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All the time.

MARITIME ELECTRIC
A FORTIS COMPANY

November 4, 2021

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The Island Regulatory and Appeals Commission

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Island Regulatory & Appeals Commission
PO Box 577
Charlottetown PE C1A 7L1

Dear Commissioners:

**Response to Roger Kings Comments of October 2021 on Maritime Electric's Rate Design Application**

Upon review and consideration of comments provided to the Island Regulatory and Appeals Commission (the "Commission") by Roger King, dated October 4, 2021, regarding the Stage 1 – Rate Design Application filed by Maritime Electric Company, Limited ("Maritime Electric or the "Company"), the Company would like to address certain comments included in Mr. King's submission.

**Introduction**

When considering the Company's Residential and General Service customers, it is correct that the majority of them are metered for energy only, as shown in Table 1. A combination (i.e., demand and energy) meter is more expensive than an energy only meter, and therefore are generally used for larger loads or in special cases.

**Table 1**
**Meters used for Residential and General Service Customers**

| | Rate Codes | Number of Customers[1] | Number of Energy Meters | Number of Combination Meters |
|---|---|---|---|---|
| Residential year round | 110 and 130 | 64,058 | 63,558 | 500 |
| Residential Seasonal | 131 and 133 | 7,681 | 7,674 | 7 |
| General Service year-round | 232 and 234 | 7,673 | 5,435 | 2,238 |
| General Service Seasonal | 233 | 1,673 | 1,517 | 156 |
| **Total** | | **81,085** | **78,184** | **2,901** |

Any proposed rate structure changes that are intended to influence customer demand behaviour (i.e., when they use electricity) should be supported by a positive cost/benefit analysis. Higher metering costs is just one of the costs that must be considered along with the cost of data collection, analysis and storage, and billing.

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1 As of October 25, 2021

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**Revenue Requirement Reduction Opportunity**
Mr. King referred to "an annual cost of $289,000 per megawatt ("MW") for 2020 capacity", which was derived from the 2020 Cost Allocation Study, and contends that demand-related costs are not a fixed cost.[2] This may be valid over the long term, but over the short term (i.e., one to five years) the majority of demand-related costs are fixed. Thus, it is misleading to suggest that a demand reduction of 3 MW will result in close to a $1 million reduction in revenue requirement for each future year since the vast majority of demand-related costs cannot be reduced as they are associated with existing infrastructure.

Table 2 provides a breakdown of Maritime Electric's 2020 demand-related costs to illustrate that efforts to influence these costs yield results over the longer term (i.e., decades).

**Table 2**
**Breakdown of 2020 Demand-Related Costs[3]**

| | Demand-Related Costs | |
|---|---|---|
| **Function** | **($ thousand)** | **(%)** |
| Generation | 11,976 | 17 |
| Purchased Power | 20,154 | 28 |
| Transmission | 16,029 | 23 |
| Distribution | 22,685 | 32 |
| **Total** | **70,844** | **100** |

The generation function relates to Maritime Electric's on-Island generating facilities, which have a minimum lifespan of 50 years. As such, these costs are considered fixed.

The purchased power function largely consists of:

- Point Lepreau Nuclear Generating Station ("Point Lepreau") costs, which are under a long-term contract until at least 2039;
- Wind power purchase costs, which are set by legislation;[4] and
- Capacity purchased from NB Power, which is procured through the Energy Purchase Agreement with NB Energy Marketing until at least the end of 2026.

The transmission function consists of the interconnection between New Brunswick and Maritime Electric's on-Island transmission system, including the submarine cables. The capacity of the interconnection was increased in 2017 and no further increase is expected to be needed for at least a decade. Major additions to the on-Island transmission system typically occur every five to ten years.

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2 Total demand-related costs of $70,844,000 (from Table 5 on page 16) divided by 244.9 MW of coincident peak – firm load (from Table 7 on page 21) equals approximately $289,000 per MW per year.
3 Derived from Schedule 1.4, on page 15 of 79, of the 2020 Cost Allocation Study.
4 Wind projects commissioned before 2004 are not subject to the legislated minimum purchase price.

The distribution function generally consists of substations and distribution infrastructure such as poles and wires. The majority of distribution costs are considered fixed costs because they are associated with existing infrastructure.

The overall result is that the vast majority of demand-related costs cannot be reduced as they are associated with existing infrastructure. However, a reduction in demand can potentially reduce the amount and the cost of capacity purchased from NB Power, subject to the limitations of the Energy Purchase Agreement.[5] It is important to note that such a demand reduction would have to be associated with peak demand, which typically occurs in December or January between 5:00 and 6:00 p.m.

A further consideration point is that incremental costs (i.e., metering, data storage and billing infrastructure, etc.) would also be incurred to achieve a reduction in demand. It would be prudent to complete a cost/benefit analysis to ensure the costs to achieve any reduction would be lower than the expected cost savings.

**Farms**

The 523 farms on the Residential rate identified as "larger" (i.e., characterized by using more than 5,000 kWh in at least one month during a year) have a wide range of load factors. Those with higher load factors will have lower electricity costs on the Small Industrial rate, while those with lower load factors will often have lower electricity costs by remaining on the Residential rate after the Residential second block energy rate ("second block") is eliminated.

However, it is not correct to say that those farms remaining on the Residential rate will be subsidized by the rest of the Residential customers. With the elimination of the second block, any of the "larger" farms that remain on the Residential rate will be paying the same price as the other Residential customers.

**General Service Customers**

As discussed in Maritime Electric's response to Mr. King's interrogatory #9 of August 23, 2021, it is not a foregone conclusion that the General Service class will be separated into three classes based on size of load. Mr. Boutilier recommended that such a breakdown of the General Service class be considered and that any such consideration would have to wait until sufficient load research data become available. The collection of load research data is ongoing.

Maritime Electric disagrees with Mr. King's proposal to defer the increased revenue derived from the elimination of the second block. The General Service revenue-to-cost ratio of 118 per cent, which is well outside the 95 per cent to 105 per cent target range, needs to be reduced.[6] The Company expects that all General Service customers are over contributing relative to their cost of service and any increased revenue from the Residential class due to the elimination of the second block should be applied to reduce the revenue collected from the General Service class.

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5 The Energy Purchase Agreement requires 24 months' notice to reduce capacity purchases.

6 As per the 2020 Cost Allocation Study, filed on July 22, 2021, the General Service revenue-to-cost ratio (excluding seasonal) was 118 per cent.

**Residential Customers**
Mr. King offered some ideas for influencing residential demand and Maritime Electric is supportive of such initiatives. However, as discussed above for demand meters, such initiatives should be supported by a positive cost/benefit analysis. Furthermore, the Company believes the responsibility for influencing residential demand in the manner proposed by Mr. King is more aligned with the demand-side management mandate of the Prince Edward Island Energy Corporation and the programs delivered through efficiencyPEI.[7]

With respect to Mr. King's proposal to install direct-control devices on domestic electric water heaters, Maritime Electric agrees that electric water heaters represent a theoretical opportunity for demand shifting because this equipment stores energy for future use. This proposal presents a number of challenges: (i) installing direct-control devices may be perceived as limiting the customer's choice of when to use energy and may be viewed as outside Maritime Electric's jurisdiction; (ii) an incentive, such as time-of-use rates, may be a more appropriate way to entice customers to participate in demand reduction activities; and (iii) it may be challenging to measure the success of this particular proposal because the Company currently has no ability to measure the amount of demand shifted away from the peak load time and whether customers bypass the device.

If a cost/benefit analysis were to result in a positive business case for direct control of domestic electric water heaters, Maritime Electric's view is that some form of automated metering, such as advanced metering infrastructure ("AMI"), will be required for effective implementation. Maritime Electric contends a more efficient way to influence customer demand is by using pricing signals, which may be a viable option in the near term subject to the approved implementation of AMI.

Yours truly,

MARITIME ELECTRIC

M Francis

Michelle Francis
Vice President, Finance and
Chief Financial Officer

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7 In 2017 the Electric Power Act and the Energy Corporation Act were amended to assign responsibility for demand-side management to the Prince Edward Island Energy Corporation.