

1 Q. **Reference: PUB-NLH-016 (d)**

2 The response includes the following quote from the Dunsky report:

3 **Using a combined residential customer CPP [critical peak pricing] and**
4 **commercial TOU [time of use] rate design offers significant additional peak**
5 **load reduction potential, however, this does not fully emerge until after 2030.**

6 Optimizing dynamic rates approaches offers the highest peak load reduction
7 (230 MW in 2034) when combined with a 16-hour curtailment constraint for
8 Corner Brook. However, the ODR [optimized dynamic rates], TOU and CPP
9 programs do not provide sufficient benefits to carry the full cost of the AMI
10 investments needed to enable these programs before 2034. A full business case
11 assessment for AMI may reveal other benefits streams that could be combined
12 with TOU/ CPP programs to render the investment cost-effective.

- 13 a) Please confirm, or deny with reasons, that the “additional peak load reduction
14 potential” will at least partially emerge by 2030.
- 15 b) Please provide the “full business case assessment for AMI” carried out by, or on behalf
16 of, Hydro and its partner Newfoundland Power that shows AMI is not beneficial prior to
17 2034.
- 18 c) Please provide the estimated peak contribution owing to the proposed electrification
19 program prior to 2034 and the cost to provide the additional capacity including all
20 assumptions.
- 21 d) Please confirm that the capacity costs owing to electrification efforts prior to 2034 are
22 incorporated in the Hydro/Newfoundland Power economic assessment of the
23 electrification programs and provide an indication of its impact on the economic merits
24 of the electrification program.
- 25 e) Please provide a comparison of the cost to provide the additional capacity owing to the
26 proposed electrification program prior to 2034 to the cost of AMI implementation for
27 both Hydro and Newfoundland Power customers.

1 A. a) It is confirmed. As noted in the “Potential Study Addendum: Demand Response
2 Assessment,”¹ the peak load reduction potential of ‘TOU² (Dynamic Rates including TOU &
3 CPP³)’ grows from 21 MW in 2020 to 28 MW in 2029. This is primarily due to the forecast
4 growth in Electric Vehicle (“EV”) ownership on the Island Interconnected System during this
5 time.

Table 1: Best Case DR⁴ Program (ODR⁵+DLC⁶ Scenario) Peak Reduction Impacts (MW) and PAC⁷ Results

Program Name	2020		2024		2029		2034	
	MW	PAC	MW	PAC	MW	PAC	MW	PAC
Equipment ⁷	1.1	3.2	1.1	3.2	1.2	3.3	8.6	3.5
Dual Fuel ⁸	21	1.7	22	1.8	22	1.9	24	2.1
TOU (Dynamic Rates including TOU & CPP)	21	0.5	21	0.5	28	0.7	47	1.2
Industrial Curtailment ⁹	147	11.7	147	12.7	147	14.1	147	15.6

⁷ The Equipment program includes Residential DLC and Commercial DLC (including EV DLC).

⁸ Dual-Fuel program includes backup generators (BUGs) and dual fuel systems, as per the program description in Table F-16.

⁹ Includes both Large Industrial Curtailment (125 MW) and Small/Med Industrial Curtailment (22 MW).

6 b) Please refer to part a) of Newfoundland and Labrador Hydro’s (“Hydro”) response to CA-
7 NLH-077 of this proceeding for a discussion of why there is not a solid business case for
8 advanced metering infrastructure (“AMI”) at this time. As noted in Table 1, full AMI is not
9 forecast to be cost effective until 2034 as its PAC ratio remains below 1.0 until that time.

¹ Application for Approvals Required to Execute Programming Identified in the Electrification, Conservation and Demand Management Plan 2021–2025,” Newfoundland and Labrador Hydro, rev. July 8, 2021 (originally filed June 16, 2021), sch. 3, sch. E, at p. 11 of 25, Table 4.

² Time of Use (“TOU”).

³ Critical Peak Pricing (“CPP”).

⁴ Dynamic Rates (“DR”).

⁵ Optimized Dynamic Rate Design (“ODR”).

⁶ Direct Load Control (“DLC”).

⁷ Program Administrator Cost Test (“PAC”).

1 c) Hydro and Newfoundland Power Inc.'s ("Newfoundland Power") proposed electrification
2 programming is for the period from 2021 through 2025. During this time, electrification
3 programming is forecast to increase system peak by 3.2 MW and provide 47.1 GWh of new
4 energy sales.

5 The incremental system costs associated with proposed electrification programming has
6 been included in both Hydro and Newfoundland Power's respective net present value
7 analysis. Please refer to part c) of Hydro's response to CA-NLH-077 of this proceeding for a
8 reference to this analysis.

9 d) It is confirmed. Including all capital spending, program costs, and incremental system costs,
10 electrification programming is forecast to result in rate-mitigating benefits for customers
11 over the long term.

12 e) Please see Table 2 for the requested analysis.

Table 2: 2034 Cost Comparison: Electrification versus AMI (\$)

Particulars	Cost
Full AMI	95,000,000 ⁸
Marginal Electrification Programming	1,120,000 ⁹

⁸ As noted in the "Potential Study Addendum: Demand Response Assessment," the estimated the cost of full AMI implementation ranged between \$85 and \$105 million. Hydro has used the midpoint of this range for this illustrative analysis.

⁹ Calculated based on 3.2 MW of peak load growth as a result of electrification programming times Hydro's forecast marginal cost of capacity of \$350 per kW.