Q. (Reference CA-NP-016)
It is understood that NP is proposing New Meters and Replacement Meters programs in the 2025 CBA that will use AMR metering technology rather than AMI (smart meter) technology. New Brunswick Power filed evidence with the New Brunswick Energy and Utilities Board on August 1, 2019 entitled "Advanced Metering Infrastructure Capital Project (https://www.nbpower.com/media/1489724/nbp0103.pdf).
The New Brunswick Power study of smart meters quantified the following benefits of smart meters relative to AMR: i) Reduced Manual Meter Reading and Meter Service Orders; ii) Avoided Meter Replacement Costs; iii) Conservation Voltage Reduction; iv) High Bill Alert Service; v) Distribution Network Losses; vi) Meter Accuracy Losses; vii) Avoided Cost of Load Research Program; viii) Avoided Cost of Net Metering Program; ix) Avoided Cost of Meter Services Manager Salary; x) Avoided Cost of Meter Reading Vehicles; xi) Outage Restoration (Crew management); xii) Reduced Customer Inquiries; xiii) Avoided Cost Of Handheld System; xiv) Unbilled/Uncollectable Accounts; xv) Avoided Cost of Meter Reading Supervisor; and xvi) Reduced Overtime for Meter Service Orders. It also identified 12 additional customer and societal benefits of AMI that were not quantified such as (page 32) "*time-varying rates, which can provide significant benefits to customers and NB Power by providing more efficient price signals, and geographically-targeted demand-side management (DSM) programs, which can avoid or defer costly transmission & distribution ("T&D") investments based on AMI-derived visibility into grid needs and patterns.*" The 12 additional benefits that were not quantified were identified by Dunsky (page 32). Dunsky also reviewed the list of quantified benefits (page 32).

a) Does NP agree with the list of benefits owing to smart meters relative to AMR identified in the New Brunswick Power study? If not, which of these benefits are not relevant to NP's system and why?
b) Why does NP believe that as stated in CA-NP-016d "*system cost savings resulting from the demand response potential of AMI technologies are not sufficient to offset implementation costs at this time*" is a valid reason for *not* conducting a more detailed assessment of AMI when New Brunswick Power justified its AMI program without quantifying load shifting benefits and according to Natural Resources Canada, more than 82% of Canadian residents have adopted smart meters with a similar trend observed in the United States (https://www.mordorintelligence.com/industry-reports/north-america-smart-meters-market-industry)?
c) Does NP believe that the Posterity study results are needed before it can undertake a study of smart meters?
d) What was the basis for the load shifting benefits used in the 2019 Dunsky study, and how did the load shifting benefits compare to costs of AMI implementation in the net present value analysis?
e) Why did NP not request Dunsky to identify and quantify benefits of smart meters other than load shifting given that Dunsky had participated in a similar study for New Brunswick Power at roughly the same time?

f) Based on CA-NP-016b, can it be concluded that of the other 9 Canadian provinces, 8 of the provinces have, or are in the process of, installing smart meter programs including British Columbia, Alberta, Saskatchewan, Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island?

A. a) The benefits of Advanced Metering Infrastructure ("AMI") can vary by jurisdiction. For potential benefits identified by Newfoundland Power, see part c) of the response to Request for Information ("RFI") CA-NP-070.

b) Newfoundland Power is currently in the process of conducting an assessment of AMI technology. For further information, see the responses to RFIs CA-NP-201 and CA-NP-247.

c) See part b).

d) The 2019 Dunsky study analyzed the amount of load that could be moved off peak using dynamic electricity rates such as time-of-use rates and critical peak pricing. The study evaluated how much load could be shifted and calculated the benefits of this load shift using the marginal costs of capacity provided by Newfoundland and Labrador Hydro for the study.

The 2019 Dunsky study evaluated the cost-effectiveness of using dynamic rates to shift peak load by comparing the lifetime benefits of the load shifting against the lifetime implementation cost of AMI. The study evaluated the cost-effectiveness for four different periods, 2020, 2024, 2029 and 2034. Table 1 summarizes the information from the 2019 Dunsky study in terms of estimated peak reduction (MW), net present value ("NPV") of costs or benefits, and the result of the Program Administrator Cost ("PAC") test.

Table 1:
2019 Dunsky Study Results – Dynamic Rates

Year	Estimated Peak Reduction (MW)	NPV ($000s)	PAC
2020	21	(63,200)	0.5
2024	21	(63,400)	0.5
2029	28	(35,600)	0.7
2034	47	34,600	1.2

e) See the response to RFI CA-NP-247. The purpose of the 2019 Dunsky study was to evaluate the electrification, conservation and demand management potential in Newfoundland and Labrador to help inform Newfoundland Power and Newfoundland and Labrador Hydro's electrification, conservation and demand management plan for the period of 2021 to 2025. A full-scale evaluation of the benefits of AMI was not in

scope for this study as it was beyond the purpose for which the study was commissioned.

f) Yes it can be concluded that of the other 9 Canadian provinces, 8 of the provinces have, or are in the process of, implementing smart meter programs.