April 1, 2019

Dear [Redacted]

Re: Your request for access to information under Part II of the Access to Information and Protection of Privacy Act (File # NR-36-2019)

On March 5, 2019, the Department of Natural Resources received your request for access to the following records/information:


I am pleased to inform you that a decision has been made by the Department of Natural Resources, confirmed by the Deputy Minister, to provide access to the requested records. The records are attached.

We are providing access to the most information possible but have made one redaction in accordance with Section 29(1)(a) of ATIPPA, 2015 as follows:

29. (1)(a) The head of a public body may refuse to disclose to an applicant information that would reveal advice, proposals, recommendations, analyses or policy options developed by or for a public body or minister.

Please be advised that you may ask the Information and Privacy Commissioner to review the processing of your access request, as set out in section 42 of the Access to Information and Protection of Privacy Act (the Act). A request to the Commissioner must be made in writing within 15 business days of the date of this letter or within a longer period that may be allowed by the Commissioner.
The address and contact information of the Information and Privacy Commissioner is as follows:

Office of the Information and Privacy Commissioner
2 Canada Drive
P. O. Box 13004, Stn. A
St. John’s, NL A1B 3V8

Telephone: (709) 729-6309
Toll-Free: 1-877-729-6309
Facsimile: (709) 729-6500

You may also appeal directly to the Supreme Court Trial Division within 15 business days after you receive the decision of the public body, pursuant to section 52 of the Act.

Please be advised that this letter will be published following a 72 hour period after it is sent electronically to you or five business days in the case where records are mailed to you. It is the goal to have the letter posted to the Office of Public Engagement's website within one business day following the applicable period of time.

If you have any questions, please feel free to contact me at 709-729-0463 or rhynes@gov.nl.ca.

Sincerely,

Rod Hynes

Rod Hynes
ATIPP Coordinator
Title: Synapse Energy Economics Interim Report

Issue: Synapse Interim Report for the Board of Commissioners of Public Utilities (PUB) on the rate mitigation reference question.

Background and Current Status:
- On September 5, 2018, Government provided a reference question to the PUB to examine options to mitigate the impact of the Muskrat Falls Project (MFP). The PUB engaged two expert consultants to assist with the question: Liberty Consulting Group and Synapse. Both consultants’ interim reports were released on January 2, 2019. Final reports are expected in summer 2019.

- Synapse reviewed the amount of energy and capacity available from the Muskrat Falls Project to meet load on the Island interconnected system (IIS); the amount available for export and future load growth; the potential for energy efficiency and impact on the load forecast; the potential for electrification and its impact on the load forecast; export market opportunities; the impact of increasing prices on electricity demand; and rate design and mitigation options.”

- Synapse identified key findings in four areas in phase 1:
  - **Load Forecasts** – Synapse finds that total electricity sales (in GWh) on the IIS have grown very little in recent years, with annual sales increasing by less than 1 per cent per year from 2014 to 2017. The monthly sales patterns show a variation between peak and off-peak months with winter peak sales in January two and a half times greater than off-peak sales in August. Excluding any potential new load in Labrador, electricity sales for the IIS plus Labrador are forecast to remain fairly flat through 2030. However, future electricity sales and peak demand are likely to be affected by retail price increases caused by the MFP, as customers reduce consumption in response to higher prices. Synapse estimates that retail sales in 2030 may be as much as 4 to 11 per cent lower than they would be without MFP.

  - **Electrification** – Synapse finds that electrification is likely the single greatest opportunity to increase revenues to support revenue requirements associated with the MFP. Rate design and policy guidance will be critical to support electrification efforts, especially to avoid straining peak requirements during extreme weather. Under a high electrification scenario, Synapse finds that by 2030 the amount of electric heat substituting for oil consumption could be as much as 24 per cent for the residential sector and up to 60 per cent for the commercial sector. The transportation sector could see electric vehicle (EV) penetration up to 33 per cent for light duty vehicles and 60 per cent for medium duty vehicles. This high electrification scenario would increase electricity consumption by as much as 17 per cent of total IIS and Labrador Interconnected System (LIS) energy and could increase utility revenues by up to $100 million per year relative to a baseline electrification scenario.

  - **Conservation and Demand Management (CDM)** – Synapse identified that CDM is important for peak load reduction and as a source for winter energy savings that creates opportunity for export sales. Synapse finds that Newfoundland and Labrador Hydro (NLH) and Newfoundland Power (NP) have historically implemented limited CDM programs leaving opportunities for increased savings. In addition, air source heat pump technologies offer a large opportunity to increase efficiency, reduce customer energy bills and for those with oil heat, to increase electricity sales. Synapse indicates that utilities could save anywhere from 500 to 1,000 GWh per year through CDM (not including heat pumps). Synapse also finds that energy efficiency opportunities that primarily reduce peak demand will have higher value than those that primarily reduce energy consumption only.
- **Export Market** – Synapse finds that there is potential to increase export revenue from the sales of surplus energy, varying considerably depending on the level of CDM, load response to price effects, and electrification. The report uses a base case for levels of electrification and energy efficiency but studies scenarios based on all combinations of low and high levels. Under the base case assumptions, export sales volume is expected to be roughly 4,000 GWh. This could increase to 4,500 GWh under the low electrification/low energy efficiency scenario and 4,800 GWh under the low electrification/high energy efficiency scenario. These export sales result in net export revenues of roughly $140 million by 2030 for the base case and $168 million by 2030 for the highest export volume scenario (low electrification/high energy efficiency). Synapse finds that capacity sales across the Maritime Link also exist, but finds these to be a much smaller opportunity because aggressive, proactive peak load reduction is required through various mechanisms to ensure sufficient Provincial resource adequacy.

- Synapse makes a number of conclusions arising from its phase 1 work:
  - Electrification of oil-fired end users offers the greatest promise to offset fixed MFP costs. This includes the development of time-of-use rate policies associated with electrification to ensure prevention of excessive peak-load increases, supporting export sales during highest-priced peak periods and promoting CDM that is tailored to critical peak period load reductions. The report recommends prioritizing the electrification potential of larger commercial and institutional buildings with maximum control of periods of consumption.
  - Export sales of surplus energy during higher value periods can be increased through CDM programs that save winter energy.
  - Supporting and increasing CDM programs to help ensure available capacity for resource adequacy. Using CDM can buy considerable time before the Province may need to consider new supply resources.
  - Conventional treatment of price elasticity in load forecasting may not work in the province because the prospective price increases are so high. Synapse recommends careful assessment of what techniques might be used to evaluate price elasticity.

- Synapse notes that its phase 2 work will allow further exploration of rate design issues, including time-of-use rates, in support of further analysis of CDM and electrification initiatives.

**Analysis:**
- NR is working with Government departments and agencies and utilities to identify electrification projects to mitigate the impact of the MFP. NR is also participating in a provincial EV working group with Government departments, utilities, municipalities and industry to guide long-term EV policy. NR is also examining the potential electrification of marine ports, truck stops, etc.

- Although Synapse does refer to export markets, there is no detailed discussion of capacity markets, day-ahead markets, or other markets.

**Action Being Taken:**
- The PUB will provide its interim report on February 15, 2019 and public hearings will commence in fall of 2019. The PUB will provide its final report to government on January 31, 2020.

**Prepared/Approved by:** R. Bates/C. Snook/J. Cowan

**Ministerial Approval:**

January 3, 2019