

July 14, 2021

Cheryl Blundon, Board Secretary
Board of Commissioners of Public Utilities
120 Torbay Road
P.O. Box 21040
St. John's, NL A1A 5B2

Dear Ms. Blundon:

Re: Newfoundland and Labrador Hydro – Application for Approvals Required to Execute Programming Identified in the Electrification, Conservation and Demand Management Plan 2021-2025

Further to the above-noted matter, please find enclosed the Island Industrial Customers Group's Requests for Information numbered IIC-NLH-001 to IIC-NLH-036.

We trust you will find this to be in order.

Yours very truly,



Denis J. Fleming

DJF/js
Encl.

c.c. Newfoundland and Labrador Hydro
Shirley Walsh
NLH Regulatory
Newfoundland Power Inc.
NP Regulatory
Kelly Hopkins
Dominic J. Foley
Board of Commissioners of Public Utilities
PUB Office Email
Jacqui Glynn
Industrial Customers Group
Paul Coxworthy
Dean Porter

Consumer Advocate
Dennis Browne, Q.C.
Stephen Fitzgerald
Sarah Fitzgerald
Bernice Bailey
Iron Ore Company of Canada
Gregory Moores
Labrador Interconnected Group
Senwung Luk
Julia Brown
Praxair Canada Inc.
Sheryl E. Nisenbaum
Peter Strong
Teck Resources Limited
Shawn Kinsella

Denis J. Fleming | Partner

Direct 709 570 5321 Main 709 738 7800 Fax 709 726 4972 Email dfleming@coxandpalmer.com

Suite 1100 Scotia Centre 235 Water Street St. John's NL A1C 1B6

- 1 (ii) Approval, pursuant to Sections 58 and 80 of the Act, of the ECDM
2 Cost Deferral Account to provide for the deferral of costs related to
3 the implementation of Hydro's ECDM programs for all systems,
4 including CDM programs for the Labrador Interconnected System;
5 (iii) Approval, pursuant to Section 71 of the Act, of the ECDM Cost
6 Recovery Adjustment to provide for recovery of costs charged to
7 the ECDM Cost Deferral Account; and
8 (iv) Pursuant to Section 41(3) of the Act, supplemental 2021 capital
9 expenditures associated with the expansion of Hydro's EV charging
10 network.

11 Please clarify the scope of approvals sought by Hydro by this Application.
12 In particular, with the exception of the capital expenditures associated
13 with the expansion of the EV charging network specified in the
14 Application, none of the four requested approvals above appear to seek
15 approval for capital expenditures or recovery of costs for other ECDM
16 programs as outlined in Schedule 3 Electrification, Conservation and
17 Demand Management Plan 2021-2025. If Hydro does intend that
18 approvals sought by this Application include present or future recovery
19 of costs other than the capital expenditures associated with the
20 expansion of the EV charging network specified in the Application,
21 please clarify which other ECDM programs, at what cost, and over what
22 period, Hydro is seeking approval to by this Application. If Hydro does
23 not consider that approvals sought by Application to include present or
24 future recovery of costs other than the capital expenditures associated
25 with the expansion of the EV charging network specified in the
26 Application, please clarify by what future processes does Hydro
27 contemplate seeking approval for other ECDM programs as outlined in
28 Schedule 3 Electrification, Conservation and Demand Management
29 Plan 2021-2025. If Hydro believes previous Board orders to be relevant
30 to its response to the foregoing, please specify each such Board order

1 and specific Board approvals given by those orders which Hydro believes
2 to be of relevance.

3 IIC-NLH-002 On page 2 of the Application [paragraph 5] Hydro notes “[i]n
4 *consultation with the provincial government, the Utilities have*
5 *developed a comprehensive and coordinated plan for the delivery of*
6 *customer CDM and electrification programs for the period of 2021-*
7 *2025 (“2021 Plan”). The 2021 Plan is included with this application as*
8 *Schedule 3.”*

9 Is Hydro requesting the Board to review and approve the 2021 Plan? If
10 so, please indicate the scope and scale of activities expected to be
11 authorized by this approval (i.e., is it all programs noted through 2025).

12 IIC-NLH-003 On page 2 of the Application [paragraph 6] Hydro notes that the 2021
13 Plan “*continues longstanding, cost-effective customer CDM programs.*
14 *These programs will generally be delivered in a manner consistent with*
15 *past orders of the Board, as outlined in Paragraph 3 of this application.*
16 *However, in addition, Hydro is seeking recovery of CDM program costs*
17 *relating to the Labrador Interconnected System.” [underlining added]*

18 Does the statement by Hydro mean the program costs included in the
19 2021 Plan have already been reviewed and approved by the Board “in
20 past orders of the Board, as outlined in Paragraph 3”?

21 IIC-NLH-004 On page 3 of the Application [paragraph 7] Hydro notes that the 2021
22 Plan “*includes the following electrification programs for the Island*
23 *Interconnected System [underlining added]:*
24 *(i) Programs to promote use of EV and electrification of other end*
25 *uses;*

- 1 (ii) *Customer education and research relating to the electrification of*
2 *end uses, including transportation electrification; and*
3 (iii) *Utility investment in EV charging infrastructure.*

4 On page 4 [paragraph 14] Hydro notes that the “*application requests*
5 *that the Board approve the revisions to Hydro’s CDM Cost Deferral*
6 *Account to allow deferral of costs associated with the delivery of the*
7 *electrification programs on the Island Interconnected System and the*
8 *deferral of CDM costs incurred for customers on the Labrador*
9 *Interconnected System.”*

- 10 a) Please confirm that the only capital costs incurred for the
11 electrification program are those associated with the EV charging
12 stations, and any other ECDM activities do not involve investment
13 in new capital?
- 14 b) With respect to the EV capital investment, the PUB has previously
15 found that EV charging services are not public utility investments
16 (P.U. 27 (2020)). Why is Hydro not making this investment on the
17 basis that the costs of the EV network will be recovered from the
18 users who charge at the noted charging stations, as a non-
19 regulated service?
- 20 c) Hydro indicated (Schedule 1, page 6) that it will credit revenues
21 from charging services against the program costs. If these
22 revenues serve to offset costs that are otherwise proposed to be
23 paid by regulated customers, how are these charges not a rate that
24 must be considered by the Board?
- 25 d) Please provide a full schedule of the revenues anticipated, by year,
26 including the rate charged for the services, how this rate was

1 established, how the rate is anticipated to change over time and
2 why a full cost recovery rate was not implemented.

3 **IIC-NLH-005** On page 3 of the Application [paragraph 8] Hydro notes that *“the mTRC*
4 *test is consistent with sound utility practice and tests previously*
5 *approved by the Board for customer CDM programs” and that*
6 *“Consistent with the TRC test, a result of 1.0 or greater indicates that a*
7 *program is cost-effective from both a customer and a utility*
8 *perspective.”* (Schedule 1, page 2)

9 a) Please provide all inputs used to calculate an mTRC ratio and
10 indicate the basis for Hydro’s derivation of those values (e.g., how
11 does Hydro estimate the customer benefits of owning an EV, or
12 other energy efficiency improvement?).

13 b) Please confirm that an mTRC test does not in fact calculate
14 whether the measure is beneficial for the customer and for the
15 utility individually, but only whether the measure is beneficial for
16 the customer and utility collectively? Specifically, confirm that a
17 program that had exceptionally good customer cost profile, but
18 poor utility economics could still pass with an mTRC of above 1.0
19 (or even 2.0).

20 c) For each TRC and mTRC quoted, please also provide the metrics
21 for utility economic perspective (PACT), for participating customers
22 (PCT) and for ratepayers overall including non-participants (RIM)
23 (e.g., for Schedule L, Table L-6 and L-7).

24 d) Please confirm that programs which have a positive mTRC will not
25 necessarily lead to lower rates for non-participants in any given

1 year, or even in all future years. If not confirmed, please provide a
2 detail description supporting the answer, including calculations.

3 **IIC-NLH-006** Please indicate how the Island Interconnected System capital costs in
4 Table 2 [\$1.810 million] in Schedule 1 of the Application reconciles to
5 Table 1 [\$1.054 million]?

6 **IIC-NLH-007** Please provide the underlining assumptions for incremental revenues
7 (including whether the baseline forecast or high forecast was used for
8 number of EVs, energy/demand sales, rates and marginal costs) and
9 incremental system costs by year used in Appendix A of Schedule 1.

10 **IIC-NLH-008** Please explain why Isolated Diesel System costs are proposed to be
11 included in the modified Electrification, Conservation and Demand
12 Management Cost Deferral Account [Schedule 1, Appendix B] but no
13 recovery mechanism was provided.

14 **IIC-NLH-009** Hydro is proposing to add the following sentence to the Electrification,
15 Conservation and Demand Management Cost Deferral Account
16 [Schedule 1, Appendix B] "*as well as operating and maintenance costs*
17 *associated with Hydro-owned electric vehicle charging stations on the*
18 *Island Interconnected System.*" How is Hydro proposing that operating
19 and maintenance costs be separated between utility general costs and
20 costs to be charged to the deferral account [for example, billing clerk
21 salaries, etc.]. Also, does "operating and maintenance costs" for EV
22 charging stations include the retail value of the power consumed? If not,
23 why not? If yes, please indicate the assumed power rates used in the
24 analysis.

1 IIC-NLH-010 On page 1 of the Electrification, Conservation and Demand
2 Management Plan 2021–2025 [Schedule 3] it is noted that the
3 electrification programs are forecast to increase energy usage by 47.1
4 GWh over the duration of the 2021 Plan. How much of this is related to
5 the (i) energy use at the EV charging stations themselves, (ii) energy use
6 away from the charging stations by EVs that are assumed to be
7 purchased as a result of the presence of Hydro’s charging stations, (iii)
8 other EV programs run by Hydro (if any)? Does the estimate for EV
9 charging stations reconcile to the incremental revenue estimate in
10 Appendix A of Schedule 1?

11 IIC-NLH-011 On page 1 of the Electrification, Conservation and Demand
12 Management Plan 2021–2025 [Schedule 3] it is noted that over the
13 duration of the 2021 Plan “*CDM programs are forecast to provide*
14 *energy savings of 1,610 GWh and 82 MW in peak demand reduction.*
15 *Combined, these energy savings and peak demand reductions are*
16 *forecast to lower system costs by approximately \$113 million.”*

17 How is this consistent with the rate mitigation options related to the
18 Muskrat Falls Project, which sought to maximize domestic load in order
19 to increase revenues to offset Muskrat Falls Project costs?

20 IIC-NLH-012 How much of the 1,610 GWh energy savings are during peak hours (e.g.,
21 hours with peak loads within 5% of the highest projected hour)?

22 IIC-NLH-013 Is 1,610 GWh the total savings for 2021-2025 years? If yes, please
23 provide savings by year and by program showing energy savings during
24 peak period and non-peak period.

- 1 **IIC-NLH-014** Please explain and provide a detailed calculation by demand versus
2 energy and by program of what is included in \$113 million system cost
3 reductions (Schedule 3, page 1).
- 4 **IIC-NLH-015** Please indicate the estimated revenue loss from the 1,610 GWh of lost
5 sales and estimated total impact to the revenue requirements and rates
6 [revenue loss less cost savings].
- 7 **IIC-NLH-016** On page 2 of the Electrification, Conservation and Demand
8 Management Plan 2021–2025 [Schedule 3] it is noted that “*System*
9 *costs have been reduced by \$142 million since 2009*” as a result of the
10 CDM programs. Are these all fuel costs related to 985.8 GWh estimated
11 energy savings noted on the same page? If not, please provide details.
- 12 **IIC-NLH-017** Further to IIC-NLH-16, please estimate the revenue loss related to the
13 985.8 GWh energy savings.
- 14 **IIC-NLH-018** On page 6 of the Electrification, Conservation and Demand
15 Management Plan 2021–2025 [Schedule 3] Hydro notes approximately
16 41,000 EVs on the road and 266 GWh increase in sales [or 6,488
17 kWh/EV] under baseline compared to 145,000 EVs and 720 GWh sales
18 under upper scenario [or 4,966 kWh/EV].
- 19 Why is there a 30% difference in average usage per EV under the
20 baseline versus upper scenario?
- 21 **IIC-NLH-019** Further to IIC-NLH-18, please explain if the noted EV sales assumptions
22 require additional charging stations or other infrastructure. If yes, please
23 detail the cost and timeframe for the additional charging stations or
24 infrastructure and confirm who will be responsible for the costs?

- 1 **IIC-NLH-020** Appendix A of Schedule 1 shows no further capital costs after the year
2 2024. Does this confirm that the utility customers will not be responsible
3 for any additional charging stations after 2024?
- 4 **IIC-NLH-021** On page 6 of the Electrification, Conservation and Demand
5 Management Plan 2021-2025 [Schedule 3] Hydro provides "*the*
6 *baseline scenario forecasts EV adoption without any additional utility*
7 *intervention*". The expectation is that 10% of annual vehicle sales in
8 2034 will be EV without the noted program (baseline scenario), and 40%
9 will be EV with the program (upper scenario). Footnote 12 indicates a
10 federal target of 100% EV in 2040.
- 11 a) Given the Federal Government has now mandated 100% EV sales
12 by 2035, please provide an update to the penetration at 2034
13 baseline scenario and upper scenario.
- 14 b) Please update Figure 1 for the new Federal Mandates.
- 15 c) Please recalculate the mTRC, PACT, PCT and RIM associated with
16 the EV program, as well as the estimate of energy sales, given the
17 new Federal mandates and the impact these will have on uptake.
- 18 **IIC-NLH-022** Page 6 of the Electrification, Conservation and Demand Management
19 Plan 2021-2025 [Schedule 3] notes that under the baseline scenario
20 the forecast increase in retail electricity sales would be 266 GW.h and
21 under the upper scenario the forecast increase in retail electricity sales
22 would be 720 GW.h. Are the added peak demands during peak periods
23 for these two scenarios 106 MW [Schedule C, page 101 or page 135 of
24 325] and 281 MW [Schedule C, page 113 or page 147 of 325]
25 respectively?

1 **IIC-NLH-023** Further to IIC-NLH-22, please confirm if the NPV analysis in Appendix A
2 of Schedule 1 uses EV peak scenarios at 106 MW and 281 MW for lower
3 and upper scenarios. If confirmed, please explain how the negative NPV
4 shown in Table 1 on page 10 of Schedule 3 reconciles to the positive
5 NPV in Appendix A of Schedule 1. If not confirmed, please explain which
6 peak numbers were used to achieve positive NPV in Appendix A of
7 Schedule 1.

8 **IIC-NLH-024** Figure 3 in Schedule 3 shows three scenarios for electricity consumption
9 in the province. Footnote 18 on page 9 of Schedule 3 notes that “in
10 2034, the baseline is 9,895 GWh. In the upper scenario, the forecast
11 energy consumption is 9,131 GWh. $9,895 \text{ GWh} - 9,131 \text{ GWh} = 764 \text{ GWh}$
12 in the upper scenario. Likewise, in the lower scenario, the forecast
13 energy consumption is 9,555 GWh. $9,895 \text{ GWh} - 9,555 \text{ GWh} = 340$
14 GWh.

15 How do the EV sales forecast scenarios interact with Figure 3 scenarios?
16 The EV upper scenario added sales at 720 GW.h and CDM energy
17 savings under upper scenario is 764 GW.h – does this mean that
18 without EV the sales would drop by 1,484 GW.h [$720 \text{ GW.h} + 764$
19 GW.h]? Please explain.

20 **IIC-NLH-025** Please explain how the “energy savings” and peak demand reductions
21 are consistent with the Muskrat Falls mitigation measures, which
22 recommended to maximize domestic sales revenues, reduce peak
23 demands and increase export sales as well as focus on peak reduction
24 CDM?

1 IIC-NLH-026 Further to IIC-NLH-24 and IIC-NLH-25, what are the lost revenues from
2 340 GWh and 764 GWh “energy savings” and estimated impact to the
3 rates?

4 IIC-NLH-027 Page 7 of the Electrification, Conservation and Demand Management
5 Plan 2021–2025 [Schedule 3] notes that “*the results of the Study show*
6 *there is limited potential for electrification of space and water heating in*
7 *homes and buildings. The limited potential is due to unfavorable*
8 *customer economics.*”

9 How is the forecast in the 2021 Plan comparable to the
10 forecasts/estimates during the Muskrat Falls rate mitigation review. For
11 example, Synapse Energy Economics, Inc. Phase 1 report [Findings on
12 Muskrat Falls Project Rate Mitigation] noted the following:

- 13 • The low scenario assumes that 0.4 percent of oil-heated homes
14 convert to heat pumps per year, reaching 5 percent of homes by
15 2030; the high scenario assumes that 2 percent of oil-heated
16 homes convert to heat pumps per year, reaching 24 percent by
17 2030 [page 27].
- 18 • Low scenario assumes that 0.4 percent of oil-heated commercial
19 buildings convert to heat pumps each year, reaching 18 percent of
20 those buildings by 2030; the high scenario assumes that 4 percent
21 of oil-heated commercial buildings convert to heat pumps each
22 year, reaching 60 percent by 2030 [page 28].
- 23 • Figures 9 and 10 of the Synapse report estimated that the added
24 sales from heating electrification would be between 121 GW.h and
25 approximately 300 GW.h for the commercial class; and between
26 13 GW.h and 58 GW.h for the residential class.

27 Please explain the difference in conclusion and whether this arises
28 primarily as a result of a difference in assumptions, of input data, or of

1 modelling approaches. If due to difference in assumptions or data,
2 please provide a comparison table showing the key input data and
3 assumptions.

4 **IIC-NLH-028** Please provide the backup details of each energy and capacity marginal
5 cost estimate in Schedule H to the Electrification, Conservation and
6 Demand Management Plan 2021-2025, including updated marginal
7 cost studies from April 2020.

8 **IIC-NLH-029** Further to IIC-NLH-28, please provide marginal capacity cost estimates
9 in the format provided in Figure 7 of CA Consulting Marginal Cost Study
10 Update – 2018 [November 15, 2018], which was Appendix A to the
11 Hydro’s November 15, 2018 application on Marginal Cost Study and
12 Rate Structure Review.

13 **IIC-NLH-030** Further to IIC-NLH-28 and IIC-NLH-29, please compare energy and
14 capacity marginal costs in Schedule H to the marginal costs in the
15 November 15, 2018 CA Consulting Marginal Costs Study update and
16 explain any variances.

17 **IIC-NLH-031** The CDM potential study indicates at page 53 (Schedule C) that the
18 study is based on baseline with no carbon taxes on heating oil, a mid
19 scenario with the federal government carbon levy increasing from
20 \$10/tonne to \$50/tonne, and a high scenario based on the “social cost
21 of carbon”.

22 a) Please provide the values used for the social cost of carbon.

23 b) Please confirm that the potential study did not assess the CDM
24 needs in an environment where \$170/tonne carbon pricing was

1 imposed. If confirmed, please re-run the potential study on the
2 basis of a \$170/tonne carbon price as has now been adopted by
3 the federal government. Please include the mTRC, PACT, PCT and
4 RIM by program, including providing the inputs used to derive and
5 calculate the ratios.

6 c) Please provide the CDM potential study and resulting mTRC, PACT,
7 PCT and RIM based on the carbon levy applying to home heating
8 fuels.

9 **IIC-NLH-032** Re: Section 3.1.2 of Schedule 3, please indicate the degree of subsidy
10 and the uptake expected under the following scenarios:

11 1) TRC and mTRC are ignored, Hydro pursues the program at a scale
12 and to the extent PACT remains in the range that is beneficial to
13 the utility, and heating fuels remain carbon levy exempt.

14 2) TRC and mTRC are ignored, Hydro pursues the program at a scale
15 and to the extent PACT remains in the range that is beneficial to
16 the utility, and heating fuels face a carbon levy at \$170/tonne.

17 **IIC-NLH-033** Please provide a version of Table L-3 that only includes incremental
18 energy changes in the year.

19 **IIC-NLH-034** Please provide a version of Table L-3 that shows the lost revenue from
20 each program for each year.

21 **IIC-NLH-035** In Schedule 1, at page 7, lines 14-15, Hydro states that "A 2019 survey
22 indicated that approximately 60% of utilities fund EV programs either
23 solely through customer rates or through a combination of rate payer

1 recovery and government funding.” Please provide Hydro’s information,
2 or if it does not have direct information then its understanding, as to how
3 the other 40% (approximately) of utilities canvassed by the referenced
4 survey fund EV programs.

5 IIC-NLH-036 With reference to IC-NLH-35, did Hydro investigate or consider whether,
6 in the jurisdictions where the approximately 60% of utilities fund EV
7 programs either solely through customer rates or through a combination
8 of rate payer recovery and government funding, there is legislation or
9 other governmental direction which mandates recovery of EV program
10 costs from the rate payers? Does Hydro consider that there is any
11 legislation or other governmental direction applicable in this Province
12 which mandates the recovery of EV program costs from rate payers?

DATED at St. John’s, in the Province of Newfoundland and Labrador, this *15th* day of July, 2021.

POOLE ALTHOUSE


Per: _____

FOL Dean A. Porter

STEWART MCKELVEY


Per: _____

FOL Paul L. Coxworthy

COX & PALMER


Per: _____

Denis J. Fleming

TO: The Board of Commissions of Public Utilities
Suite E210, Prince Charles Building
120 Torbay Road
P.O. Box 21040
St. John's, NL A1A 5B2
Attention: Board Secretary

Newfoundland & Labrador Hydro
Hydro Place
500 Columbus Drive
P.O. Box 12400
St. John's, NL A1B 4K7
Attention: Shirley Walsh

Newfoundland Power
55 Kenmount Road
P.O. Box 8910
St. John's, NL A1B 3P6
Attention: Kelly C. Hopkins

Consumer Advocate
Browne Fitzgerald Morgan & Avis
2nd Floor, Terrace on the Square
P.O. Box 23135
St. John's, NL A1B 4J9
Attention: Dennis M. Browne, Q.C.

Iron Ore Company of Canada
Stewart McKelvey
Cabot Place 1100, 100 New Gower Street
P.O. Box 5038
St. John's, NL A1C 5V3
Attention: Gregory A.C. Moores

Labrador Interconnected Group
Olthuis Kleer Townshend LLP
250 University Ave., 8th Floor
Toronto, ON M5H 3E5
Attention: Senwung Luk

Praxair Canada Inc.
1 City Centre Drive
Suite 1200 Mississauga, ON L5B 1M2
Attention: Sheryl E. Nisenbaum

Teck Resources Limited
Duck Pond Operators
P.O. Box 9
Millertown, NL AOH 1V0
Attention: Shawn Kinsella