

October 4, 2018



Dear :

**Re: Your request for access to information under Part II of the *Access to Information and Protection of Privacy Act* (File # NR-146-2017)**

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On September 20, 2018, the Department of Natural Resources received your request for access to the following records/information:

**Please provide a copy of the following briefing note: Energy storage in NL.**

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 record. The record is attached.

We are providing access to the most information possible but have made redactions in accordance with Sections 29(1)(a), 34(1)(a), 35(1)(d), 35 (1)(g) and 35(1)(f) 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) 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 that government and the following or their agencies: the Nunatsiavut Government;

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) (f) The head of a public body may refuse to disclose to an applicant information which could reasonably be expected to disclose positions, plans, procedures, criteria or instructions developed for the purpose of contractual or other negotiations by or on behalf of the government of the province or a public body, or considerations which relate to those negotiations;

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](mailto:rhynes@gov.nl.ca).

Sincerely,

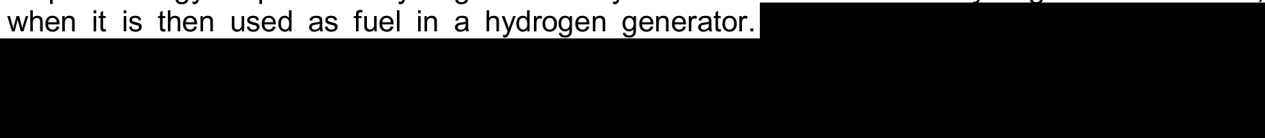
A handwritten signature in black ink, appearing to read "R. Hynes". The signature is written in a cursive style with a large initial "R" and a stylized "Hynes".

Rod Hynes  
ATIPP Coordinator

**NEG/ECP – Background Note – Energy Storage in NL**  
**Department of Natural Resources**

**Overview:** To provide background information on energy storage to support NEG-ECP's session on *The Evolution of Energy Storage*, a panel discussion on energy storage as a potential solution to deliver reliable clean energy to consumers.

**Background and Current Status:**

- Some renewable energy resources (e.g. solar, wind) do not provide a steady energy stream. As a result, these resources often face challenges in providing essential reliability services to an electricity grid (e.g. frequency support, ramping capability, and voltage support).
- One way to counter this variability is to store any excess energy from these renewable energy resources, for later use when they are not producing the required energy output.
- Traditional sources of storage include the storing of water in hydroelectric reservoirs. Newer forms of storage include battery storage facilities.
- As with energy storage, smart grid technologies can make it easier to integrate renewable energy sources to the electricity grid and to optimize use. A smart grid is a broad concept that describes the integration of modern technologies and communications networks into an electricity grid. It allows for the two-way flow of energy and information and can offer significant environmental, economic, and social benefits.
- A smart grid can increase the ability of a grid to include renewable generation, improve asset utilization, and increase grid resiliency. It can also improve efficiency and conservation efforts, enable time-of-day pricing to reduce system peaks, facilitate microgrids and customer-owned generation, manage energy storage, facilitate demand response, and increase grid visibility.
- For example, when homeowners are at work, their renewable energy sources (e.g. solar, wind) can be used to charge battery storage packs. Homeowners can then use this stored energy later in the day during peak hours, thereby reducing demand on the electricity grid and potentially offsetting costs to the homeowners.
- One example of energy storage and smart grid technology in NL is the Ramea wind-hydrogen-diesel project (Project). Conceptually, the Project is designed to store and later use excess wind energy when available by using a hydrogen production, storage and generation system. For instance, when wind generation exceeds community load, the Project is designed to use the surplus energy to power a hydrogen electrolyzer to create and store hydrogen until needed, when it is then used as fuel in a hydrogen generator. S.29(1)(a)  
S.35(1)(d)  
S.35(1)(f)  
S.35(1)(g)  

- The Province also offers programs like Net Metering and the Biogas Electricity Generation Pilot Program, which allows for the increase of energy storage capability of renewable energy sources with excess energy being fed back to the grid when available.
- In addition to these projects, programs and initiatives, NR participates in the federal-provincial-territorial Canada's Smart Grid Action Network, which is an information-sharing forum on energy storage and smart grid technology across Canada.

**Analysis:**


- NL currently has some large-scale energy storage in large hydro reservoirs. These reservoirs have enough storage to meet domestic needs as well as those of neighbouring jurisdictions. NL’s large-scale hydro reservoirs can also act as a storage mechanism and provide backup capacity for intermittent sources such as wind.
- As NR is exploring opportunities to pursue renewable energy solutions for NL’s 20 isolated diesel systems, the issue of reliability is paramount. Many of these communities are in northern, remote, cold climates and rely on the diesel systems for lighting, cooking, telecommunications, and, at least partially, for space heating. Thus, it is imperative that any energy storage solutions include proven technology that considers the local climatic conditions, and does not compromise the reliability of existing diesel plants.

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S.29(1)(a)  
 34(1)(a)(v)  
 S.35(1)(d)  
 S.35(1)(f)  
 S.35(1)(g)

- As committed to in *The Way Forward*, NR will work with industry and stakeholders to develop a renewable energy plan in 2018-19. Energy storage solutions and smart grid technology will be examined as a part of the plan’s development.
- NR continues to work to leverage federal funding relevant to energy storage and smart grid technologies, including:
  - Smart Grid Deployment and Demonstration Program: \$100 million over four years starting April 1, 2018 to support larger-scale demonstrations of near-commercial smart grid technologies and deployment of proven smart grid integrated systems (a second call for proposals is expected in 2018-19).
  - Clean Energy for Rural and Remote Communities (CERRC) Program: \$220 million over six years starting 2018-19 to reduce diesel use in rural and remote communities through clean energy solutions.
- NR has been in ongoing contact with several renewable energy developers and Indigenous governments/organizations regarding opportunities for new, clean energy generation in the province. NR has provided support in leveraging federal funding, information sharing, and connecting developers with stakeholders (e.g. utilities).

S.35(1)(d)  
 S.35(1)(g)



Results from both application processes are expected in August 2018.

**Prepared/Approved by:** W. Skinner/L. MacDonald/C. Snook/J. Cowan  
**Ministerial Approval:** Received from Hon. Siobhan Coady \_\_\_\_\_

August 8, 2018