Newfoundland and Labrador Hydro
Hydro Place. 500 Columbus Drive
P.O. Box 12400. St. John's. NL
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nlhydro.com

December 6, 2024

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

Attention: Jo-Anne Galarneau
Director of Corporate Services and Board Secretary

Dear Ms. Galarneau:

Re: Application for Approval of the Sale of the Wind Farm Assets Portion of the Ramea Wind-Hydrogen-Diesel Generation Project

Please find enclosed Newfoundland and Labrador Hydro's ("Hydro") application for approval of the sale of the wind farm assets that formed a portion of the Ramea Wind-Hydrogen-Diesel Generation Project. Hydro has provided notice to the Town of Ramea, as indicated in the application. Hydro will also provide a copy of this application to the town.

The intended purchaser of the assets has arranged funding for the purchase and the capital work related to the assets; however, there are deadlines and time constraints associated with that funding. As such, Hydro is filing the application in advance of the Board's deadline for time-sensitive applications.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

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

Encl.

ecc:

Board of Commissioners of Public Utilities
Jacqui H. Glynn
Katie R. Philpott
Board General

Consumer Advocate
Dennis M. Browne, KC, Browne Fitzgerald Morgan & Avis
Stephen F. Fitzgerald, KC, Browne Fitzgerald Morgan & Avis
Sarah G. Fitzgerald, Browne Fitzgerald Morgan & Avis
Bernice Bailey, Browne Fitzgerald Morgan & Avis

Linde Canada Inc.
Sheryl E. Nisenbaum
Peter Strong

Newfoundland Power Inc.
Dominic J. Foley
Regulatory Email

Teck Resources Limited
Shawn Kinsella

Island Industrial Customer Group
Paul L. Coxworthy, Stewart McKelvey
Denis J. Fleming, Cox & Palmer
Glen G. Seaborn, Poole Althouse

Approval of the Sale of the Wind Farm Assets Portion

Ramea Wind-Hydrogen-Diesel Generation Project

December 6, 2024

An application to the Board of Commissioners of Public Utilities

newfoundland labrador hydro

IN THE MATTER OF the *Electrical Power Control Act, 1994*, SNL 1994, Chapter E-5.1 ("*EPCA*") and the *Public Utilities Act*, RSNL 1990, Chapter P-47 ("*Act*"), and regulations thereunder; and

IN THE MATTER OF an application by Newfoundland and Labrador Hydro ("Hydro") for approval, pursuant to Section 38 and 48 of the *Act*, of the sale of the wind farm assets portion of the Ramea Wind-Hydrogen-Diesel Generation Project.

To: The Board of Commissioners of Public Utilities ("Board")

THE APPLICATION OF HYDRO STATES THAT:

A. Background

1. Hydro is a corporation continued and existing under the *Hydro Corporation Act, 2007*, is a public utility within the meaning of the *Act*, and is subject to the provisions of the *EPCA*.

2. Hydro owns and operates an isolated diesel electrical system in the Town of Ramea, Newfoundland and Labrador; the town is located on a small island off the south coast of the Newfoundland. Hydro also purchases energy from Frontier Power Systems ("Frontier"), a 390 kW non-utility-owned wind farm, and uses this energy to displace its diesel fuel generation in Ramea.

3. On October 10, 2007, Hydro filed an *Ex Parte* application with the Board requesting approval to proceed with the construction and installation of a wind farm, a hydrogen electrolyzer, a hydrogen storage system, five hydrogen generators, an energy management system, and associated equipment, referenced as the "Wind-Hydrogen-Diesel System," on the isolated diesel system. The Wind-Hydrogen-Diesel System was intended as a research and development project.

4. In its application, Hydro noted that the total cost of the Wind-Hydrogen-Diesel System would be constructed using non-regulated funds mainly from third parties and that consumers would bear no costs associated with the proposed Wind-Hydrogen-Diesel System in any circumstance, including implementation, operation, or abandonment, as those costs would not be included in regulated rate base or regulated operating expenses without a further order of the Board.

5. Hydro further confirmed that the costs associated with the Wind-Hydrogen-Diesel System would only be included in Hydro's regulated rate base, subsequent to further application to the Board, if the system were proven used and useful.

6. Hydro noted that subsequent to the operational testing phase, Hydro would have adequate information to determine if the Wind-Hydrogen-Diesel System project provides safe and reliable power at least cost or other benefits to ratepayers. Hydro advised that if it was determined that the Wind-Hydrogen-Diesel System provided a benefit to ratepayers, an application would be made to add the cost of the system to rate base. Alternatively, if the determination was made that the system should be taken out of service, an application would be made to the Board for approval to abandon.

7. In Board Order No. P.U. 31(2007), the Board approved Hydro's proposal to proceed with the construction of the Wind-Hydrogen-Diesel System, based on the conditions that the costs of the system would be treated as non-regulated and that ratepayers would not bear any of the costs related to the system.

8. The Board also directed Hydro to provide a quarterly report on the status of the Wind-Hydrogen-Diesel System, which Hydro has provided in its quarterly regulatory reports since receiving approval for the project, and to file a report with the Board within 90 days of the conclusion of the operational testing phase addressing in detail Hydro's conclusions and plans concerning the Wind-Hydrogen-Diesel System.

9. In the "Quarterly Regulatory Report for the Quarter Ended March 31, 2014," Hydro included a report prepared by Nalcor Energy ("Nalcor") regarding the Wind-Hydrogen-Diesel System ("Phase I Report").[1,2] In the Phase I Report Nalcor summarized the quarterly reports that had been provided to that point and noted that the operational phase of the project had not started. Nalcor noted that one of the major challenges faced by the project was the reliability issues surrounding the hydrogen genset. Nalcor also noted that it had spent considerable time and resources troubleshooting the genset issues but an acceptable level of performance had not been obtained.[3]

10. The quarterly regulatory reports thereafter detailed difficulties with proceeding with the project. In the "Quarterly Regulatory Report for the Quarter Ended March 31, 2019," Hydro advised that after careful consideration, it had decided to change its approach to integrating renewable energy in Ramea. The report stated that rather than continue with Phase II of the Wind-Hydrogen-Diesel System, Hydro had decided to seek partnership opportunities with independent power producers. Hydro noted at that time that, as a result of this decision, no future capital expenditures would be incurred and planning for the decommissioning of the hydrogen components was underway. Hydro further noted that the cost of the decommissioning work would be recorded in Nalcor as a non-regulated expense.

11. On March 22, 2023, Hydro applied to the Board for approval to abandon, specifically to decommission and remove, the hydrogen assets related to the Wind-Hydrogen-Diesel System, particularly the hydrogen electrolyzer, hydrogen storage system, hydrogen genset, energy management system and associated equipment. Hydro advised that the hydrogen system had not been in operation since 2014 and, if steps to decommission were not taken, maintenance costs would be necessary in the future. The Board approved Hydro's application on April 18, 2023 in Board Order No. P.U. 10(2023).

[1] "Quarterly Regulatory Report for the Quarter Ended March 31, 2014," Newfoundland and Labrador Hydro, March 15, 2014.

[2] "Ramea Wind-Hydrogen-Diesel Project Update," Nalcor Energy, May 14, 2014.

[3] Hydro had entered into an agreement with Nalcor wherein Nalcor agreed to be responsible for all of the operating costs related to the Wind-Hydrogen-Diesel System, as well as any decommissioning costs that may be incurred.

B. Wind Assets

12. The remaining assets related to the Wind-Hydrogen-Diesel System is the wind farm, including three 100 kW wind turbines. Since the cessation of operations of the Wind-Hydrogen-Diesel System and the decommissioning of the hydrogen assets, Hydro has been evaluating what would be the most cost effective alternative for the remaining wind assets.

13. The wind turbines had been operational up to the first quarter of 2019, but by the end of that quarter due to additional maintenance issues that arose, all operational activities ceased and the wind turbines have not operated since that time. Further capital investment would be required to return the turbines to operation. Additionally, the wind turbines went into service in 2009 and have a service life of twenty years at which time significant further capital investment is anticipated.

14. Frontier is an existing independent power producer that has been operating a 390 kW wind farm in Ramea since 2004 and providing energy to the community of Ramea through a Power Purchase Agreement with Hydro. In Hydro's Quarterly Summary for the Quarter Ended March 31, 2019, Hydro advised that it had been approached by Frontier regarding the Wind-Hydrogen-Diesel Project. Frontier[4] is proposing an expansion to its operations, referenced as the "Ramea High Displacement Wind Energy Project" that would include the purchase and refurbishment of the Wind-Hydrogen-Diesel System wind turbines. Frontier has obtained funding for this expansion.

15. Hydro considered a number of alternatives for the wind turbines. The status quo – allowing the turbines to remain on site, inactive, is not an acceptable means of decommissioning these assets. The equipment would need to be dismantled and removed from Ramea.

16. The other alternatives considered by Hydro were to repair and operate the wind turbines, or to sell the wind turbines to Frontier for their repair and operation. As noted above, to continue to own and operate the wind turbines would mean that Hydro would be responsible for the costs to repair the turbines to return them to operation, costs of sustaining capital in order to maintain the assets up to and past the end of their expected service life, and all operational costs. If Hydro were to return the wind assets to operation, and to operate them to serve

[4] The purchase would be made through a related successor company to Frontier.

Ramea, Hydro would apply to the Board for inclusion of these costs in rate base as the operation of the wind assets would no longer be experimental and the costs would be incurred in the normal course of serving customers.

17. Alternatively, Hydro would sell the wind turbines, in their current condition and location, to Frontier to repair and integrate into their operations, and enter into a revised power purchase agreement for the renewable energy at terms favourable to customers. Frontier would have the responsibility to repair and sustain the assets along with their other existing assets in order to provide the energy contemplated in the power purchase agreement with Hydro. The sale price would be $420,000 for the wind farm assets.

18. Hydro has determined that the least-cost option, with most benefit to customers, would be to sell the wind farm assets to Frontier for the above noted sale price and enter into a Power Purchase Agreement similar to the existing agreement with the purchase price for energy at 90% of the cost of diesel fuel.

19. Hydro has provided correspondence to the Town of Ramea regarding this application, as required by Section 38 of the *Act*. A copy of the correspondence is attached hereto as Schedule 1.

20. As the wind farm assets have been idle since 2019, there are no known existing or potential Hydro customers impacted by the removal of these assets. Additionally, as none of the costs related to the purchase, installation, or use of the assets, or any costs related to the decommissioning of the assets, have been incurred by regulated Hydro or form part of Hydro's regulated rate base, there is no negative financial impact to ratepayers with respect to the decommissioning of these assets.

C. Application

21. Hydro proposes to sell the wind farm assets of the Wind-Hydrogen-Diesel System to Frontier as that sale is the solution most beneficial to customers, and their sale will not adversely affect the reliability of the service Hydro provides.

D. Newfoundland and Labrador Hydro's Request

22. Hydro requests the Board approve the following:

(i) Under section 48 of the Act, the sale of the wind farm assets to Frontier for $420,000; and

(ii) Under Section 38 of the *Act,* the abandonment of the wind farm assets.

E. Communications

23. Communications with respect to this Application should be forwarded to Shirley A. Walsh, Senior Legal Counsel, Regulatory for Hydro.

DATED at St. John's in the province of Newfoundland and Labrador this 6th day of December, 2024.

NEWFOUNDLAND AND LABRADOR HYDRO

Shirley A. Walsh
Counsel for the Applicant
Newfoundland and Labrador Hydro
500 Columbus Drive, P.O. Box 12400
St. John's, NL A1B 4K7
Telephone: (709) 685-4973

Schedule 1

Approval of the Sale of the Wind Farm Assets Portion - Ramea Wind-Hydrogen-Diesel Generation Project

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

Via email: rameatowncouncil@gmail.com

December 5, 2024

Town of Ramea
P.O. Box 69
Ramea, NL A0N 2J0
Canada

Attention: Ian Stewart, Mayor
Ann Margaret, Town Clerk/Manager

Dear Mr. Stewart/Ms. Margaret:

Re: An Application by Newfoundland and Labrador Hydro pursuant to Section 38 and 48 of the *Public Utilities Act* for approval to sell wind farm assets related to the wind-hydrogen-diesel generation project in the Town of Ramea.

In 2007, Hydro launched a research and development project in the Town of Ramea known as the Wind-Hydrogen-Diesel System project. This project included the construction and installation of a wind farm, a hydrogen electrolyzer, a hydrogen storage system, five hydrogen-generators, an Energy Management System, and associated equipment which was intended to demonstrate that hydrogen could be used as a storage medium to assist with the variability of wind farm energy production. There were delays and issues with the project over the years, and the hydrogen part of the project ended operations in 2014. The wind farm assets have not operated since 2019.

On March 22, 2023 Hydro applied to the Board for approval to abandon, specifically to decommission and remove, the hydrogen assets related to the Wind-Hydrogen-Diesel System, particularly the hydrogen electrolyzer, hydrogen storage system, hydrogen genset, energy management system and associated equipment. Hydro advised that the hydrogen system had not been in operation since 2014 and, if steps to decommission were not taken, maintenance costs would be necessary in the future. The Board approved Hydro's application on April 18, 2023 in Board Order P.U. 10 (2023).

At this time, Hydro intends to sell the wind farm assets to a local independent power producer who will incorporate those assets into their operation, and enter into a power purchase agreement with Hydro where Hydro will purchase renewable energy when possible at a price lower than the cost of the fuel required for the diesel generators. To do so, Hydro requires approval from the Board of Commissioners of Public Utilities, and is in the process of applying for that permission. The sale of the wind farm has no impact on Hydro's service to the Town of Ramea.

If the Town of Ramea has any questions or concerns regarding Hydro's proposal, please contact the undersigned at 709 685 4973.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Shirley A. Walsh
Senior Legal Counsel, Regulatory

Affidavit

IN THE MATTER OF the *Electrical Power Control Act, 1994,* SNL 1994, Chapter E-5.1 ("*EPCA*") and the *Public Utilities Act*, *RSNL 1990*, Chapter P-47 ("*Act*"), and regulations thereunder

IN THE MATTER OF an application by Newfoundland and Labrador Hydro ("Hydro") for approval, pursuant to Section 38 and 48 of the Act, of the sale of the wind farm assets portion of the Ramea Wind-Hydrogen-Diesel Generation Project.

AFFIDAVIT

I, Robert Collett, of St. John's in the province of Newfoundland and Labrador, make oath and say as follows:

1) I am Vice President, Engineering and the NL System Operator for Newfoundland and Labrador Hydro, the applicant named in the attached application.

2) I have read and understand the foregoing application.

3) To the best of my knowledge, information, and belief, all of the matters, facts, and things set out in this application are true.

SWORN at St. John's in the province of Newfoundland and Labrador this 6th day of December 2024, before me:

Barrister, Newfoundland and Labrador
Witnessed through the use of audio-visual technology in accordance with the *Commissioners for Oaths Act* and *Commissioners for Oaths Regulations*

Robert Collett