

1 Q. **Reference: Application Volume 2, Replace Metering System**

2 It is stated (page 9) “While the proposed AMR system does not enable the billing of time-of-use
3 (“TOU”) rates, a recent review conducted by Dunsky Energy Consulting concluded that the
4 Island system benefits of TOU pricing could not justify the additional cost of a full
5 implementation of an AMI system at this time.”

6 a) Did Dunsky take into account other rate design considerations such as customer choice
7 and providing customers with a level of control over their electricity bills? If so, please
8 provide the references in the Dunsky report.

9 b) Did Dunsky consider how the advent of distributed energy resources and non-wires
10 alternatives might make a billing system that enables time-of-use rates desirable? Has
11 Hydro considered how distributed energy resources might make time-of-use rates
12 desirable?

13 c) Would time-of-use rates be consistent with Hydro’s electrification program? Please
14 explain.

15 d) If time-of-use rates were determined to be feasible by 2030, would that make Hydro’s
16 proposed metering system program obsolete about 5 years after installation?

17 e) Please show the analysis in Table 1 (page 5) and Figure 1 (page 6) assuming the AMR
18 system in Alternative 4 is replaced in 2030 with a mesh AMI metering system that
19 enables time-of-use rates (Alternative 3).

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22 A. For the purpose of this response, Newfoundland and Labrador Hydro (“Hydro”) has considered
23 distributed energy resources (“DER”) to include both small customer-owned generation (i.e., net
24 metering customers) and small controllable loads. This response excludes the impacts of
25 automated metering infrastructure (“AMI”) on Corner Brook Pulp and Paper Limited’s own

1 generation, island Industrial customer capacity assistance, and Newfoundland Power Inc.'s
2 curtailable service option (e.g., Memorial University of Newfoundland).

- 3 a) The Conservation Potential Study prepared by Dunsky Energy Consulting (“Dunsky”)¹ did
4 not directly consider qualitative customer impacts or small customer-owned generation
5 (i.e., net metering) in its analysis of AMI. Dunsky did note, however, that:

6 AMI may offer some benefits that currently employed Advanced Meter
7 Reading practices do not (such as reduced meter reading costs, two-way
8 communications, and increased benefits from home energy feedback
9 devices), which could help contribute to the business case for installing
10 AMI across the IIC system.²

11 Given the poor cost effectiveness ratios in the early years associated with AMI,³ Hydro
12 does not consider the potential qualitative benefits to be large enough to change the
13 outcome of Dunsky’s analysis.

- 14 b) Dunsky did consider how dynamic rates could serve to reduce the impact on system
15 peak, using a combination of critical peak pricing (“CPP”) for residential customers and
16 time-of-use (“TOU”) rates for commercial customers, referred together as optimized
17 dynamic rates (“ODR”). As noted by Dunsky:

18 **Using a combined residential customer CPP and commercial TOU rate**
19 **design offers significant additional peak load reduction potential,**
20 **however, this does not fully emerge until after 2030.** Optimizing
21 dynamic rates approaches offers the highest peak load reduction (230
22 MW in 2034) when combined with a 16-hour curtailment constraint for
23 Corner Brook. However, the ODR, TOU and CPP programs do not
24 provide sufficient benefits to carry the full cost of the AMI investments
25 needed to enable these programs before 2034. A full business case
26 assessment for AMI may reveal other benefits streams that could be

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. C.

² “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. 10.

³ *Ibid.*, at p. 11.

1 combined with TOU/CPP programs to render the investment cost-
2 effective.⁴ [Emphasis Added]

3 Hydro notes that it currently has available to customers a Net Metering Service Option.
4 Hydro is able to make this offering available to customers without any current
5 investment in AMI.

6 c) Yes, in the longer-term advanced rate structures are consistent with Hydro's planned
7 electrification programming, particularly once adoption of electric vehicles ("EV")
8 becomes more prevalent. As noted by Dunskey:

9 **Take a stepwise approach to considering new DR programs:** Currently
10 there is little additional benefit from new DR programs, including the
11 TOU/CPP programs which do not appear to be cost effective in the near
12 term. In the initial years, focus should remain on expanding the current
13 commercial and industrial curtailment programs (as per the initial
14 report recommendations) along with expanding the duration of the
15 Corner Brook curtailment event duration. However, as EVs become
16 more prevalent in the province, they may eventually contribute to a
17 new evening peak. As this trend takes hold, the Utilities should pilot EV
18 load management strategies (i.e. dynamic rates for customers with EV
19 chargers or direct EV load management). This will help determine which
20 option is most effective at mitigating the impact of EV charging on the
21 utility annual peak, and help ensure that investments in EV adoption
22 return benefit to the system.⁵ [Emphasis Added]

23 d) Please refer to part d) of Hydro's response to PUB-NLH-016.

24 e) Please refer to part d) of Hydro's response to PUB-NLH-016.

⁴ Ibid., at pp. 1–2.

⁵ Ibid., at p. 2.