



**Muskrat Falls Development
Board of Commissioners of Public Utilities**

**Presentation: Robert Cadigan, President & CEO
Noia (Newfoundland & Labrador Oil & Gas Industries Association)**

- Thank you for the opportunity to speak with you today about the development of Muskrat Falls and the importance of the development of this resource to the members of the Newfoundland & Labrador Oil & Gas Industries Association – Noia – whom I am representing here today.

About Noia

- Just for your background, Noia has over 560 members in Canada and around the world, and is Canada's largest offshore petroleum association.
- While some our members are focused exclusively on oil & gas activities, most Noia members, particularly our Newfoundland & Labrador members, are focused on industrial activity resulting from oil & gas, energy and other industrial projects in the construction and development phases; and the ongoing activity to support these projects once construction is completed.
- Many of Noia's members in the construction, fabrication and industrial supply & services sectors will directly benefit from this development.

- Bringing Muskrat Falls power to market has the potential to provide significant benefits for the people of Newfoundland & Labrador and Canada.
- Noia supports as a key action of the Energy Plan, the re-investment of Provincial Government revenues from non-renewable resources into the construction of renewable infrastructure.
- We believe that we must re-invest the value we receive from our oil & gas sector to secure our prosperity today and for future generations.
- The main driver for the development of the Muskrat Falls is the forecast of a capacity deficit (inability to meet peak demand) in 2015 with energy deficits (inability to meet annual load requirements) in 2017.
- As a result, there is a need to take action to ensure appropriate supply to the island. Inaction is not an option.

Business Case for Muskrat Falls

- Noia members are consumers of electricity and will be impacted by changes in the cost and reliability of the system.
- Newfoundland & Labrador is in enviable position to enjoy benefits of an abundance of energy with oil resources for export and hydroelectricity for domestic use and potential export to North American markets.
- Oil in demand is increasing as BRIC countries' economies develop and their citizens demand a higher standard of living.
- Oil is an economic driver for the province because of this demand and relative scarcity.

Hydro power makes economic sense for NL

- The Isolated island alternative will keep us tied to oil and require major upgrades and replacement of the aging Holyrood generating infrastructure and leave us exposed to the volatility of world oil prices.
- Hydropower represents a stable and economically sensible solution for ratepayers.
- The Muskrat Falls Project will generate long-term, sustainable revenue to the people of Newfoundland & Labrador while providing access to a clean and stable source of domestic electricity.
- The NOIA Board of Directors was briefed on the project and reviewed the 3 options currently available: Isolated Island, Gull Island or Muskrat Falls.
- We concur that Muskrat Falls is the best alternative and provides the least cost and most environmentally-friendly solution to meet the energy needs of our province.
- In addition, our confidence in Nalcor's DG2 decision is bolstered by the Navigant Consulting Ltd. "Independent Supply Decision Review" and the Manitoba Hydro International Report on "Two Generation Expansion Alternatives for the Island Interconnected Electrical System undertaken for the PUB."
- The Project will provide opportunities in Newfoundland and Labrador for future industrial activities that require large quantities of reliable and predictably-priced electricity, such as industrial fabrication for the oil and gas industry.
- Infrastructure and capacity building as a result of the Muskrat Falls Project will further strengthen Newfoundland and Labrador's industrial appeal.

- With available electricity, infrastructure, and an experienced, skilled work force we will be ready to capitalize on new opportunities and industries.

Environmental Benefits

- Newfoundland & Labrador will be in the enviable position of having an electricity system that will be greater than 98 per cent carbon free.
- The Muskrat Falls development will displace green house gas - emitting generation sources and will replace aging infrastructure and will reduce GHG emissions for Newfoundland & Labrador and Nova Scotia, by displacing oil and coal respectively.

Economic & Social Transformation

- The project will further contribute to the Province's economic and social transformation already underway due to offshore petroleum, mining and minerals processing activity.
- These activities diversify Newfoundland & Labrador's economic base with the addition of new industrial sectors, increased expenditures in education, training, and research and development, as well as opening national and international export markets, and increasing overall business confidence.

Employment

- The project will provide significant opportunities for employment with peak employment of 2700 on the island and 1300 in Labrador during construction and contracting phase will create opportunities for local businesses.
- One of the important benefits is that the engineering for the Muskrat Falls Project will be done in province contributing to on the ground expertise available for future projects. This is the only major project

that has committed to substantially engineer all the development in Newfoundland & Labrador.

- With major projects such as the Vale Inco Smelter in Long Harbour, the Hebron Project and now the Muskrat Falls, there will be greater and sustainable long-term opportunities for employment.
- The addition of Muskrat Falls to Newfoundland & Labrador's energy warehouse helps improve security for the local labour force and the repatriation of labour deployed elsewhere in Canada. Many working out of province are more likely to return for a continuum of projects versus a single project.

Credibility of project management process and following proven mega-project defined process

- The decision gate process Nalcor is using is a proven process and industry standard for large domestic and international projects.
- Front End loading improves the project cost and schedule predictability.
- For projects such as this one, it is prudent to get Independent reviews and Nalcor has had independent reviews and peer reviews completed.
- A similar process is employed by international oil & gas companies that have developed projects in NL's offshore. Front end loading reduces execution risk and increases execution certainty prior to construction.
- In addition to Nalcor's experienced project team, the EPCM SNC Lavalin has significant experience in hydro developments in Canada and around the world which will be brought to the Muskrat Falls and Island Link project.

Credibility of PIRA analysis and using PIRA forecasts as an industry standard

- PIRA Energy Group is a reputable leading international energy consulting firm specializing in global energy market analysis and intelligence, such as crude oil, petroleum products, natural gas, electricity, coal, biofuels and emissions markets.
- PIRA forecasts energy commodity prices in the short, medium and long term, looking forward monthly for two years and annually to 2025.

Other sources of fuel cost projections mirror Nalcor's analysis

- There are several credible sources that forecast fuel costs, including PIRA, Canada's National Energy Board (NEB) and the U.S. Energy Information Administration (EIA).
- Nalcor uses PIRA and has made a comparison of PIRA's forecasts to the EIA's annual energy outlook and the NEB's.
- We take further comfort from the MHI report:

“If fuel prices drop by 44% from those used by Nalcor, there is no difference between the two cumulative present worth between the two options.”
- Relying on burning imported oil at the Holyrood plant will mean we will remain dependent on the fluctuating world oil prices long into the future.
- By using imported Bunker C fuel at Holyrood, we will continue to see money leave our province with no tangible financial benefits.

Isolated island will keep us tied to oil volatility / MF is freedom from volatility & stability for future generations

- Rising oil prices and rising demand for power means that electricity rates are increasing on the island. They are increasing between now and 2017 and those increases are not related to Muskrat Falls. They are tied to oil and increased usage of the Holyrood plant as demand rises.
- Our understanding of Nalcor's proposal is that in 2017, with Muskrat Falls' power, rates will stabilize with minimal increases of less than 1% a year. If the Holyrood plant continues to rely on thermal generation, consumers could pay much more for electricity in the long term. And with Muskrat Falls, the province will benefit from a stable source of reliable hydropower long after the project is paid off.
- Continued reliance on the Holyrood thermal generating plant means unstable and rising electricity rates into the future. As well, the Holyrood plant is over 40-years old and nearing the end of its operating life. To continue, the facility would require significant upgrades and new pollution-control equipment.
- In addition, federal regulation concerning greenhouse gas emissions (GHGs) looks increasingly likely. The result, some form of carbon pricing, has not been factored into future cost projections for the Holyrood plant.
- As soon as power is available from Muskrat Falls, production at Holyrood will be displaced. The plant will no longer generate electricity or emissions after 2020 and the thermal generating parts of the plant will be decommissioned.
- In conclusion, the development of Muskrat Falls is financially attractive, generates a positive rate of return and ensures long-term price stability.

- When we look at the viability of major energy projects like White Rose, Hebron or Muskrat Falls, we tend to look for things like a solid project description, flexibility and sound project management.
- Additionally, we look to see that the activity is core to the organization undertaking the project. We feel that Nalcor's has strengths in hydroelectric development, augmented by a team of specialists.
- Nalcor's analysis is supported by credible consultants specializing in electricity generation decision making.
- We support the Muskrat Falls option. Thank you.