

October 30, 2019



Re: Your request for access to information under Part II of the *Access to Information and Protection of Privacy Act* (File # NR-202-2019)

On October 1, 2019, the Department of Natural Resources received your request for access to the following records/information:

From the August list of briefing notes please provide the following note: Energy Grid Modernization

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 responsive records are attached.

We are providing access to the most information possible but have made redactions in accordance with Sections 29(1)(a), 34(1)(a)(i) and 35(1)(d)(g) 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;

34. (1)(a)(i) The head of a public body may refuse to disclose information to an applicant if the disclosure could reasonably be expected to harm the conduct by the government of the province of relations between the government and the following or their agencies: the government of Canada or a province;

35. (1)(d) The head of a public body may refuse to disclose to an applicant information which could reasonably be expected to disclose information, the disclosure of which could reasonably be expected to result in the premature disclosure of a proposal or project or in significant loss or gain to a third party.

35. (1)(g) The head of a public body may refuse to disclose to an applicant information

which could reasonably be expected to disclose information, the disclosure of which could reasonably be expected to prejudice the financial or economic interest of the government of the province or a public body.

As set out in section 42 of the Act you may ask the Information and Privacy Commissioner to review the department's decision to provide access to the requested information. 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. Your request should identify your concerns with the department's response and why you are requesting a review.

The request for review may be addressed to 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

Pursuant to section 52 of the Act, you may also appeal directly to the Supreme Court Trial Division within 15 business days after receiving the department's decision.

Please be advised that responsive records will be published following a 72 hour period after the response 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 responsive records posted to the Completed Access to Information Requests website within one business day following the applicable period of time. Please note that requests for personal information will not be posted online.

For further details about how an access to information request is processed, please refer to the Access to Information Policy and Procedures Manual at <http://www.atipp.gov.nl.ca/info/index.html>.

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

Sincerely,

A handwritten signature in cursive script that reads "Rod Hynes".

Rod Hynes
ATIPP Coordinator

New England Governors/Eastern Canadian Premiers NEG/ECP Briefing Book
Background Note – Energy Grid Modernization
Department of Natural Resources

Title Grid Modernization Opportunities


Issue: To provide an overview for the grid modernization and smart grid session at the NEG/ECP Conference in Saint John, NB September 8-10, 2019.

Background and Current Status:

- A Smart Grid generally refers to a class of technology being used to modernize utility electricity delivery systems. These systems are made possible by two-way communications technology and computer processing. This technology includes "smart meters," which are digital meters that play a key role in enabling the two-way communications that characterize a smarter grid.
- Electricity prices are largely dependent on the cost of maintaining aging infrastructure and smart grid technologies help provide consumers with the information, price structures, incentives, and tools that can empower them to use electricity more efficiently and reduce their individual energy costs.
- Electricity markets in Canada are managed provincially and territorially, and vary across the country. Jurisdictions have recognized benefits to the environment and economy as major drivers for smart grid development.
- Effective April 1, 2018 Natural Resources Canada (NRCan) has committed \$100 million, over four years, to support the Smart Grid Deployment and Demonstration Program. The program supports larger-scale demonstrations of near-commercial smart grid technologies and deployment of proven smart grid integrated systems. Provincial governments are expected to provide policy, regulatory, and/or financial support.
- New England States Committee on Electricity (NESCOE) published a survey of Smart Grid Implementation in New England in 2012. The survey notes that Congress introduced new legislation urging each state public utility commission to contemplate requiring electric utilities to consider an investment in a Smart Grid system with respect to: (1) total cost, (2) cost-effectiveness, (3) improved reliability, (4) security, (5) system performance, and (6) societal benefit. This would be done prior to making further investment in non-advanced grid technologies,
- The survey notes that each New England state has passed legislation regarding smart grid technologies as a means to achieve better energy efficiency including:
 - In June 2007, Connecticut's Governor signed the *Energy Efficiency Act of 2007*, which required utilities to file Advanced Metering Infrastructure plans and Time of Use rates.
 - In March of 2010, Maine introduced the *Act to Create Smart Grid Policy in the State* to reduce greenhouse gas emissions and costs to consumers.
 - In 2008, Massachusetts passed the *Green Communities Act* (the Act), which contained a Smart Grid provision.

- US Department of Energy reports that Connecticut passed legislation in 2015 requiring electric distribution companies to propose demonstration projects to build, own, or operate grid-side system enhancements, such as energy storage systems, subject to approval by the Public Utilities Regulatory Authority.
- A news article in Genentech media on July 27, 2019 reported that the Solar Massachusetts Renewable Target (SMART) pays residential and commercial customers for solar electricity production. The program is intended to add another 1,600 MW of distributed solar capacity, forming a core pillar of Governor Charlie Baker's ambitious clean energy agenda.

Eastern Canada

- Vision 2050, the Electricity Industry Association's (EIA) 2014 report, noted that Grid modernization was underway in Canada. The report further notes that In Eastern Canada, PowerShift Atlantic, a collaborative research project involving NB Power and several other utilities, several governments, and the New Brunswick System Operator, uses electric thermal storage units for home heating to create a virtual power plant to accommodate variability in wind generation.
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- Hydro Quebec reports that it has installed 3.9 million communicating meters, which is 98% of the total to be installed.
- A 2014 EIA report suggests that federal government should initiate pilot programs under NRCan. Similarly, the federal government should increase its financial support for the development of smart grid interoperability standards that serve all Canadians and provide the base on which to build our digital economy.
- In June 2019, NRCan announced a \$10.8-million investment in a smart grid project. The initiative will see New Brunswick Power (NB Power) and Nova Scotia Power (NS Power) pilot new digital energy technologies resulting in emission reduction and lowering costs for consumers.

Newfoundland & Labrador

- There is currently no broad-based advanced metering infrastructure in Newfoundland and Labrador to support the transition to a smarter grid.
- In May of 2017, the Public Utilities Board (PUB) approved a net metering program for Newfoundland and Labrador. Net metering allows electricity customers to opt in with small-scale renewable generating facilities to generate power for their own consumption. Withdrawing power from the grid when their generation does not fully meet their needs and depositing excess power back to the grid when available.
- During 2020, Newfoundland and Labrador Hydro committed to invest \$108.5 million in capital projects as part of its extensive capital plan to upgrade the provincial power grid and meet growing demand for electricity. This includes 67 projects focused on refurbishment of generation facilities, capital inspection of gas turbine generation equipment, and

modernization and upgrade of terminal stations. The Information Systems and Telecontrols budget proposal for 2020 is \$3M.

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Analysis:

- PUB consultants have recently highlighted the role of smart grids and related policies to reduce the impact of Muskrat Falls Project costs on rates as part of the PUB's work on Government's Reference Questions on rate mitigation options.
- For example, consultants Synapse and Dunsky have noted separately the potential for Conservation and Demand Management to reduce system peaks to free up valuable capacity for Newfoundland and Labrador load growth and exports (e.g. time-of-use or "critical peak pricing"). Dunsky has also highlighted the potential for significant load growth in the medium through Electric Vehicle charging and demand response.
- While this Province has lagged some other Canadian jurisdictions in smart grid infrastructure growth, some important modernization has occurred. The Maritime Link and Labrador Island HVdc links are constructed to allow the transmission of clean, renewable and reliable electricity from Newfoundland and Labrador to Nova Scotia. The link can facilitate the transmission of power either to or from Nova Scotia and will assist both jurisdictions in meeting energy demand requirements.
- The Provincial Government with Newfoundland and Labrador Hydro are evaluating Expressions of Interests (EOI) for renewable energy solutions in the Province's regulated isolated diesel-powered micro-grid systems. The industry-led EOI allows proponents to propose projects that can leverage their respective expertise and creativity to create solutions to address the unique characteristics of one or all of these diesel systems. Proposals included renewable energy generation, energy storage, conservation and demand management and smart grid components. Twenty-two proposals were submitted which are now being evaluated.
- Through the Atlantic Regional Clean Energy Partnership, NRCan and Atlantic governments and utilities are working to better coordinate regional electricity generation and usage that would effectively include regional grid modernization.
- Further work is needed to address the challenges and opportunities related to the development, design, integration, operation, management, and optimization of grid modernization in Newfoundland and Labrador and the region.

Prepared/Reviewed by: W.Skinner/K. Bradbury/C. Snook

Ministerial Approval:

August 22, 2019