billions of dollars to international oil providers, the benefits of which are received exclusively, or primarily, by those outside the Province.
227. The construction of hydroelectric generation as our primary electricity supply releases NL from the fossil fuel dependency. The volatility of oil prices over the past decade has illustrated how significant an impact resource dependence can have on a jurisdiction. The risk of political change or disruption around the world, causing instability in oil prices and supply, is always present. For a jurisdiction where the majority of the cost of electricity production is spent on fossil fuels, the impact of any increase in prices will be considerable.
228. Fossil fuel-based electricity generation facilities also have much shorter lifetimes and are less reliable than hydroelectric generation. Finally, moving to hydroelectric generation

removes the risk of increases in carbon pricing and allows Newfoundland to address both local and global environmental concerns.

229. In 2041, with the expiry of the Churchill Falls power supply agreement with Hydro-Québec, NL will have the opportunity to profit enormously from power sales. Approximately 5500 megawatts of supply will be available for sale, with 65% of profits going to NL. The price at which that energy is sold and the cost of transporting it to buyers are key to maximizing that profit.
230. Before the sanctioning of Muskrat Falls, Quebec had huge leverage over NL with respect to 2041, as it was the only practically available customer and transportation corridor. The construction of the Muskrat Falls Project, particularly the LIL and the Maritime Link, has proven that NL has an alternative to selling to Québec. The leverage gained by this is significant and cannot be understated. Given the volume and potential value of electricity sales from Churchill Falls, even the smallest swing in leverage is of material financial significance.

P-04445, Report to the Muskrat Falls Inquiry - Review of Several Financial Issues Relating to the Decision to Proceed with the Muskrat Falls Project, MPA Morrison Park Advisors Inc. dated May 2019, at pp 34-35

Interconnection with North American Grid brings Significant Benefit

231. The Maritime Link, together with the deal struck by Nalcor with Emera, gives NL access to the New England, Nova Scotia, New Brunswick and PEI markets. This brings a significant benefit to the Province.
232. The Nalcor 2011 PUB submission details the long, unsuccessful process that NL Hydro had followed trying to secure significant access to the Quebec transmission system for new hydro developments in NL. Nalcor was successful in obtaining approximately 250MW open access for recall power from the Upper Churchill, power that has been flowing into Quebec for 50 years. With this exception, Quebec is not providing open access to its

transmission grid for new hydro developments in NL, and in the absence of the Maritime Link, Quebec was the only potential point of interconnection into the North American system.

*P-00077, Nalcor Submission to PUB, 10 November 2011
P-00625, Minutes of the Fourteenth Meeting of the Board of Directors
dated 18 February 2009, p2*

233. Morrison Park opined that Newfoundland and Labrador's interconnection to the North American grid, which was only secured through the Emera deal, is "*a significant benefit that is difficult to value in monetary terms*".

P-04445, Report to the Muskrat Falls Inquiry: Review of Several Financial Issues Relating to the Decision to Proceed with the Muskrat Falls Project, Morrison Park Advisors, p18

Project Continues to be the Highest Value Solution

234. One of the purposes of the Inquiry, as set out in the Terms of Reference at Section 4(b), is to determine:

Why there are significant differences between the estimated costs of the Muskrat Falls Project at the time of sanction and the costs by Nalcor during the Project execution, to the time of this Inquiry together with reliable estimates of the costs to the conclusion of the Project (...)

The phrasing of this subparagraph neither accounts for the foundation of the decision to sanction, nor accounts for the public policy considerations at play.

Commission of Inquiry Respecting the Muskrat Falls Project Order under the Public Inquiries Act, NL Reg 101/17, s4

235. By phrasing the Terms of Reference in this manner, focusing only on "costs" and not "value" or "benefits" GNL has tried to improperly alter the foundation of the decision to sanction the Muskrat Falls Project. It has intentionally moved the focus from a multitude of factors, to simply a focus on the capital cost as if it was the only basis upon which the decision was made, ignoring the benefits of the Project.

236. Although the Commission is mandated to identify the reasons for the capital cost increase, the Commission ought not to make the capital cost changes, between sanction and completion, the basis of undermining the decision to sanction and proceed with the Project.
237. It is Mr. Martin's submission that oversimplification is a risk to understanding whether the Project is a success or not. As demonstrated by the testimony of Professor Klakegg and Dr. Jergeas, a cost overrun does not dictate whether the project is a success.

*Testimony of Professor Klakegg, 24 July 2019, pp42-43
P-04438, Governance frameworks - The Norwegian State Project Model
and other schemes. Preconditions and effective elements - suggestions for
Newfoundland and Labrador, pp 954, 64
Testimony of Dr. Jergeas, 19 June 2019, pp 14-15, 56*

238. The evidence demonstrates that the Muskrat Falls cost estimates were prepared and verified by SNC-Lavalin, a world class engineering company with vast experience in hydroelectric dam projects, as well as transmission systems.

*P-01193, Nalcor Energy - Lower Churchill Project - Decision Gate 3 Basis
of Estimate dated December 3, 2012, p29
Testimony of J. Kean, 7 November 2018, p41*

239. Other than evidence that the estimates were lower than bid amounts received prior to financial close, there is a paucity of evidence as to how or why the estimates were lower than bid amounts. Speculation as to why is a dangerous path to follow. Hindsight assertions that the increased bid amounts should have caused a "stop, review and consider" approach to the Project are equally dangerous.
240. A stop, review and consider process, advocated by Commission Counsel fails to consider the cost of delay; the risk of losing the \$900,000,000 spent to that point in project preparation, engineering, and early site civil works; the fact that at the time power was needed in a certain time frame to meet projected capacity shortages; and the fact that the capital cost increase did not significantly impact the \$2.4B cost differential between the

Isolated Island option and the Integrated option. These are just a few of the obvious considerations.

241. Capital cost was but one of several factors which instructed the decision making. Evidence in Phase I, and reinforced in Phase II and Phase III, demonstrated many other benefits of proceeding with the Muskrat Falls Project.

*P-00254, Excerpt from Nalcor Energy Presentation - Exhibit 5 - Net Benefits to NL at DG3, p1;
P-04445, Report to the Muskrat Falls Inquiry - Review of Several Financial Issues Relating to the Decision to Proceed with the Muskrat Falls Project prepared by MPA Morrison Park Advisors Inc., May 2019, pp13-14*

242. The Muskrat Falls Project constituted an important piece of the Energy Policy of the province when it was sanctioned. At the time there was insufficient power to meet the needs of the new entrants into the Labrador mining sector, and the Isolated Island option provided no solutions to that problem. In addition, there was a projected shortfall on the Island and the need to replace Holyrood.

P-00070, Department of Natural Resources - Electricity Demand Forecast: Do We Need the Power? November 2012, p3

243. The financing of the Interconnected Island option with the FLG was significantly preferable to financing for the Isolated Island option, projected to save over \$6 billion nominal over the financing timeframe. According to Stan Marshall's evidence, choosing the Isolated Island option would likely mean immediate costs of about \$2 billion to replace Holyrood, and would leave the Province without a solution to power the mining interests in Labrador.

Testimony of S. Marshall, 2 July 2019, p22

244. It is Mr. Martin's submission that the Project must not merely be judged for its performance on projected versus actual capital costs, but rather should be looked at in the context of the actual "net cost to the ratepayer". This latter concept includes consideration of capital costs, financing costs (inclusive of the FLG), return on equity, sustaining capital, operating

costs, Innu payments, and water rentals. In addition, the incremental revenue benefits associated with Muskrat Falls over and above the Isolated Option (whereby the majority of costs for Isolated Option go to outside oil companies for fuel, as contrasted with the Muskrat Falls option whereby billions of dollars of return on equity, excess sales and water rentals remain in NL and available for the people of this Province) can be used to reduce and smooth in the actual “cost to the ratepayer”.

245. The capital costs increase may be the focus of the Inquiry as worded but the active players deserve, as does the Project itself, due consideration of the factors which underpin the decision to proceed with the Project.

Commercial Arrangements Negotiated by Nalcor were Reasonable

Emera-Maritime Link Arrangement Favours NL and NS

246. The Commissioner’s Interpretation of the Terms of Reference specifically considered, and determined, that the negotiations held between Nalcor and Emera with respect to the Maritime Link, and the associated commercial arrangements that were entered into between those entities, would be considered in the Inquiry. Mr. Martin, along with key Nalcor executives from Energy Marketing, Systems Planning, Finance, and PMT, as well as executives from GNL, played a key role in those negotiations. Though much criticism has been levied at the deal struck with Emera in 2012, much of this is based on a misapprehension of the structure of the deal. The arrangement reached between Nalcor and Emera was a business success reached after strategic negotiation on Nalcor’s behalf.

*Interpretation of the Terms of Reference for the Muskrat Falls Inquiry, 14
March 2018, para 38*

247. The commercial arrangements entered into with Emera as part of the Muskrat Falls Project deserve a closer look than provided during the hearings. The Emera Agreements have been portrayed as heavily favouring Nova Scotia at the expense of Newfoundland and

Labrador ratepayers. In Mr. Martin's view, a balanced and significantly positive commercial arrangement was struck whereby each party benefited.

248. Ms. Dunderdale testified that she was not prepared to move to sanctioning the Project unless the Federal Loan Guarantee (FLG) was put in place with a projected savings of \$1.1 billion in financing costs. We would add that the \$1.1B billion figure represents the present value of nominal savings, greater than \$6B, over the life of the Project.

*Testimony of K. Dunderdale, 18 December 2018, p2
Testimony of K. Dunderdale, 19 December 2018, p29*

249. The involvement of multiple provinces was critical to securing the FLG. Thus, the involvement of Nova Scotia made the FLG, and the Project, possible.
250. In regulations passed under Nova Scotia's Electricity Act, NS statutorily requires 40% of the total amount of renewable electricity supplied to customers in the year 2020 to be generated by renewal resources. Section 6(a)(i) of the regulations state:

Each year beginning with the calendar year 2020, each load-serving entity must supply its customers with renewable electricity in an amount equal to or greater than 40% of the total amount of electricity supplied to its customers as measured at the customers' meters for that year.

Renewable Electricity Regulations, NS Reg 150/2018 (amended from NS Reg 155/2010, with no change to cited section)

251. Securing and proving an alternate route for Muskrat Falls' surplus power, other than sale to a single transmission facility through Quebec, was also important to NL. Newfoundland wanted to establish that Upper Churchill Power will not have to remain landlocked, and thus dependent on Hydro-Québec, which could once again create a seriously depressed value for Upper Churchill Power.
252. This situation as between NL and NS made for the ideal opportunity for balanced commercial discussions.

The Benefits of the Emera Agreements – Good for Both NL and NS

253. The Emera Agreements encompass a series of commercial arrangements entered into among Nalcor, Emera, the Province of Newfoundland and Labrador, the Province of Nova Scotia, and Nova Scotia Power Maritime Link Incorporated between 2012 and 2014.

See P-00463, *Her Majesty in Right of Newfoundland and Labrador and Her Majesty in Right of Nova Scotia and Nalcor Energy and Emera Inc. – Inter-Provincial Agreement dated July 31, 2012, p12*
P-00458, *Nalcor Energy and Emera Inc. - Amended and Restated Energy and Capacity Agreement dated July 31, 2014*
P-00474, *Nalcor Energy and Emera Inc. - Amended and Restated Supplemental Agreement dated July 31, 2014*

254. A review of the relevant Emera agreements, which encompass all the arrangements between Newfoundland and Labrador, Nova Scotia, Emera, Nalcor and other entities, reveals a significant positive benefit accruing to the people of each of the respective provinces.

255. The people of Newfoundland and Labrador benefit from the following:

(a) NL has acquired a tariff-free power corridor to Cape Breton, and a further power corridor through NS and NB, which opens up access to the United States and west.

This power corridor benefits Nalcor in two ways:

(i) Unlike most commercial arrangements, Nalcor only pays tariffs in NS and NB if and when it uses the corridor to import or export power. Most other utilities require a tariff to be paid for the availability of transmission capacity, whether it is used or not.

(ii) Under the EAA, any power sold to NS is without any tariff at Mass Hub Pricing. If the Mass Hub Price is offered to NS, the full price is obtained by Nalcor as no tariffs apply.

- (b) After striking a deal with Emera, NL was in a position to acquire a Federal Loan Guarantee for the entire Project, which brought financial benefits from a cost-of-construction perspective, and ultimately reduced the ratepayer burden.
- (c) NS has agreed that excess power can be sold by NL to NS at the Boston Mass Hub price when it arrives at Cape Breton, without the need for NL to first transport power all the way to Boston (with accompanying transmission losses and tariffs).
- (d) Nalcor has carefully managed its own obligations such that NS does not have unreasonable leverage. NL has an obligation to offer power for sale to NS, which reduces its obligation to provide a total guaranteed supply during the life of the contract, whether or not NS purchases the power offered. If NS does not purchase the power, then NL is free to sell it to another buyer.
- (e) NL is not required to produce and supply all its firm power. The only requirement is to provide firm power for first 0.98 TWh, and thereafter excess non-firm power. Nalcor gained the ability to purchase power in off-peak hours and fill reservoirs for sale at peak hours or for use when peak power is required.
- (f) NL will acquire the Maritime Link itself after 35 years, without having paid for its construction. This is estimated to amount to a \$1.5B asset, and NL will retain transmission corridor privileges.
- (g) NL has acquired a means to move excess power to markets, other than Quebec proving the alternate route viability. Since Newfoundland will now have two interconnections with the North American grid, no single entity (NS or Quebec) understands that they have a monopoly over NL's ability to sell power. This fundamentally increases Nalcor's negotiating strength for a 2041 deal with Hydro-Québec, a finding which was supported by Morrison Park Advisors.

- (h) The NL electricity system benefits from improved reliability. NL has the ability to import power over the Maritime Link as a backup supply, in the event that generation capacity on the island fails.
- (i) The supplemental transmission capacity on the Maritime Link enables additional development in NL for smaller hydro and wind project developments, as the power they create can be sold into the markets where it is in surplus to NL's needs.
- (j) It creates a guaranteed opportunity to invest in other Emera projects anywhere, on similar terms to Emera's investment in the LIL.
- (k) Provides Emera with an investment opportunity in LIL which reduces NL's financing requirements. At the same time introduces leverage in favor of NL over Emera in that if the Maritime Link was not approved, then their opportunity to earn on a LIL asset would be removed.

256. The people of Nova Scotia and Emera have received the following benefits:

- (a) Nova Scotia has secured access to a "clean" power source in the amount of 0.98 TWh annually, contributing to their statutory mandate to source 40% of their energy from renewable sources by 2020.
- (b) Emera acquired partial ownership of the Labrador Island Link, with a return on equity invested at utility rate of 8%.
- (c) Nova Scotia ratepayers also benefited from the superior interest rates and other monetary benefits of the FLG, in respect of the Maritime Link.
- (d) NS has acquired a firm source of power without paying tariffs or the New England Independent System Operator (NEISO) export fee at the American border. In fact, most US energy sources are not renewable energy and thus would not satisfy the NS regulatory requirement of 40% renewable power sources.

(e) NS has bartered its construction of the \$1.5B Maritime Link in exchange for a block of secure power from NL.

257. The commercial arrangements between NL and Emera, and the other related parties, bring significant benefits to both provinces. They are, in colloquial terms, a “win-win”. The criticism that Nalcor agreed to “give away power for free” to Emera is absolutely incorrect in light of the reality that Emera, in exchange for this power, agreed to construct the Maritime Link, only to have it revert to Nalcor after 35 years. Since Emera agreed to take on this aspect of the construction project, the burden of the risks associated with this subset of the MFP megaproject which were required to be borne by Newfoundland was reduced significantly.
258. The Maritime Link was recognized by Pelino Colaiacovo of Morrison Park Advisors as providing significant benefit now, and in respect of future negotiations respecting Upper Churchill Power. Mr. Colaiacovo noted that the transmission assets constructed as part of the Muskrat Falls Project, including the Maritime Link, proved that Newfoundland and Labrador has established a viable alternative to selling to Québec in 2041. He concluded that this improved circumstance has put Newfoundland and Labrador in a better strategic position in preparation for negotiations with Hydro-Québec regarding 2041. Overall, a stronger negotiation position would result in more profit from the Upper Churchill for the people of the province. Mr. Colaiacovo further opined that the strength of NL’s negotiation position could incentivize earlier negotiations, possibly leading to profits for NL being received in advance of 2041.

P-04445, Report to the Muskrat Falls Inquiry - Review of Several Financial Issues Relating to the Decision to Proceed with the Muskrat Falls Project prepared by MPA Morrison Park Advisors Inc. dated May 2019, pp34-35

Treatment of Budget during Emera Negotiations was Reasonable

259. Mr. Huskison, then the CEO of Emera, provided information to the Inquiry clarifying the impact of the practices followed at the NSUARB with respect to the terminology of

“strategic risk”. In short, neither the NSUARB nor Emera uses the concept of “strategic” or “tactical” risk, but instead frames risk as one category.

260. Mr. Martin’s initial offer of numbers to Emera represented Nalcor’s P50 budget, not including any allowance for strategic risk. Unknown costs outside of the P50 basis were excluded – if not known it would not be reasonable to include them. Emera accepted Nalcor’s numbers as the basis for negotiations, and proceeded to compare them to their alternative. No allowance for strategic risk was removed from the initial offer, because no such allowance was in the initial offering. It is simply incorrect to say that Mr. Martin and Mr. Bennett, on behalf of Nalcor, removed the strategic risk amount from Nalcor’s budget at DG2 because of a request by Emera, as has been suggested during the Inquiry.

P-01462, 25 November 2018 Chris Huskison response to Question from Legal Counsel to the Commission of Inquiry with respect to Muskrat Falls

REASONABLE, DILIGENT MANAGEMENT OF CONSTRUCTION PROJECT AFTER SANCTION

Contract Administration and Management was Appropriate

Causes of Cost Overruns: Cost Estimates, Delay, Astaldi

261. In Phase II, the Commission heard evidence as to why the costs increased. Very little evidence was presented as to the amount of any specific cost increases, other than evidence surrounding settlements with contractors concluded after Mr. Martin’s departure. The evidence before the Commission as to the reasons for cost increases can be broken down into 4 primary factors:
- (a) Impact of delay(s) (generally);
 - (b) Astaldi’s productivity;
 - (c) Estimates lower than actual bid prices; and
 - (d) Reliability improvements, which also produced an associated benefit longer term.

262. Mr. Martin suggests each of these factors must be considered without the colouring suggested by Commission Counsel, which was more focused on finding persons to “blame” than it was directed at understanding how and why costs were affected.
263. There are many facets of delay. All the evidence unfortunately suggests that delay of any type increases the cost of any construction project.
264. The “delay” identified by the evidence includes:
- (a) Delay between the detailed estimates prepared by SNC for DG3 and the awarding of the key contracts;
 - (b) Delay between identifying contractors as successful bidders and their mobilization to site;
 - (c) Delay by reason of poor productivity and the knock-on effects on other contractors; and
 - (d) Delay built into the contractual provisions which allowed for significant time for the process of claims for extras.

There may be other sources of delay. This list is not exhaustive, but rather instructive that delay caused the capital cost to increase beyond the accepted risk analysis relating to delays.

265. Mr. Martin asserts that Nalcor understood that delay risks and escalation of costs could occur, and made provisions for same. To judge those provisions with hindsight is simple but unfair. To consider whether sufficient escalation or mitigation of delay risks was done at the time, unaffected by hindsight, is virtually impossible given that no evidence was called as to how, at the time, the escalation and mitigation of risks were determined to be sufficient, other than by reliance on the SNC costing model.

266. There is no evidence that the escalation and mitigation of risks viewed at the time were intentionally “low balled”. That speculation arises from hindsight regarding disparate facts. The facts support that the estimates were scrutinized and experts engaged, not to challenge or redo the work of SNC, but rather to review whether SNC had properly applied accepted practice to developing the estimates. They did.
267. Between sanction in December of 2012, and the conclusion of the Federal Loan Guarantee in early 2014, more than one year had passed. The evidence is that the capital costs had increased by approximately \$300M by financial close. Nalcor and GNL engaged in an aggressive early works program to prevent the loss of a year’s construction season prior to sanction in order to maintain schedule. After financial close, the slow mobilization and ramp-up of work, and subsequent low productivity, of Astaldi began to create a myriad of costly delays, including knock-on effects on other contractors.

P-02229, Email from P. Harrington dated November 21, 2013, 5:51:25 PM re Way Forward - Cost and Schedule

268. These activities demonstrate that both GNL and Nalcor were alive to the issue of delay, and the costs associated with delay, and they embarked upon a reasonable mitigation of the issue.
269. The increased cost at the time arising from initial bid results was a key focus for Nalcor however they were also considered in the context of being grounded as to the basis of the decision to proceed with the Project. The Project was not grounded upon merely the capital cost but rather a broader series of impacts which included the necessity to develop the necessary power for NL’s overall needs including mining development, a \$2.4 billion CPW preference for Muskrat Falls over the Isolated Option, reducing carbon footprint, reducing a dependence of fossil fuels and vagaries of oil pricing, stabilizing the NL power system by connection to North American grid, reaping the value associated with excess

power sales, creation of a greater return to the province over time, and using a non-renewable resource to create a renewable long term energy resource.

270. At the time, some \$900 million had been expended in project preparation and early civil works in mitigation of recognized delay. The ratepayer was not prejudiced by the projected \$300 million capital cost increase, as there were also, at the same time, \$300 million present value of increased benefits in interest savings resulting from more favorable financing terms associated with the Federal Loan Guarantee than had been initially projected. In addition, projected value of sales of excess energy were also higher than initially projected due to the finalization of terms of the sale of excess energy to Emera. The value associated with increased benefits of the Federal Loan Guarantee and increased revenue from excess sales offset the projected increased capital costs in the context of actual net cost to the ratepayer.

P-02208, Email dated November 6, 2013, 3:26:10 PM from jamesmeaney@nalcorenergy.com to Joseph Lrupski and James Loucks cc Reynold Hokenson, Alison Manzer, David Pyper and John Medland re LCP Value Update Deck - November 6, 2013 (Confidential), p24

271. Mr. Martin submits that a stop and re-evaluate process would and could not logically result in a decision to halt the Project, as there still existed a \$2.4 B projected cost gap between the Isolated Island and Interconnected Island options, without material change in the Project's broader benefits.
272. The benefits of the Project weighed so heavily in favor of the Project, the stop and re-evaluate would have, *inter alia*:
- (a) caused the contractors to re-evaluate and change their bids or seek compensation when the Project was delayed and restarted;
 - (b) caused delay, which would have undermined the reason for, and value in early works program;

- (c) created serious liability issues for Nalcor; and
- (d) placed \$900 million investment to date in jeopardy.

Change Orders Vetted, Processed Faster than Contracts Stipulated

273. It has been hypothesized that some of the contractor delay was created by Nalcor in not having “decision makers” on site. When reviewing evidence of complaints from Don Delarosbil of Astaldi Canada Inc., for example, one gets the distinct impression that the complaint is hollow. The commercial arrangements with each of the contractors set out a specific process to have change orders approved, including timelines. The location of the decision maker is irrelevant to the process. The evidence is clear that Nalcor met or exceeded the contractual decision time lines. Mr. Martin submits that there is no reliable evidence that the contractual process and decision making on change orders in St. John’s was a source of delay or increased cost.

Testimony of G. Bader and D. Delarosbil, 9 May 2019, pp2-5, 64-67

Testimony of K. Williams, 3 April 2019, p20

Testimony of A. Reitveld and D. Tisdale, 4 April 2019, p32

Testimony of S. O’Brien, 30 May 2019, p89

274. Mr. Scott O’Brien testified to his view that he could isolate, from the 300 operatives on site, some three to five persons who were unhappy and resigned. Mr. Martin submits that this demonstrates that the process was generally acceptable and succeeded. The complainants were outliers and should not be given undue consideration by this Commission.

Capital Cost only Part of a Big Picture

275. The suggestion has been made that the estimates were poor. Mr. Martin submits the estimates as of DG3 have not been tested by the Commission, as at that time of the DG3 estimate in 2012. The estimates appear “poor” only in the context that by 2013 the bids were exceeding the estimates. In other words, the estimates are being judged, not by

whether estimates were sound as of 2011-12 but by hindsight when bids began to be received in 2013-14.

276. Mr. Martin submits that the capital cost increase experienced by the MFP does not make the Isolated Island option more attractive over the anticipated life of the Project, nor does it override the reasonably expected benefits of the Project.
277. The capital cost increases mean that following construction, the Province will have contributed more equity than originally anticipated. As a result of the built-in return on equity, the Province will have a significant increase in income associated with its increased equity contribution. It may choose to use a portion of this income as a source of funding for rate mitigation, or for another purpose. The Province could also reduce its return on equity for the Muskrat Falls assets to substantially lower rates indirectly. This return on equity is built into the rates being paid by ratepayers, in effect the ratepayers are paying a return to themselves as Nalcor is a Crown corporation which is owned by the people of the Province. We are paying ourselves rent to live in our own house.
278. In addition to committing some of its significant Return on Equity to rate mitigation, the Province does have other sources of funds that would not exist, but for the Project. Those sources include:
- (a) excess power sales;
 - (b) water rentals (similar to return on equity, this is a ratepayer cost being paid to ourselves);
 - (c) tax revenue resulting from individuals and business associated with Muskrat Falls, and;
 - (d) oil and gas revenues (non-renewable to support renewable as outlined in the Energy Plan).

279. As expressed by several witnesses, the capital cost increases are unfortunate. Notwithstanding those increases, the Project should not be condemned given that it continues to be the highest value solution to the province's energy needs.
280. Mr. Martin submits that the Terms of Reference direct that the Commission should determine, *inter alia*, why the Project's capital costs increased. This objective need not be viewed as a means to disparage the Project and the benefits accruing to the Province, which can mitigate the ratepayers' burden if GNL so chooses.
281. It is important to note that cost escalation is a result of many factors but none have been truly quantified in the evidence open to all counsel, if it exists. It is disingenuous to point to a possible cause and not be able to quantify it. To do so, makes the minor and major causes appear to be equal.

Astaldi – Right Contractor; Bad Experiences Handled Correctly

Astaldi Selected and Retained for Technical and Commercial Qualifications, Hydro Experience

282. Astaldi Canada Inc. (**Astaldi**) was the correct contractor for the job. Astaldi was one of four contractors who passed Nalcor's pre-qualification process and were invited to bid on the largest civil construction contract, CH0007. Through a rigorous evaluation process, with a team of 16 people conducting the technical evaluation, and five conducting the commercial evaluation, Astaldi emerged clearly as the best contender, both from commercial and technical standpoints. SNC's highly experienced technical evaluation team, working with Nalcor's team members, jointly recommended Astaldi for award of CH0007. Having been selected through an objective and rigorous process as the best bidder, they were accordingly awarded the contract.

P-01964, SNC-Lavalin - Nalcor Energy - Lower Churchill Project - Recommendation for Award - Summary Report - CH0007: Construction of Intake and Powerhouse, Spillway and Transition Dams dated September 24, 2013, pp 4, 5, 15

283. Keeping Astaldi as contractor for CH0007, even with poor early performance, was the right decision. Contractual, labour, time delay, and other practical ramifications of removing and replacing the biggest contractor at any point during a megaproject's construction would be monumental. Additionally there is always risk when choosing to replace any contractor.

Nalcor made Best Efforts to Remedy Astaldi's Slow Start

284. During the fall of 2013, Astaldi began work under the Limited Notice to Proceed. Nalcor very soon encountered problems with Astaldi's slow pace in mobilizing. Nalcor examined the situation at that point, recognizing that it is common for contractors to encounter issues when first mobilizing, and that Astaldi was operating without certainty that they would be awarded CH0007.

P-03707, Email dated November 7, 2013, 2:53 PM from ronpower@lowerchurchillproject.ca to scotto'brien@lowerchurchillproject.ca re Fw: Astaldi progress question, pp 1-3

285. Nalcor's options were carefully considered, concerns were being addressed at the working level with the contractor. The following strong and substantial contractual performance security and financial protections were negotiated to ensure any contract with Astaldi would address Nalcor's concerns:

- (a) \$75,000,000 – Liquidated Damages (for delay in reaching milestones)
- (b) \$200,000,000 – Letters of Credit
- (c) \$150,000,000 – Performance Bond
- (d) Performance Guarantee from Astaldi S.p.A., Astaldi's parent company, a publicly traded, multinational major construction company in operation since 1929.

In November 2013, having negotiated these highly favourable terms, Nalcor awarded the contract to the Astaldi, the contractor deemed best for the project just two months before, and who remained the most qualified contractor at that time.

P-03707, Email dated November 7, 2013, 2:53 PM from ronpower@lowerchurchillproject.ca to scotto'brien@lowerchurchillproject.ca re Fw: Astaldi progress question, pp1-3 P-01818, Nalcor Energy Presentation re Lower Churchill Project - Astaldi Contract dated May 2018, p5; P1865, Muskrat Falls Corporation and Astaldi Canada Inc. - Civil Works Agreement - Construction of Intake and Powerhouse, Spillway and Transition Dams - Agreement No. CH0007 dated November 29, 2013, pp30, 31, 75

286. Even with the issues experienced in the first weeks of working with Astaldi under the Limited Notice to Proceed, no one reasonably anticipated the scale of the issues to come in 2014 and later.
287. In early 2014, the FLG was finally in place and CH0007 was signed with Astaldi. Despite the new contractual certainty, and the lack of obstacles in their way, Astaldi's mobilization continued to fall below expectations. The situation was not ignored by the Nalcor leadership and the evidence supports the view that Astaldi were put under considerable and continued pressure to properly organize and increase productivity.
288. 2014 proved to be an exceedingly poor year for Astaldi and accordingly the project overall. Astalaid's average concrete pour rates in 2014 were less than half of the target. They had significant turnover in project management positions. A dispute arose between Astaldi and Proco, their subcontractor hired to develop the Integrated Cover System (ICS). Construction of the ICS, which was one of the distinguishing features of Astaldi's bid and promised to facilitate year-round concrete laying, was abandoned in early 2015.

P-01677, Grant Thornton Forensic Audit Report to the Commission of Inquiry Respecting the Muskrat Falls Project - Construction Phase dated December 7, 2018, pp35-38

289. Once again, Nalcor was alive to these troubles and worked diligently to have Astaldi meet the expected pour rates. Astaldi continued to assure their performance would recover, but even with such efforts by Nalcor and assurances from Astaldi, they did not entirely regain on lost ground, and delay and cost consequences occurred.

*P-01818, Nalcor Energy Presentation re Lower Churchill Project - Astaldi
Contract dated May 2018, p9*

290. Outside of Astaldi's own performance, and other contributing factors specific to them, there cannot be assignment of blame to Nalcor's project management team or leadership.

*P-01677, Grant Thornton Forensic Audit Report to the Commission of
Inquiry Respecting the Muskrat Falls Project - Construction Phase dated
December 7, 2018, p39*

291. Through 2014 and 2015, Astaldi's and Nalcor's senior leadership conducted frequent meetings to address and work to resolve the performance deficiencies plaguing the project, and improve productivity. The PMT provided increased support to Astaldi, and both parties worked to improve productivity. After the upsets of 2014 and early 2015, the summer of 2015 turned out to be a very productive summer, with Astaldi making significant improvements and exceeding productivity expectations of Westney Consulting. During Mr. Martin's tenure as CEO, Astaldi did achieve much greater productivity approaching and sometimes exceeding the concrete pour rate expected in the estimates.

*P-01818, Nalcor Energy Presentation re Lower Churchill Project - Astaldi
Contract dated May 2018, pp9-10*

*P-01677, Grant Thornton Forensic Audit Report to the Commission of
Inquiry Respecting the Muskrat Falls Project - Construction Phase dated
December 7, 2018, p36*

Correct Decision Made to Negotiate, Seek Settlement in Early 2016

292. After the 2015 construction season was over, Nalcor was faced with a new and even more surprising and unfortunate problem. Due to certain project investment decisions of Astaldi S.p.A. which were unrelated to MFP, and unfortunate international financial downturns, Astaldi was facing cash flow problems and possible, if not probable, solvency issues should they have to declare significant Muskrat Falls Project losses in their next annual report. These unfortunate occurrences were entirely outside of Mr. Martin's and Nalcor's control.

P-03084, Email dated February 5, 2016 from James Meaney to Steve Pellerin et al. attaching slide deck "Muskrat Falls Project: Astaldi Financial Position Briefing, p7

293. It was evident by November 2015 that Astaldi would need some financial relief to be able to work through the 2016 summer season. This became even more clear and pressing in the first few months of 2016, when Nalcor and Westney concluded that the least cost/risk and most certain solution for completion was a negotiated agreement with Astaldi. Nalcor was faced once again with the choice between removing Astaldi and hiring another contractor, or negotiating an agreement with Astaldi to continue work on the project. Given Astaldi's significant performance improvement in the summer of 2015, the benefits of continuity, the risks of contractor removal and replacement, and the reality that Nalcor would have to pay a new contractor the full amount for remaining work plus profits without the loss of leverage as contractors would know Nalcor had to finish, instead of having Astaldi absorb some of the loss, Nalcor chose to remain with Astaldi.

P-03084, Email dated February 5, 2016 from James Meaney to Steve Pellerin et al. attaching slide deck "Muskrat Falls Project: Astaldi Financial Position Briefing, p7

P1677, Grant Thornton Forensic Audit Report to the Commission of Inquiry Respecting the Muskrat Falls Project - Construction Phase dated December 7, 2018, pp75-3

294. After deciding to stay with Astaldi, negotiation had to be approached in the most favourable way to Nalcor. Nalcor's leadership recognized that they could use the leverage of Astaldi's financial circumstances during the winter when it would be most difficult for them to leverage funds, to reach a reasonable settlement. They also recognized that, once the summer construction season neared, Astaldi would have the leverage of being able to halt work and cause the loss of a full construction season. For this reason, Mr. Martin, with the Premier's understanding, began to turn the ongoing discussions with Astaldi into a negotiation about project completion.

Testimony of E. Martin, 13 June 2019, p48

P-03367, Email dated April 7, 2016, 4:37:00 PM from David Steele to Paul Hickey re meeting with Premier, p2

295. In early 2016, negotiations with Astaldi led to some numbers being placed on the table. Astaldi had proposed a global settlement, which Nalcor calculated to be in the range of \$525 million. Nalcor had a target of \$300 million or less. A compromise where both parties absorbed some of the loss would almost certainly have been met.
296. Mr. Martin, Stan Marshall, EY, and Westney all agree that negotiating a solution in as timely a manner as possible was the best way forward for the Project. It is telling that, upon becoming CEO and learning that negotiations had been frozen, Stan Marshall promptly instructed his team to resume and resolve negotiations.

*Testimony of E. Martin, 13 June 2019, p47;
Testimony of S. Marshall, 28 June 2019, p36;
P-03086, Email dated February 26, 2016, 1:40:58 PM from Kelvin Parsons to Dwight Ball, cc Tim Murphy re Fw: EY Meeting Notes, p4
P-04027, Email dated June 19, 2016, 10:46:13 AM from Keith Dodson to Paul Harrington and Lance Clarke re Path Forward, p1*

297. Sometime during the first months of 2016, Mr. Martin received a call from government. He was instructed to halt negotiations with Astaldi.

Testimony of E. Martin, 12 June 2019, p12

298. Mr. Martin submits that, while it is not possible to quantify the effects of this abrupt and unwarranted halting of negotiations, there were certainly significant financial consequences. Negotiations were frozen during the months when Astaldi was experiencing its most significant financial need. Nalcor had the strongest lever it could have had in the negotiations at that time. Negotiations did not resume until June 2016, when the lever had tilted as far to Astaldi's side as it could that year. Had Nalcor not given Astaldi a cash injection at that point, they could have ceased operations, causing the loss of a construction season, and all the knock-on effects that result from it. Nalcor had no choice but to pay out, and pay out quickly.

P-03084, "Email dated February 5, 2016 from James Meaney to Steve Pellerin et al. attaching slide deck "Muskrat Falls Project: Astaldi Financial Position Briefing, p13

299. The CEO of Nalcor cannot be held responsible for a decision made by the Government of Newfoundland and Labrador. While he made his best effort to explain to Government the critical need for action, Mr. Martin was not able to change their decision after they intervened.

Knock-On Effects Likely, But Increases in Cost Still not Justified

300. Astaldi's actions caused delay in schedule and cost increases for other contractors. There has been little public disclosure of evidence (if any) concerning the cost amounts for other contractors, which were part of the escalating capital costs being published by Nalcor and Government. It is therefore difficult for Mr. Martin, from outside Nalcor, to attribute a figure. It is Mr. Martin's submission that there has been, to date, little evidence presented during the inquiry to justify the project's cost increases subsequent to the negotiation of a completion agreement with Astaldi.

AFE versus FFCs: Approvals for Project Expenses, Not for Speculation

Distinction Misunderstood Throughout Inquiry

301. The distinction between an Authorization for Expenditure (**AFE**) and what has been termed "Final Forecast Cost" (**FFC**) is an important one which, Mr. Martin submits, has been misunderstood by Commission Counsel, Grant Thornton, and many other parties.

302. AFEs are required by the financial arrangements for the Muskrat Falls Project. At financial close in November 2013, the project had an initial cost estimate, including all known costs to completion based on the best information available at that point, of \$6.531 billion. To proceed with the project knowing that there were certain and quantifiable costs above and beyond that starting point, Nalcor's executive would have to request an AFE, to approve the spending on further known costs.

P-02229, Email dated November 21, 2013, 5:51:25 PM from pharrington@lowerchurchillproject.ca to jamesmeaney@nalconenergy.com, cc lanceclarke@lowerchurchillproject.ca, gbennett@nalconenergy.com and edbush@lowerchurchillproject.ca re Way Forward - Cost and Schedule, p1

303. AFEs are exactly as the name suggests: authorizations to spend more money than has already been authorized. They are approved for spending on the project, not to fund guesstimates or speculations on the final project costs in a worst-case-scenario before those costs are reliable and finalized. Mr. Martin submits that the number requested for an AFE has to be reliable, well supported, and the best estimate available for decision makers to rely on. For this reason, AFEs included funding for firm costs and for best estimates of costs that were near enough to certain to be relied upon, but not funding for yet-unknown or uncertain expenditures. AFEs included contingency amounts for these already firm, or near-certain contracts.

P-01831, May 23 2014 Briefing deck presented by Project team to CEO \$7.27 to \$7.5B range, pp8, 9

304. An FFC is a creation of the PMT. It is an internal tool, a speculative projection of what the total project cost could be if current trends in costing continue unmitigated or if a variety of different yet-unknown circumstances requiring further expenditure of funds costs arise. The purpose of the FFC is to identify potential areas of focus to ensure highest value mitigation activities are undertaken. FFCs were described by one PMT member as “*crystal ball*” projections based on where the final cost could go if certain trends were presumed to apply across all contracts, without considering the probability of such an event. A projection prepared in July 2013, prepared before tenders had been issued or work had begun on major contracts, and which would change several times in the following months, is not an appropriate basis on which to inform the shareholder or the public, as it is unreliable and fluctuations in cost would give rise to uncertainty and criticism.

Testimony of P. Harrington, 5 June 2019, p19

305. Derrick Sturge stated that to provide fluctuating FFC numbers to the shareholder and the public on a regular basis would “*create confusion and chaos*”, and that such preliminary numbers must be properly vetted and signed off on before release.

Testimony of D. Sturge, 28 March 19, p3

306. Mr. Martin submits that examination of FFCs in hindsight has placed far too much credibility on something that was seen as, and should still be seen as, a speculative and unreliable estimation. While FFCs have their use within a project team for identifying trends and factors which may be causing such cost increases, they are wholly insufficient as a basis for approaching government or the Board of Directors to ask for significant budget increases.

Strategy Consistent on AFEs – Management Reserve Must be Available, but Not to PMT

307. Mr. Martin submits that, for no fault of their own, there is an inherent bias in project teams creating FFCs. Project teams have a direct interest in having more money to spend. They will always want more money in their budget. A larger budget will make it easier to approve change requests from contractors and to settle claims, and most importantly, the project team will be less likely to exceed a larger budget. For this reason alone, project teams should be challenged on the numbers, and pressured to refine and support their requests for further funding.

Testimony of G. Jergeas, 19 June 2019, pp31-32
Testimony of Professor Klakegg, 24 July 2019, p25

308. The PMT’s FFCs include broad projections for management reserve. These projections are prepared without assistance from outside experts in risk assessment. The FFC process is an internal PMT tool to allow open discussion and brainstorming on cost issues to ensure focus on highest value mitigation activities. While an FFC is a useful internal tool, it is neither designed nor sufficient to support an allocation of contingency; approve increased costs; or to update decision makers at the Board or shareholder level. Mr. Martin

submits that to approve funds for expenditure by the PMT would be both financially imprudent and contrary to the project control strategy adopted by Nalcor for the Muskrat Falls Project.

309. As noted previously by experts in Phase I and again by experts including Professor Klakegg and Dr. Jergeas in Phases II and III, management reserve is withheld from project teams to keep cost targets at realistic but hard to reach levels to incentivize cost limitation.

P-04438, Governance Frameworks: The Norwegian State Project Model and other schemes. Preconditions and effective elements – suggestions for Newfoundland and Labrador, Prof. O.J. Klakegg, pp 18, 62
P-04102, University of Calgary presentation dated June 19, 2019 re Analysis of Industry Best Practices by Dr. G. Jergeas to the Commission of Inquiry Respecting the Muskrat Falls Project, p59

310. Management reserves are not required to be included in project budgets, but the funding must be available. Management reserves for crown projects in Norway are not funded in the project budget by Parliament. Dr. Jergeas testified that industry practice is not consistent on the inclusion of management reserves in budgets and that the numbers need not be disclosed to the public, contractors, or even a project team. For instance, a management reserve for current cost risks to the Muskrat Falls Project resulting from this commission of inquiry, whatever the amount may be, is presently not included in the Project's public budget.

Testimony of Professor Klakegg, 24 July 2019, p57
Testimony of Dr. G. Jergeas, 19 June 2019, p52
Testimony of S. Marshall, 2 July 2019, pp49-50

Projected Operating & Maintenance Costs were Accurately Estimated in 2012

311. The initial estimate of annual Operating and Maintenance (O&M) costs for the Muskrat Falls assets, annually starting in 2018, was \$34 million per year. Following the departure of Mr. Martin as CEO, project cost re-baselining took place in 2016. The new O&M cost estimate prepared by Nalcor in 2016 appeared to have more than tripled, to \$109 million per year.

312. Closer examination shows that the O&M estimate prepared after Mr. Martin's tenure appeared to include additional items that may have previously been included in costs elsewhere other than O&M were inadvertently included in the later estimate, without a clearly corresponding reference to a reduction in another category.
313. Moreover, in 2018 a new, lower O&M estimate has been proffered by Nalcor, showing a reduction over the 2016 estimate by some \$44M. The 2016 projected O&M costs were an overestimation, which created the appearance of a larger cost increase over the numbers approved by Mr. Martin than is the case, and included items not previously considered to be in the category of operating expenses.

*P-00127, Nalcor Energy - Muskrat Falls Project Update Presentation
dated 23 June 2017, p15
P-04419, PUB-Nalcor-078 - Rate Mitigation Options and Impacts
Reference, pp1-2*

2012 O&M Estimates Based on NL Hydro Experience, Best Information Available

314. The initial O&M cost estimates for both the Isolated and Interconnected Island options were completed by NL Hydro and CF(L)Co individuals with long term experience in operating both the Upper Churchill Falls 5,400 MW Generating Plant (and associated transmission facilities) and the Bay d'Espoir 600 MW Generating Plant and associated transmission facilities. Nalcor relied on previous feasibility studies and the extensive hydroelectric operating experience of NL Hydro and CF(L)Co. They were prepared using the best information available to them, which reflected the operating expectations at the time of sanction.
315. The O&M costs were included in MHI's October 2012 review of supply options. MHI did not indicate any concern that the projected O&M costs were low, or otherwise unreasonable.

*P-00121, Nalcor Energy - Lower Churchill Project Phase 1 - Decision
Gate 3 Support Package dated November 2012, p44*

*P-00128, Nalcor Energy Response to Grant Thornton Question 7.1 re
O&M Cost Change dated June 5, 2018, p1
P-01522, GNL Decision Note - Department of Natural Resources dated
May 29, 2012 re Manitoba Hydro International Contract for Decision Gate 3,
pp173-174, 184*

Bifurcation, New Environmental and Reliability Concerns Drove O&M Estimate Higher in 2016

316. Some costs in the 2016 O&M estimate arose only after sanction, in that they were new items originally not designed to be included in this category of costs. Other additions to the O&M cost figure arose as a result of strategic decisions taken by Nalcor's new management, following the departure of Mr. Martin. Mr. Martin therefore bears no responsibility for these changes, and they are not an indication of problematic underestimation in 2012.
317. The 2016 O&M estimate was presented as having been based on a non-specific "*industry standard*" number of \$100 million. It appears this "industry standard" was not based on Muskrat Falls-specific inputs. The new estimate also included \$9 million for environmental monitoring costs, a new item which had not been included in the 2012 estimate. This amount was neither anticipated nor expected when the original O&M estimate was prepared in 2012.

*P-00127, Nalcor Energy - Muskrat Falls Project Update Presentation
dated 23 June 2017, p15*

318. The decision by Nalcor's new management to split the PMT into separate generation and transmission teams contributed to the increase, from the DG3 estimate of \$34 million to the 2016 estimate of \$109 million. This is not surprising. The costs of maintaining two separate project teams with different directors to run these two aspects of the Project logically entails additional staffing and administrative costs. The stated increase in O&M costs excludes other impacts of bifurcation on the project, concerns about which were expressed by project management team members in 2016.

*P-00128, Nalcor Energy Response to Grant Thornton Question 7.1 re
O&M Cost Change dated June 5, 2018, p1
P-01962, Letter dated June 6, 2016 from Paul Harrington to Stan
Marshall re Concerns, pp 2-4*

319. Concerns about reliability of the current electricity supply for island customers increased after the winter of 2014 with the experience of the partial/rolling power outage. Nalcor cites “an evolution to an operation philosophy for the LCP assets to support a high degree of reliability and availability to island customers” as one of the causes of the 2016 increase in projected O&M costs. It is acknowledged that the interconnected system is inherently more flexible and reliable than the “delicate” isolated system under which the Province currently operates.
320. There has been no indication from Nalcor since 2016 that the resources allocated to reliability in the original estimate were insufficient. However, it may be inferred that the increased allocation for reliability arose at least in part as a response to the events of winter 2014, which were not predicted prior to sanction. Any increased cost associated with increased reliability and asset lifespan has to be considered in the context of an exchange of cost for incremental positive value, an entirely different category than cost increases which do not add incremental value, other than return on equity on the increased equity investment.

*P-00128, Nalcor Energy Response to Grant Thornton Question 7.1 re
O&M Cost Change dated June 5, 2018, p1
Testimony of P. Humphries, 13 November 2018, pp 14-15, 17, 18*

\$44 Million Drop in Estimate since 2016 Indicates Overestimation

321. Since 2016, the estimate for O&M costs has dropped significantly. As of mid-2018, Nalcor calculated a \$44 million reduction in estimated O&M costs from 2016 numbers, which accounts for roughly 44% of the 1.84-cent decrease in projected power rates. The reason for this reduction remains unexplained in the evidence. Any evaluation of the 2012

estimate should be placed in the context of the likelihood of overestimation in the 2016 and current estimates.

*P-04419, PUB-Nalcor-078 - Rate Mitigation Options and Impacts
Reference, pp 1-2*

CEO PRACTICES IN COMMUNICATING WITH GNL WERE SATISFACTORY

CEO must manage flow of information to Board and Cabinet

322. Mr. Martin's practice was to communicate "high level" information to the Premier, to Cabinet, and to the Board of Directors. This is an extremely common practice in business management. The structure of an organization like Nalcor depends on efficient reporting and decision-making, which means that at some level information must be synthesized or summarized for reporting to decision-makers.
323. It would not have been possible for the Board of Directors, or Cabinet, to review all of the documentation that was being produced both within and outside Nalcor relating to the MFP. The Board of Directors, by design, meets relatively infrequently as compared to the executives who are compensated to work within Nalcor each and every day. Given the relatively short amount of time that the CEO has access to the Board's input and expertise, all of whom were serving Nalcor on a volunteer basis, there is a practical limitation to the level of detail which can be discussed at the Board level. Similar limitations of resources exist in making presentations to Cabinet.

*P-01790, Guidelines for Governance of the Electricity Sector in Canada,
Professor G. Holburn, January 2011, p22.*

324. The CEO must make judgment calls about how much information, what type of information, and which information, is most critical for the Board to review and discuss at each meeting. Mr. Martin's approach to the Board was to summarize and ensure that they had the key information that they needed to focus on the issues and make the decisions that were needed.

Testimony of E. Martin, 11 December 2018, pp82-83

325. Much has been made by Commission Counsel of the choice not to put certain specific documents, in full, before the Board of Directors. For example, the evidence shows that the DG2 support package as originally conceived comprised multiple volumes, a level of detail which risked overwhelming the Board. It is not prudent to inundate a Board of Directors with full, detailed, sometimes contradictory consultant's reports. This level of detail is best managed at the PMT and executive level. Mr. Martin's decision not to share each and every consultant's report – or even a specific report – is a prudent, accepted leadership practice and not a valid criticism of the adequacy of communication between Mr. Martin, or Nalcor, and its Board.
326. Mr. Martin testified that there was no formal matrix governing how much specific information he was required to put before the Board, outside of where he was making a request for an expenditure that exceeded his current AFE. Likewise, no formal instruction document was created within GNL, and directed to Nalcor, mandating the communication of particular information from Nalcor or its CEO relating to the MFP. It was open to GNL to impose a requirement that certain information be shared with it, had that been the desire of the Premier, Cabinet, or the Minister. It cannot be said that Mr. Martin fell short of an expectation of the Board of Directors, or of GNL, when there was no formal requirement limiting his judgment as to what specific information had to be shared with other entities. and he had experience with the Board of Directors, and GNL, in respect of other, highly valuable developments, particularly in the oil and gas sector, totalling more value than the MFP to the Province.

Testimony of E. Martin, 10 December 2018, p24

Testimony of Key GNL Witnesses Confirms Knowledge of Nalcor Operations at Critical Times

327. There are areas of key alignment between GNL witnesses, primarily Premier Williams and Premier Dunderdale, with the testimony of Mr. Martin before the Commissioner. In

particular, these alignments specifically relate to communications between GNL and the CEO as it relates to risk and contingency.

328. The primary points of communication for Mr. Martin within GNL were the Premier and, as needed, the Minister of Natural Resources. Mr. Martin was straightforward in his testimony that Nalcor's high-level strategic decisions were not going to succeed unless he had the Premier and the Minister on board. Ms. Dunderdale testified that there was a mutual understanding between GNL and Nalcor that there ought to be "*alignment*" between the two entities before Nalcor would pursue a particular strategic direction. The dovetailing testimony as between Mr. Martin and Ms. Dunderdale on this point speaks to the strength of their mutual understanding at the time.

Testimony of K. Dunderdale, 18 December 2018, p77
Testimony of E. Martin, 10 December 2018, p26

329. Danny Williams testified it was his practice to communicate primarily with Mr. Martin, rather than another individual, as a representative of Nalcor. His communications took place primarily by phone with Mr. Martin individually, or at in-person group meetings. Mr. Martin did not have a habit of taking notes during meetings with GNL, or during any meetings at all. It should therefore be expected that there are very few written records prepared by either of Mr. Martin or Mr. Williams during the key timeframes – including particularly the lead-up to DG2 – which could support Mr. Martin's evidence before the Commission that such meetings took place with GNL. His practice was to obtain verbal indications of approval from GNL, and to ensure they were aligned with strategic decisions, even though his primary source of authority to make spending decisions was the AFE issued by Nalcor's own Board of Directors.

Testimony of E. Martin, 10 December 2018, p26
Testimony of D. Williams, 1 October 2018, pp48-49

330. The Commission heard evidence from Mr. Martin and Ms. Dunderdale that they had discussions with respect to risk and cost overruns. To put this evidence in context, Mr. Martin testified that it was not his practice to use academic or technical terms to discuss risk with politicians. He said that he used “*clear terms*”, “*such as what the project team would have control over*”, rather than using the technical terms: “*we didn’t put names to it – you know, strategic, tactical. That wasn’t the point.*” Mr. Martin’s aim was to ensure that the listener understood the concept that was being communicated.

Testimony of E. Martin, 11 December 2012, p7

331. Thus, the testimony from each of Mr. Williams and Ms. Dunderdale that the terms “P50” and “P75” did not carry significant meaning for them must be understood in the context of the evidence of Mr. Martin as to his style of presentation to GNL. Likewise, the same conclusion should be applied to any indication that Ms. Dunderdale was not familiar with the term *management reserve*.

Testimony of K. Dunderdale, 17 December 2018, p47

Testimony of D. Williams, 1 October 2018, p41

332. Professor Klakegg testified to the unrealistic expectations which can be placed on politicians and other decision-makers to have a detailed, technical understanding of the nuances of detailed budget items (such as strategic risk, management reserve and so on). In his experience, many decision-makers prefer to receive an indication of “*one number in the traditional way*”. The communication style preferred by GNL with respect to the MFP is very much in line with the approach taken by many politicians in that circumstance.

Testimony of Professor Klakegg, 24 July 2019, p31

333. An undue emphasis has been placed on technical, specific budget projection terms during the presentation of evidence before this Commission. The substantive concepts were a much more useful focus both for the individuals who were communicating at the time.

These individuals should not be subject to criticism because they did not use the same terminology as the risk experts who testified before this Commission.

Communication between GNL and Nalcor Occurred at Multiple Levels

334. The evidence shows communications and connections between Nalcor and GNL at multiple levels, in addition to that between the CEO and the Premier.

335. Mr. Bennett testified that there was communication between Nalcor and GNL at every level. Mr. Bennett's own communications (and those of Mr. Harrington, on occasion) with GNL were primarily with Mr. Bown and other deputy ministers on a regular, frequent meeting schedule.

Testimony of G. Bennett, 26 November 2018, p20

336. Mr. Martin also testified that there was communication at all levels of government, and that primary changes had to be communicated by the CEO to GNL directly.

Testimony of E. Martin, 10 December 2018, pp17-18

337. As an example of Nalcor's communication efforts, on September 23, 2010, Mr. Martin and Mr. Bennett made a presentation to GNL canvassing the various options to developing Muskrat Falls. Ms. Dunderdale, who was Minister of Natural Resources at the time, testified to familiarity with this presentation from 2010, as did Mr. Robert Thompson, Deputy Minister of Natural Resources at that time. The presentation identifies a forecasted electricity capacity deficit in 2015 and the growing demand anticipated on the island of Newfoundland. It looks at the pros and cons associated with continuing an isolated island scenario; purchasing power from Churchill Falls; importing power from New England through the Maritimes; developing Gull Island; or developing Muskrat Falls. It is detailed and comprehensive of the information available to Nalcor at that time, though it is "high level", in keeping with its character as a shareholder briefing.

Testimony of K. Dunderdale, 19 December 2018, pp1-3

*Testimony of R. Thompson, 15 November 2018, p77
P-00216, Nalcor Energy Presentation dated September 23, 2010 re
Island Energy Supply and Lower Churchill – Option Evaluation and
Recommendation
P-00014, Grant Thornton Report for Phase I, s1.1.13, p23*

338. Ms. Dunderdale testified that she found Mr. Bennett's testimony "*a little surprising*" that Mr. Martin was solely and personally responsible for all Cabinet briefings. Her recollection was that Mr. Bennett personally gave Cabinet briefings on occasion, and she also commented that Mr. Bennett would have been subjected to "*freewheeling*" questions from members of Cabinet on any and all topics relating to the Project during such briefing sessions.

Testimony of K. Dunderdale, 19 December 2018, pp86-87

339. With respect to her time as Minister of Natural Resources, Ms. Dunderdale testified that she met with Nalcor every 3 to 4 weeks. These meetings were attended by multiple civil servants and political appointees, including deputy ministers and staff. The Department, to a certain extent, depended on the depth of analysis brought by Nalcor to these meetings. Nalcor provided the technical information and expertise to the Department, which was the purpose for which Nalcor had been created. It was neither practical nor necessary for GNL to duplicate the work of Nalcor in risk assessment or other technical evaluation of the Muskrat Falls Project.

Testimony of K. Dunderdale, 17 December 2018, pp40-47

340. Ms. Dunderdale testified to her familiarity with alternatives to the Muskrat Falls development from her tenure as Minister of Natural Resources leading up to DG2. Her evidence was that GNL was exploring, and was "*excited*" about, the prospect of increasing wind power in the province, for example. She further stated that GNL had taken all the steps that were open to it at that time to explore natural gas with the oil companies that

controlled each of the offshore installations. They felt they had exhausted those avenues for the time being, though they were open to future possibilities in that regard.

Testimony of K. Dunderdale, 19 December 2018, pp3-8

341. The Commission has also heard evidence of meetings and briefings involving GNL and Nalcor sharing information from:

- (a) Mr. Kennedy, both verbally and as evidenced by his contemporaneous handwritten notes, testifying to meetings he attended on the MFP;
- (b) Robert Thompson, who attended meetings regularly with Ms. Dunderdale during her tenure both as Minister and as Premier;
- (c) Charles Bown; and
- (d) Members of the PMT, particularly Mr. Bennett and Mr. Harrington,

all of whom testified that they attended meetings between GNL and Nalcor to discuss and provide updates to GNL on the Muskrat Falls Project.

Communications between GNL and Nalcor (CEO) on MFP During Sanction Phase

Risk of Slippage in Aggressive Schedule Communicated to GNL

342. Commission Counsel have maintained that GNL was not adequately informed of the aggressiveness of the Muskrat Falls scheduled power date of mid-2017, and also that GNL was not adequately informed of the possibility of schedule “slippage”. This is not sustainable in light of the evidence showing that in 2012, Nalcor received approval to award particular contracts for the express purpose of avoiding slippage. The risk of slippage had necessarily been communicated to GNL in this regard.

343. The evidence is plain that Nalcor took steps to excise specific preparatory work from the main contractor bid package, and that this was done so that site preparations would not wait until 2013. As the calendar year 2012 progressed, the possibility of losing an entire

construction season's worth of progress on the Project was becoming increasingly likely. These pre-sanction construction efforts are detailed in the DG3 support package.

P-00121, Lower Churchill Project Phase 1 Decision Gate 3 Support Package, p22

344. However, Nalcor did not yet have GNL approval to sanction the construction of the Muskrat Falls dam. Therefore, it was necessary for Nalcor – namely Mr. Martin and Mr. Bennett – to approach the Premier and ask her for authority to award the site preparation and other contracts in order to specifically mitigate the risk of schedule slippage within 2012.

Testimony of E. Martin, 11 December 2018, p47

345. Ms. Dunderdale specifically recalled this meeting. She stated that she had been asked by Mr. Martin and Mr. Bennett for approval to spend “*hundreds of millions of dollars*” on pre-sanction construction activities. Nalcor’s position was that to omit to do so would result in an entire lost year of construction. This was a risk they wished to mitigate.

Testimony of K. Dunderdale, 17 December 2018, p50

346. Ms. Dunderdale testified that she believed that the funding that GNL had approved up-front for the early construction works, in the third quarter of 2012, had mitigated the risk of schedule slippage. She was correct, in that for the year 2012, these actions removed the possibility of losing the 2012 construction season. The early funding also meant that related schedule items which depended on the early works in a “domino effect” – critical path items – were also no longer in jeopardy.

Testimony of K. Dunderdale, 17 December 2018, p63

347. Mr. Martin’s detailed testimony with respect to the mitigation efforts put in place in or about 2012 to mitigate the risk of schedule slippage are canvassed in full above.

GNL Well Informed of Risks of Cost Overrun and Amount

348. With respect to the issues canvassed by this Commission in Phase I, there are key alignments between the evidence offered by Ms. Dunderdale and that offered by Mr. Martin, and particularly with respect to the question of cost contingency and the potential for overruns.

349. Mr. Martin was emphatic on the stand that he clearly communicated to GNL not only that the capital cost prediction was \$6.2B, but also that there was no guarantee that this number would certainly be the outcome. The Commissioner should keep in mind the evidence that it was not Mr. Martin's practice to take notes of conversations, nor to use academic terminology. Mr. Martin testified that he and Premier Dunderdale had conversations in which he indicated that the completion guarantee being provided by the Province could be required in an amount beyond that, perhaps "*lower hundreds [of millions]*". To this he added, "*it would've been clear I wasn't thinking billions. I was not.*"

Testimony of E. Martin, 11 December 2018, p17, 58, 83

350. Ms. Dunderdale's recollection of this timeframe corresponds to a large extent with that of Mr. Martin. She testified that she understood that the capital cost estimate of \$6.2B was made up of three components, being the base estimate (as previously noted, this was prepared largely by SNC), a contingency, and an escalation amount. She further testified that since she understood this estimate to have a 50% probability of being accurate, she asked Mr. Martin to estimate for her the "worst-case". She recalled being told by him sometime in 2012 that it was likely to be \$200-\$300M, or as much as \$500M, over the stated \$6.2B for "*unknown unknowns*". She well understood that it was not possible for Nalcor to guarantee that the Project would not go over budget.

Testimony of K. Dunderdale, 19 December 2018, pp19-21
Testimony of K. Dunderdale, 17 December 2018, pp55, 57

351. Ms. Dunderdale also testified to her recollection of discussion around the probability associated with the estimates that she was being given. Her recollection of a discussion of P-factors was particularly clear in respect of the CPW analysis. Mr. Martin's testimony was that he presented a single number to GNL, which he was "*confident*" was accurate. He also testified that he did not communicate the details of P-factors to GNL. Nonetheless, it appears that the concept was indeed understood by Ms. Dunderdale.

Testimony of E. Martin, 11 December 2018, p32

GNL-Nalcor Communications After Sanction Continued Effectively

Premier, Officials Aware of Capital Cost Increase before Financial Close

352. During Phase II of the inquiry, significant time was spent exploring witnesses' awareness of an increase in the capital cost of the project between DG3 and financial close in November 2013. Mr. Martin submits that this focus is unwarranted, as it was clear at that time that the total cost of the project to ratepayers had not materially changed. Whether there was an effective increase in capital costs is not straightforward. Moreover, Mr. Martin kept government fully apprised of the changes.

353. Some bids received in 2013 were higher than estimated at DG3, amounting to an increase of roughly \$300 million in capital cost before financial close. However additional present value savings in financing costs of roughly \$300 million had also materialized which brought the total CPW preference for Muskrat Falls over the Isolated Island option to essentially where it had been at DG3. Around the same time, incremental projected excess energy sales of \$100 million were also identified. In this factual context, Mr. Martin wishes to highlight that GNL representatives were made aware of an increase, as well as offsets, in capital cost prior to financial close.

*Testimony of A. Warren, 4 June 2019, p49
P-02671, Email dated October 28, 2013, 2:51:35 AM from
auburnwarren@nalcorenergy.com to Ed Martin, Derrick Sturge, et al,
cc Charles Bown and Paul J. Morris re Latest materials, p1*

P-03990, Email dated April 15, 2019, 4:48:52 PM from Daniel Simmons to Michael Collins, cc Admin and Dana Martin re [Potential Junk/Spam] FW: [External] FW: \$300 million savings, pp1-2

354. Ms. Dunderdale was unequivocal about her awareness of a capital cost increase by November 2013. She was informed by Mr. Martin, prior to financial close, of an increase in projected capital costs from \$6.2 billion to \$6.5 billion. She was also informed of the present value savings in financing costs, as well as the projected excess energy sales of \$100 million. She was made aware that the cost of the project to the ratepayer and on the provincial books remained virtually unchanged from DG3.

Testimony of K. Dunderdale, 2 April 2019, pp18, 51

355. Notwithstanding the varying testimony before the commission, it would be difficult to conclude that the Minister of Natural Resources, as well as other ministers in 2013 and 2014, were unaware of the cost increase before financial close. While Ms. Dunderdale could not testify directly to Minister Dalley's awareness, she expressed puzzlement as to how he could have been unaware of the cost increase at the time. Minister Dalley was in the room with representatives from Emera, Nalcor, Nova Scotia and the federal government, all of whom were aware of the cost at the announcement of the FLG. At that time, Mr. Martin publicly noted cost pressures and that bids were varying from expectations. Officials in finance were aware of the \$6.5 billion number at the time of the provincial budget in early 2014. It was also discussed in the June 2014 AFE announcement without expression of surprise or objection by GNL ministers.

*P-02561, The Telegram news article dated March 7, 2019 re Statements about Muskrat Falls project costs by former minister, CEO at odds
Testimony of K. Dunderdale, 02 April 2019, pp18-19
Testimony of D. Brewer, 17 June 2019, p10*

356. Other government officials were aware of the capital cost increase before financial close:

- (a) Former Deputy Minister of Finance Donna Brewer testified that she was aware of the \$300 million increase and corresponding offsets in financing costs and excess sales before financial close;
- (b) Former finance official Paul Myrden's contemporary notes and testimony strongly suggest he was aware of the same;
- (c) Former Assistant Deputy Minister of Natural Resources, Paul Morris, testified that he knew the cost overrun was real at the time of financial close; that his practice was to pass on such information to his superiors; and that it was very likely that he would have discussed it with Charles Bown and Tracy English at the time.
- (d) In line with Mr. Morris' testimony, much documentary evidence of meetings and other communications with Nalcor and GNL representatives indicates Mr. Bown, who was closely involved with the Project since before sanction, would have been made aware of the increased capital cost estimate at financial close.

*Testimony of D. Brewer, 17 June 2019, p8
Testimony of P. Myrden, 17 June 2019, pp75-77
P-03473, Paul Myrden Handwritten Notes (1), p1
Testimony of P. Morris, 17 June 2019, p 18
P-02523, Derrick Sturge Handwritten Notes dated
October 31, 2013 to November 25, 2013, pp10, 20
P-02525, Email dated November 8, 2013, 9:06 AM from
auburnwarren@nalcorenergy.com to Paul J. Morris,
cc Charles Bown, Derrick Sturge, et al re Cost Overruns, pp1-2
P-3601, Email dated November 14, 2013, 11:03:45 AM from
dsturge@nalcorenergy.com to Ed Martin re FLG CP Status, p3*

GNL Well Informed of Cost and Schedule Pressures and Changes

357. Just as he did before sanction, Mr. Martin was clear with GNL after sanction that cost and schedule estimates were never definite. Tom Marshall described Mr. Martin's reporting:

Mr. Martin would come in with his senior people and we would grill them [...] We knew there were risks, no question about that [...] we also knew that anything above the 6.2 capital cost or the 7.4 total cost, we were on the hook for that [...] Mr. Martin made it very clear to us that there were unknowns that they may have missed [...] and we understood as well that there were risks that were being

mitigated and if the mitigation efforts did not work, we'd have to come up with more money

Testimony of T. Marshall, 1 April 2019, pp49-50

358. James Meaney testified that Mr. Martin publicly announced cost pressures and potential schedule slippage in April of 2014. Charles Bown testified that GNL was aware of cost pressures through early 2014. A GNL press release following the June 2014 AFE indicates that Nalcor had been publicly advising of a possibility of a cost increase for several months. However, the specific figure of 6.5 billion, which was known to GNL at the time of financial close, was not made public because of ongoing negotiations with contractors.

Testimony of J. Meaney, 22 March 2019, p10

Testimony of C. Bown, 6 May 2019, pp44-46

P-03505, Email dated July 30, 2014, 8:29:27 PM from Milly Brown to Julia Mullaley, Charles W. Bown and Donna Brewer re Over sight KMs and Q and As, pp8, 13

359. GNL was kept as informed on cost and schedule as was reasonably possible between the June 2014 AFE and the October 2015 AFE. Astaldi's productivity and progress on CH0007 varied significantly during this time, and it was difficult for Nalcor to accurately predict cost and schedule. However, GNL was kept informed of the pressures, and numbers were provided as they began to develop a more reliable estimate.

360. In March 2015, Nalcor executive gave a Project update to the Premier, with a capital cost forecast of \$7.5 billion. On June 22, 2015, Mr. Martin met with GNL again to provide another update. On August 18, 2015, Mr. Martin and Mr. Bennett met with Cabinet to provide a further project update, advising of the updated estimate of \$7.653 billion, noting that this estimate did not include pending further cost impacts from Astaldi situation and associated delays.. At that meeting, the decision was made to announce the increase in September. On September 29, 2015, this cost update was made public.

P-02412, LCP 2015 Cost Update Chronology draft dated March 19, 2019, p1

P-02630, Derrick Sturge Handwritten Notes dated

*March 5, 2015 to February 8, 2016, pp3-4
P-02554, Email dated August 18, 2015, 5:06:58 PM from
emartin@nalcenergy.com to dawndalley@nalcenergy.com
re Deck on MF, pp40, 50, 63*

361. Mr. Martin continued to report regularly on cost and schedule pressures with the newly elected Liberal government in late 2015. In his first meeting with the government's transition team, Mr. Martin advised of the ongoing problems with Astaldi, and advised the settlement range would likely be in the hundreds of millions. As discussions with Astaldi unfolded, it appeared that reaching an agreement to complete the project would likely require at least \$250-350 million. In late January 2016, Nalcor prepared a detailed update for the new Government, backed by extensive accounting analysis of Astaldi's financial situation, detailing and justifying the urgency and likely required range for settlement. Mr. Martin emphasized that a timely settlement to proceed to completion with Astaldi was the most cost- and schedule-effective option for project completion because due to current circumstances, the balance of leverage rested with Nalcor at this point in time. Nalcor's advice was not taken at that time.

*P-02630, Derrick Sturge Handwritten Notes dated
March 5, 2015 to February 8, 2016, p22
Testimony of E. Martin, 06 June 2019, p88
P-03084, Email dated February 5, 2016 from James Meaney
to Steve Pellerin et al. attaching slide deck
"Muskrat Falls Project: Astaldi Financial Position Briefing
P-04088, January 2016 Cabinet Briefing Deck
With an Astaldi focus, p17-19*

362. In between all of the above noted updates and communications, there was much more discussion and reporting between Nalcor and GNL officials. The PMT and Nalcor executive worked closely with officials from the Department of Natural Resources on a regular basis.

INTERPRETATION OF THE TERMS OF REFERENCE

363. The Commissioner is, of course, guided by the Order-in-Council setting out the Terms of Reference for this Inquiry. Mr. Martin wishes to offer some commentary regarding the appropriate interpretation of the guiding principles of the Terms of Reference.

364. The key principles of interpretation, as set out by the Commissioner, are:

- (a) Independence;
- (b) Cooperation;
- (c) Thoroughness;
- (d) Expeditiousness;
- (e) Openness to the Public; and
- (f) Fairness.

Mr. Martin believes that some of these stated principles have been side-stepped, or simply not followed.

Interpretation of the Terms of Reference, 14 March 2019, p8
Addendum to Interpretation of the Terms of Reference, 7 February 2019

Negative View of the Project Dominated the Hearings

365. At the beginning of the Commission process, Commission Counsel had limited knowledge of the specialized world of megaproject execution and related processes. This lack of knowledge, combined with the extreme time pressures to complete the Inquiry in a timely manner, led to the unfortunate circumstance in which Commission Counsel developed and pursue an early, unsubstantiated, and fully negative project hypothesis surrounding “what went wrong”. Counsel then embarked on a path aimed at proving such hypothesis, and the selection and direction of witness questions throughout the Inquiry followed this early start.

366. This was somewhat disappointing to Mr. Martin, who understood that the purpose of the Commission, and the nature of the presentations which would be brought by prosecuting Counsel, would be to objectively and neutrally present all facets of the evidence to the Commissioner, allowing the Commissioner to draw his own conclusions.
367. It is to be expected that the Commission would hear a range of opinions relating to the Project – some supportive, and others against. Unfortunately, the testimony at the Inquiry has been dominated by the negative hypothesis approach, which fit with the likely approach of several parties with standing, and also with the public commentary more generally respecting the Project. It therefore gained a level of acceptance during the progress of the hearings. That acceptance thereafter drove the nature of evidence called before the Commission and the identification of approximately 4,500 documents to be entered as exhibits from the nearly 6 million documents provided to the Commission. Mr. Martin's submission is that this curated group of documents were directed at promulgating a primarily negative view of the Project and its proponents.
368. A negative view of the Muskrat Falls Project and its proponents was pervasive in Phase I and II. Little attempt was made by Commission Counsel to demonstrate an "objective" view as one might have expected based solely upon the principles of fairness, balance, and objectivity which were set out in the Interpretation of the Terms of Reference. This may make the Commissioner's task, of considering all opinions, facts, and circumstances which factored in the decision to sanction Muskrat Falls in 2012, more difficult.

Management of Documents Hindered Ability of Parties to Prepare Adequately

369. The short timelines and time pressures placed on the Inquiry also led to other, more practical procedural challenges. Some of these unfortunately had a negative impact on the ability of parties to present any views and perspectives other than that which were being brought forward by Commission Counsel.

370. First, access to documents for parties with standing was extremely limited. There is significant imbalance in a process which saw Commission Counsel having access to some six million documents for review and consideration. The large majority of these documents were never made available to the parties, which significantly hindered their ability to present positions other than those which Commission Counsel put forward. The lack of transparency surrounding the curation of documents, and the possibility that documents which would have assisted the parties to bring forward different points of view (and thus promote the quality and balance of the evidence supporting the Commissioner's findings) was unfortunately cut short.
371. Moreover, Commission Counsel conducted discovery-like interviews of witnesses long before the Inquiry hearings began. In many cases, these transcripts were not released until long after the interviews had been completed, sometimes a period of months.
372. Counsel to all parties with standing typically only received documents selected for presentation before the Commissioner some twenty-four to thirty-six hours prior to the commencement of a witness' testimony. On many occasions, documents and exhibits were posted at the last minute – as late as 11 p.m. for an early morning witness – while other documents were posted only while the witness was on the witness stand and had already commenced witness testimony. On these occasions, cross-examining counsel did not have a fair and reasonable opportunity to fully review these documents, let alone to review and discuss them with their respective clients, in advance of the opportunity to examine the witness.
373. Some issues were addressed at in-camera sessions conducted in the absence of all, or most, of the parties. This was ostensibly done for reasons of commercial sensitivity, but this is a finding which the parties have no ability to inquire into.

374. Finally, the Commissioner accepted documents as exhibits which were not shared with any counsel to parties at all other than Commission Counsel. Moreover, the Commissioner also accepted new exhibits after public hearings had concluded, which totally denied counsel the ability to cross-examine witnesses of their choice in respect of those exhibits.

See e.g. Testimony of Dwight Ball, 4 July 2019, p1

375. It is Mr. Martin's submission that these and other shortcomings in the sharing and promulgation of information to parties with standing hindered the ability of parties to fairly present views other than the negative hypothesis pursued by Commission Counsel. It is submitted that the process favoured Commission Counsel disproportionately to other counsel, allowing Commission Counsel to ensure the evidence called supported their negative bias toward the Project, and those who promoted it.

Grant Thornton's Phase II Report is Unreliable

376. Mr. Martin submits that Commission Counsel found it necessary to challenge the credibility of their own expert after Grant Thornton made errors. This is highly unusual, and it underscores the problems with the Commission relying on this expert testimony.

377. In their report prepared for Phase II, Grant Thornton made several conclusions respecting Mr. Martin and the Nalcor Board of Directors. The factual basis on which these conclusions could have been had been drawn was unclear, as none of these individuals were interviewed by Grant Thornton for Phase II, according to the report's Appendix B.

P-01677, Grant Thornton Forensic Audit Report to the Commission of Inquiry Respecting the Muskrat Falls Project - Construction Phase dated December 7, 2018, p144-145

378. At times, Grant Thornton appeared to be interpreting the evidence to suggest a particular conclusion, rather than assessing it objectively. This passage has been referenced by Commission Counsel on numerous occasions. The first issue Mr. Martin has with the passage is that Grant Thornton equated the initial bids to cost.

379. Grant Thornton stated that the initial bids exceeded Nalcor's DG3 estimate by \$600 million, and that by the time of financial close, the DG3 capital cost of \$6.2 billion, had been increased by just over \$300 million. Scott Shaffer, under examination of Nalcor counsel, indicated he was aware that prior to financial close, the capital cost numbers had increased to approximately \$6.5 billion. It is extremely unclear, then, why this number would have been excluded from their formal report, since it has an impact on the amount of the alleged cost increase. As reported by Grant Thornton, the cost overruns were made to appear worse than they actually were.

P-01677, Grant Thornton Forensic Audit Report to the Commission of Inquiry Respecting the Muskrat Falls Project - Construction Phase dated December 7, 2018, p12, line 3

380. Mr. Martin submits that initial bids, particularly where they reflect higher cost than anticipated, were mitigated by the Project Team. Bids are merely proposals. It is not appropriate to equate bids to cost. To do so is simply inconsistent with the facts and industry practice. Grant Thornton made an error in assuming that the amount of bids received reflected a firm "cost", and this led them to reach a predetermined result and ignore relevant facts.

381. For instance, the following Grant Thornton statement is factually incorrect:

Based on our interviews and documents reviewed, nothing came to our attention to indicate that Nalcor attempted to recalculate the contingency and/or the entire capital cost estimate between April 2013 and financial close (November 2013).

Unfortunately, it misled Commission Counsel and other counsel. In his interview for Phase I with Grant Thornton, Mr. Martin raised the issue of Nalcor's recalculation from \$6.2B to \$6.5B, as was further raised by Nalcor counsel.

P-01677, Grant Thornton Forensic Audit Report to the Commission of Inquiry Respecting the Muskrat Falls Project - Construction Phase dated December 7, 2018, p12

382. Mr. Martin submits not only was this statement inaccurate, given the knowledge that Mr. Shaffer acknowledged on the stand, but it was designed to give rise to the spectre that Nalcor, and/or its executives, had acted inappropriately in not re-baselining or re-running the CPW calculations following DG3 and before financial close.
383. The manipulation of the evidence by Grant Thornton appears elsewhere in the report. In particular, the \$6.5 billion re-baseline is not mentioned in the AFE/FFC table which purports to present the cost changes of the Project over time.

P-01677, Grant Thornton Forensic Audit Report to the Commission of Inquiry Respecting the Muskrat Falls Project - Construction Phase dated December 7, 2018, p19

384. The Grant Thornton report instructed Commission Counsel on the point, leaving them to rely on the Report and its assertions that the contingency was exhausted, and no re-baselining had been done. Both of these conclusions were not actually supported by the evidence. The Commissioner must be alive to these issues in any evaluation of the appropriate weight to be accorded to the Grant Thornton Phase II report.

Procedural Fairness in Commissions of Inquiry

385. Procedural fairness is a basic tenet of Canada's legal system. It requires that all public decision makers act fairly, and accord the parties with adequate procedural fairness, in coming to decisions that affect the rights, privileges or interests of an individual or entity.
386. There is no exception to the application of this principle for Commissions of Inquiry, notwithstanding that a Commission of Inquiry is not a traditional, adversarial process. As stated by Justice Cory in *Canada (Attorney General) v. Canada (Commission of Inquiry on the Blood System)*:

Undoubtedly, the ability of an inquiry to investigate, educate and inform Canadians benefits our society. A public inquiry before an impartial and independent commissioner, which investigates the cause of tragedy and makes recommendations for change can help

to prevent a recurrence of such tragedies in the future; and to restore public confidence in the industry or process being reviewed.

*The inquiry's role of investigation and education of the public are of great importance. Yet those roles should not be fulfilled at the expense of the denial of the rights of those being investigated. The need for the careful balancing was recognized by Décar, J.A. [in the Court of Appeal's decision in the same case], when he stated at page 32, "the search for truth does not excuse the violation of the rights of the individuals being investigated." This means that no matter how important the work of an inquiry may be, **it cannot be achieved at the expense of the fundamental right of each citizen to be treated fairly.***

Canada (Attorney General) v Canada (Commission of Inquiry on the Blood System), [1997] 3 SCR 440, paras 30-31 [emphasis added]

387. To similar effect, Justice Teitelbaum in his review of the *Gomer Inquiry*, commenting on the duty of procedural fairness owed by a Commission of Inquiry, specifically the importance of the decision to the affected individual, commented:

Recognizing the importance of one's reputation and the potential damage that may be caused to one's reputation as a result of the Commission's findings, it follows that this factor suggests that a high content of procedural fairness is required.

Following his review of the applicable legal factors to determine what level, if any, of procedural fairness ought to have been accorded to the parties before the Commission, he concluded:

Taking into consideration the factors enunciated in Baker, I find that the Applicant was entitled to a high level of procedural fairness before the Commission. Although the nature of the proceedings do not provide for the same level of procedural fairness required in a trial, the potential damage that the findings of the Commission could have on the reputations of the parties involved in the investigation was of such consequence that a high degree of fairness was required.

Chrétien v. Canada (Ex-Commissioner, Commission of Inquiry into the Sponsorship Program and Advertising Activities), [2009] 2 FCR 417, 2008 FC 802 at paras 56, 61

388. It may not have been possible for all parties to review the full slate of six million documents which were apparently made available to Commission Counsel within the timeline given

by the Order-in-Council and to which the Commissioner is bound. However, the identification of documents which supported, or tended to support, only a negative hypothesis or theory of what Commission Counsel believed went wrong, places the Commission at risk of being under-informed. Looking only at the evidence to make it appear that the decision was informed, in that it supported the negative hypothesis respecting the Project and those who supported it, is tantamount to making a conclusion without the evidence. That the Commissioner has declined to receive positive information relating to the Project – including the Commissioner's direction to witnesses not to testify regarding the benefits to the Project – adds support to this conclusion.

389. In this context, Commission Counsel focused on such things as drafts of documents as opposed to the final document in order to point out changes that supported a negative view of the internal process as of Nalcor, whereas the final document is the factual document to be relied upon.
390. In addition, Commission Counsel have often promoted a standard which is inconsistent with, or which has not been established to be in line with, industry practice. Expert opinions are routinely vetted by the client prior to release – and this is very common in business practice – but Commission Counsel attempted to point to such normal activity within Nalcor as improper or unsavory. This approach was pursued with many witnesses, notwithstanding that in almost every case the expert explained that commentary on draft reports was industry practice.
391. If we look at the themes of Commission Counsel throughout, we see emphasis or focus on an oblique reference in a document to a P1 or P3 schedule without any consideration of the context that such a comment was made. The reference to P1 schedule in Westney's 2012 time-risk analysis was accepted and promoted as the sanctioning schedule by Commission Counsel, notwithstanding a preponderance of evidence which suggested that

P1 or P3 was not referencing the schedule probability at sanction but was in fact merely a tool to identify key impacts on the schedule, should they occur.

P-00833, Westney Consulting Group presentation re Nalcor Energy - Analysis of Potential Management Reserve and Lender's Owner Contingency for the Lower Churchill Project dated May 23 to June 4, 2012, p15

392. Above, we have canvassed the shortcomings of the practices surrounding timely and full disclosure of documentation (including, as is the typical disclosure requirement in litigation, documentation which refutes one's own case) to parties other than Commission Counsel. There was no disclosure of the documentation available to the Commission Counsel and no reasonable ability to review it, even if it had been disclosed. This left all other counsel without a reasonable or any means to investigate whether there were any documents which could or would refute the negative hypothesis suggested by Commission Counsel.
393. There was a lack of fairness, which mitigated against counsel to parties with standing in favour of Commission Counsel and in the result, there was no procedural fairness in the conduct of the Inquiry.
394. It is submitted that the lack of procedural fairness undermined the guiding principles of independence and fairness, such that it would be improper to conclude any misconduct on the part of any of the persons whose activities are being investigated.

CONCLUSIONS

395. Ultimately, the mandate of the Commissioner is to draw conclusions about what happened in the past, but also to make recommendations to the GNL and the people of this Province for best practices in the future.
396. Operating a Crown Corporation such as Nalcor is a complex endeavour, and it is absolutely critical that the best candidates are attracted to working in the environment that Nalcor can offer. This is true at all levels of the corporation, including in particular at the

executive and Board of Directors level. It is submitted that the Commissioner must be sensitive to the future difficulty of attracting and retaining qualified executives to operate Crown Corporations. This challenge is magnified particularly for those Crown corporations which operate in the “quasi private sector”, in that they operate for profit and similar to a private business, albeit for the benefit of the Province.

397. The Commission, under its mandate, has subjected executives, senior officials, and directors alike to interviews in the nature of discovery. Many have been called to provide evidence in a public forum as well as in-camera. For some, this process may be outside their comfort zone. Certainly, it exposes them to public scrutiny and media attention for decisions and choices made long ago. This is a necessary process, but it is also a powerful tool which must be wielded with care.
398. Although one can argue that the process of testimony before a Commission of Inquiry is a duty, if not a responsibility, of those who seek out and fulfill roles of leadership, it is nevertheless important that there be sensitivity shown towards these individuals. For instance, the Commissioner would presumably avoid delving into personal matters such as family relationships, or subjecting witnesses to personal attacks through innuendo without hard facts.
399. Mr. Martin is concerned that the spectacle of executives being examined in public and the aggressiveness occasionally shown towards them, may send an unwanted “chill” through the community. It telegraphs the message that leading a Crown Corporation will potentially subject future office-holders to a similar fate. Mr. Martin further states that recruitment from the private sector will be even more difficult where the barrage of criticisms and second-guessing of decisions made in good faith, and based on the best information which was available at the time, is reinforced by the Commission’s final report.

400. Mr. Martin directs the Commissioner to the evidence of the current Chairman of the Nalcor Board, Brendan Paddick, who adverted to the personal, negative commentary which is regularly experienced by Nalcor employees and members of the PMT from members of the community. Even worse, he testified that Nalcor employees' children were experiencing bullying at school as a result of their parents' connection to Nalcor. This situation can hardly be considered attractive to potential future candidates.

Testimony of B. Paddick, 18 June 2019, pp 26, 44

401. All those involved in the Project, from the executive through the PMT and their supporting groups, did their jobs at the cost of personal sacrifice and uninformed criticism. It is Mr. Martin's submission that the Commission must avoid trying to identify someone to blame for cost overruns. A better focus would be on the sources of cost increase, and identifying whether those sources had a reasonable explanation.

402. A great deal of the Commission's time has been taken trying to understand the communication between Nalcor and GNL officials, including politicians. The standard applied throughout has been at odds with the reality of a functioning government and its relationship with a Crown Corporation. Mr. Martin's communication styles and habits were consistent from his joining Nalcor in 2005. They apparently only became an issue with the investiture of the Mr. Ball's government. It is submitted that there was no guiding set of expectations or standard operating protocols as between Nalcor and GNL, and that this was a problem for any individual who might occupy the role of CEO.

403. The Commission ought not to criticise individuals in the executive and other officials of Government and Nalcor, on the basis of innuendo or "what should have occurred". To do so would be based on hindsight. Such criticism ought to only be levied upon clear, cogent, and reliable evidence before the Commissioner from those involved at the time.

RECOMMENDATIONS

404. Mr. Martin requests that the Commissioner consider the following two items for inclusion in the recommendations resulting from this Commission of Inquiry.

- (a) It is submitted that access to information legislation is used by civil servants and politicians alike as a reason to avoid note taking, at best. It often impacts the preservation of notes, which would normally be used to create a discoverable paper trail. For example, Ms. Mullaley in her memorandum to the Premier advised him that there had been no detailed (written) briefings or analysis received from Nalcor surrounding the Astaldi negotiations status. This, too, appears to be an ongoing challenge within government, which the Commissioner might choose to address in the final report.

P-03874, Memo dated January 25, 2016 from Julia Mullaley to Premier re Nalcor entering into discussions with Astaldi

- (b) In some jurisdictions, there is a practice of enshrining a written protocol surrounding the specific requirements of communication between Crown Corporations and government. The Commissioner might consider recommending that each Crown Corporation and its leadership be statutorily required to enter into a document similar to that described by Professor Guy Holburn:

... a Memorandum of Undertaking that states commercial and policy objectives, governance responsibilities, reporting requirements, performance expectations, and communication protocols between the Ministry, the Board Chair, and CEO. This Memorandum to be renewed every five years or change of government, whichever first occurs.

To have this sort of communication protocol in place might have assisted GNL and Nalcor executives alike, including through changes in government and the appointment of different individuals into the position of Minister or Deputy Minister,

to assure both parties that expectations for communication were made plain and thus could be assessed against a reasonable, objective standard.

P-01770, Best Practices Principles of Corporate Governance for Crown Corporations dated January 18, 2019 by Professor Guy Holburn, p7

ALL OF WHICH is submitted this 9th day of August, 2019.


for _____
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