



Newfoundland and Labrador Hydro
Hydro Place, 500 Columbus Drive
P.O. Box 12400, St. John's, NL
Canada A1B 4K7
t. 709.737.1400 | f. 709.737.1800
nlhydro.com

December 5, 2022

Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road, P.O. Box 21040
St. John's, NL A1A 5B2

Attention: Cheryl Blundon
Director of Corporate Services and Board Secretary

Re: 2021 Energy Marketing Activities Conducted on Behalf of Newfoundland and Labrador Hydro

Enclosed please find Newfoundland and Labrador Hydro's ("Hydro") report entitled "2021 Energy Marketing Activities Conducted on Behalf of Newfoundland and Labrador Hydro."

Although Nalcor Energy ("Nalcor") remains a legally separate entity and its structure and subsidiaries are unchanged at this time, operationally, Nalcor is transitioning to the Hydro structure.¹ For clarity, within this report the use of Hydro and Nalcor are in reference to the regulated operations of Hydro and the Nalcor legal entity within 2021, respectively.

In the current operational structure, Energy Marketing now takes direction from Hydro. During the first half of 2022, Hydro assigned responsibility for water management activities to Energy Marketing to capture organizational efficiencies. Energy Marketing is accountable to Hydro to ensure that the security of supply for domestic load for Hydro's customers remains paramount in all decisions to ensure the delivery of least-cost, reliable service.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

A handwritten signature in blue ink, appearing to read "Shirley A. Walsh", written over a horizontal line.

Shirley A. Walsh
Senior Legal Counsel, Regulatory
SAW/kd

Encl.

¹ "Newfoundland and Labrador Hydro Streamlines Executive Structure To Reduce Costs And Focus On Better Serving The Province," Newfoundland and Labrador Hydro, November 2, 2021.
<<https://nlhydro.com/newfoundland-and-labrador-hydro-streamlines-executive-structure-to-reduce-costs-and-focus-on-better-serving-the-province/>>

ecc:

Board of Commissioners of Public Utilities

Jacqui H. Glynn
PUB Official Email

Labrador Interconnected Group

Senwung F. Luk, Olthuis Kleer Townshend LLP
Nicholas E. Kennedy, Olthuis Kleer Townshend LLP

Newfoundland Power Inc.

Dominic J. Foley
Lindsay S.A. Hollett
Regulatory Email

Iron Ore Company of Canada

Gregory A.C. Moores, Stewart McKelvey

Consumer Advocate

Dennis M. Browne, KC, Browne Fitzgerald Morgan Avis & Wadden
Stephen F. Fitzgerald, Browne Fitzgerald Morgan Avis & Wadden
Sarah G. Fitzgerald, Browne Fitzgerald Morgan Avis & Wadden
Bernice Bailey, Browne Fitzgerald Morgan Avis & Wadden
Bernard M. Coffey, KC

Island Industrial Customer Group

Paul L. Coxworthy, Stewart McKelvey
Denis J. Fleming, Cox & Palmer
Dean A. Porter, Poole Althouse

2021 Energy Marketing Activities

Conducted on Behalf of Newfoundland and Labrador Hydro

December 5, 2022

A report to the Board of Commissioners of Public Utilities



Contents

1.0	Introduction	1
2.0	Energy Marketing Services to Hydro.....	1
2.1	Water Management and Production Scheduling	1
2.2	External Market Transactions	2
2.3	Ponding	3
3.0	2021 Benefits	3
3.1	Labrador-Island Link Activities	3
3.2	Maritime Link Imports Requested by Hydro.....	3
3.3	Ponding Activities.....	4
3.4	Maritime Link Exports for Spill Avoidance	4
4.0	Conclusion.....	4

1 **1.0 Introduction**

2 In 2009, Nalcor Energy (“Nalcor”)¹ began trading in external markets via its energy marketing line of
3 business, Energy Marketing, a non-regulated entity created to market surplus provincial energy. In
4 preparation for the interconnection of the Island Interconnected System to the North American Grid,
5 Energy Marketing implemented the processes, technology, people, and commercial arrangements
6 necessary for increased participation in external markets. To maximize the value of provincial resources,
7 Newfoundland and Labrador Hydro (“Hydro”) and Energy Marketing began working together in 2018 to
8 ensure efficient production of electricity and optimization of existing assets. Upon interconnection,
9 Hydro was able to leverage Energy Marketing’s capabilities and resources to secure energy from
10 external markets to offset higher cost production from on-island thermal resources and to export energy
11 from its system that would have otherwise been spilled.

12 In 2021, Energy Marketing provided various services to ensure Hydro’s customers benefit from the
13 interconnections to the North American Grid and associated access to external markets. These services
14 include conducting analysis pertaining to water management and production scheduling, transacting in
15 external markets to assist regulated Hydro in managing its energy supply and capacity requirements,
16 managing and executing ponding activities, scheduling deliveries over the Labrador-Island Link (“LIL”)
17 and general water management and energy marketing administrative activities.

18 Energy Marketing and Hydro’s collaboration maximized value for customers by realizing the benefits of
19 interconnection while ensuring that system reliability is held paramount.

20 **2.0 Energy Marketing Services to Hydro**

21 **2.1 Water Management and Production Scheduling**

22 Energy Marketing formed the Water Management and Production Scheduling group in January 2018.
23 Throughout 2021, the Water Management and Production Scheduling group provided Hydro with
24 analysis and guidance for water management decisions.

¹ On June 23, 2021, the Government of Newfoundland and Labrador announced that Nalcor operations would move under Hydro. For clarity, within this report the use of Hydro and Nalcor are in reference to the regulated operations of Hydro and the Nalcor legal entity, respectively.

1 The Water Management and Production Scheduling group assisted Hydro by undertaking the following
2 key activities:

- 3 • Making recommendations on production scheduling, including the use of hydroelectric and
4 thermal generation and imports as required;
- 5 • Providing recommendations on hydro and thermal unit dispatch and scheduling;
- 6 • Preparing and issuing weekly generation guidelines for unit dispatch following approval of
7 production recommendations by Hydro;
- 8 • Making decisions related to controlled release of water within the Bay d’Espoir system and
9 making requests to Energy Control Centre (“ECC”) or field staff to perform gate operations;
- 10 • Making decisions related to gate operation for release of excess (spill) flow and making requests
11 to ECC or field staff to perform gate operations;
- 12 • Preparing public notifications of spillway releases;
- 13 • Making recommendations for exports to avoid spill;
- 14 • Making gate operation decisions related to the release of flows to meet fisheries flow
15 requirements and making requests to the ECC or field staff to implement those decisions; and
- 16 • Providing guidance and reviewing schedules for unit or release facility outages to ensure reliable
17 system operation, compliance with environmental requirements, and to minimize impact on
18 optimization activities.

19 Energy Marketing generally made decisions regarding any mid-week changes to gate settings for water
20 management or fisheries flows independently, but at all times guided by Hydro’s operating instructions
21 and environmental standards. Decisions regarding any mid-week changes to generation at the Holyrood
22 Thermal Generating Station (“Holyrood TGS”) and import/export targets for water management were
23 made by regulated Hydro in consideration of recommendations from Water Management and
24 Production Scheduling.

25 **2.2 External Market Transactions**

26 Energy Marketing transacts in external markets to assist Hydro in managing its energy supply and
27 capacity requirements. In 2021, this included purchasing from external markets for import into

1 Newfoundland and Labrador to maintain energy supply, support of operating reserves, and sales to
2 external markets to reduce the amount of energy required to be spilled.

3 Imports to maintain energy supply were carried out according to Water Management and Production
4 Scheduling instructions approved by Hydro.² Imports to support operating reserves were carried out
5 according to direct instructions from Hydro which included specific hours and quantities.

6 **2.3 Ponding**

7 Throughout 2021, Energy Marketing managed and executed ponding activity to optimize Island
8 Interconnected System reservoir storage capabilities. Energy Marketing monitors market conditions and
9 system import and export capability to determine optimum timing and quantity of external market
10 purchases and sales. Energy Marketing scheduled the transactions with external markets and
11 counterparties and monitored the amount and average cost of ponded energy. Energy Marketing, rather
12 than Hydro's customers, bears the risk of any net loss from ponding activity.

13 **3.0 2021 Benefits**

14 **3.1 Labrador-Island Link Activities**

15 Early in 2021, Energy Marketing scheduled Recapture to be delivered to Hydro via the LIL. For the
16 remainder of 2021, Energy Marketing scheduled deliveries of pre- and post-commissioning energy from
17 Muskrat Falls to Hydro under the Muskrat Falls Power Purchase Agreement. The LIL delivered
18 approximately 330.9 GWh³ to the Island Interconnected System in 2021 which displaced on-island
19 thermal generation sources. This was an increase of 309.1 GWh from 2020 and was a result of a
20 combination of better availability of both the LIL and energy from Muskrat Falls.

21 **3.2 Maritime Link Imports Requested by Hydro**

22 Throughout 2021, Nalcor Energy Marketing purchased 26.4 GWh⁴ of energy on Hydro's behalf for
23 delivery over the Maritime Link to offset Hydro-owned thermal generation on the Island Interconnected
24 System. Purchases were appropriately included in decisions about on-island generation dispatch
25 reducing the need to operate Island Interconnected System thermal and standby generation. In the

² The instructions were finalized in the weekly water management meeting.

³ Deliveries over the LIL in 2021 displaced approximately 523,000 bbls of oil at the Holyrood TGS valued at \$43 million.

⁴ 21.9 GWh of the 26.4 GWh purchased over the Maritime Link could have been provided by pre-commissioning energy from Muskrat Falls that was otherwise directed to Nova Scotia as a result of the Nova Scotia Block deliveries that commenced August 14, 2021. As such, Hydro was reimbursed for the purchase costs of 21.9 GWh of the imports by Nalcor.

1 absence of these additional purchases over the Maritime Link, Hydro would have been required to
2 dispatch more expensive thermal generation to serve customers. Energy delivered over the Maritime
3 Link resulted in savings of approximately \$3.5 million versus Hydro's actual cost of generation at the
4 Holyrood TGS.

5 **3.3 Ponding Activities**

6 Through 2021, Nalcor Energy Marketing imported 1.0 GWh of energy from markets when prices were
7 below average, and sold 12.7 GWh of energy when prices were above average. Prior to exporting energy
8 to avoid spill, Hydro assumed the negative ponding balance of 6.7 GWh⁵ from prior ponding exports as
9 spill exports, bringing the ponded balance to 0.0 GWh during the first week of May. The sales of ponded
10 energy, excluding the 6.7 GWh transferred to spill exports, resulted in a cumulative net profit of \$0.5
11 million being added to the Hydraulic Resources Optimization Deferral Account during 2021. The ponded
12 energy balance at year end was -5.4 GWh.⁶

13 **3.4 Maritime Link Exports for Spill Avoidance**

14 In 2021, Energy Marketing sold power under Hydro's direction to external markets to avoid spill from
15 Island Interconnected System reservoirs. This activity avoided spilled energy, resulted in sales of
16 24.0 GWh,⁷ and provided a net benefit of \$0.8 million to customers which was reflected in the Hydraulic
17 Resources Optimization Deferral Account.

18 **4.0 Conclusion**

19 Working together, Energy Marketing and Hydro were able to realize financial and reliability benefits for
20 Hydro's customers in 2021 through the optimization of Hydro's assets and the interconnections to
21 Labrador and the North American Grid.

⁵ Hydrology levels allowed energy to be sold during favorable market conditions to be replaced with the purchase of lower cost energy at a later time.

⁶ Opening Balance 2021 + 2021 Purchases + 2021 Transfer to Spill Exports – 2021 Exports (-0.4 + 1.0 + 6.7 – 12.7).

⁷ Includes 6.7 GWh transferred from ponded energy that provided a net benefit of \$0.5 million.