

Maritime Electric Co. Ltd. (MECL) Rate Structure Changes

Residential and other Ratepayers Application – UE22503.

Comments to the Island Regulatory and Appeals Commission

Introduction

The cost of measuring KWh energy at each customer site has been relatively inexpensive; however the cost of measuring WHEN the energy is used – KW Demand – has been costly. Metering expense and the low cost of Demand has determined that the majority of customers are only metered for energy. As Demand has increased so has the cost of providing it, such that it cannot continue as a “fixed cost” amortized across all customers but more a variable cost that many customers can control. The concept (and cost) of Demand can be complex. One element is MECL costs for Demand can be accumulated annually but the billed monthly Demand revenue from customers’ ranges from zero to a variable price depending upon each month’s maximum KW Demand. Equity of billing across a range of customers having a broad application of energy use and different Demand levels also adds to the complexity. It is imperative that the segments or cohorts of customers for Revenue-to-Cost (RTC) calculations are homogeneous; for each customer segment the uses of electricity by those member customers should be similar during the year. For future rate structure changes to be effective more customer awareness and understanding of Peak Load Demand is required; how it occurs and how much each “tier” of customers contributes to the total should be published and explained.

Revenue Requirement Reduction Opportunity:

The overall premise of this Rate Structure Application is that MECL’s costs (Revenue Requirement) are fixed, based upon forecasted energy use and the Demand capacity required. This premise is extended into the proposed Stage 2 Rate Changes; if revenue from the General Service customers is to be reduced then revenue from the Residential customers must increase to compensate. A counter proposal is to engage Residential customers to drive an overall cost reduction that will offset reduced General Service revenue.

Classical Time-of Use (TOU) tariffs are based upon varying energy pricing and as both Mr. Boutlier and MECL explain, varying energy pricing is not available to MECL. However both fail to explain that the annual Revenue Requirement includes a 35% component for the cost of Peak Load Demand, i.e. the cost of WHEN the energy is used. Characterized incorrectly as a fixed cost, this 35% is actually a TOU cost that can be reduced by either shedding load or shifting the time of load. Existing and new tariffs having both energy and demand components are indirectly a TOU tariff and therefore offer an opportunity to reduce costs. As an example, at an annual cost of \$289,000 per MW for 2020 capacity, a Demand reduction of only 3MW would drive an annual Revenue Requirement reduction close to \$1M for each future year!

Farms

The Residential tariff is currently used for 523 Industrial Farms and 1571 non-industrial farms. If the Small Industrial tariff is the appropriate tariff for Industrial Farms, then those electing to remain with a (lower cost) Residential tariff are being subsidized by all other customers. By the end of Stage 1 (year four) the option of choice to remain with a Residential tariff should be withdrawn and all Industrial Farms should be billed using the Small Industrial tariff. Customers with poor load factors/high Demand, and therefore preferring to remain “Residential”, have had the benefit of operating with a Residential “discount” on the price of electricity for many years and will have four more years to seek assistance to minimize Demand. Customers could further reduce their monthly cost by also improving their Power Factor which is reported with each monthly billing from the Remote Interrogation (RI) Combination Meter that is needed to measure Demand. Perhaps MECL assistance could be provided here?

General Service Customers

Similar to Nova Scotia Power, it appears that MECL will be segmenting (for Stage 2) the 7,192 General Service customers into three (3) segments/cohorts – Small General, General and Large General. The existing cohort of General Service customers (5,286) who are not metered for Demand and have (relatively) low energy use will probably be assigned as Small General. Again similar to Nova Scotia Power, it is assumed that eventually this tariff will be an “energy only” class. The remaining 1900+ customers have very much higher and wider energy and demand characteristics which will not be fully documented, via the current sample metering program, for well into the final years of stage 1. In view of the pending tariff changes for all General Service customers, I suggest that the excess revenue derived from the second block elimination of stage 1 be set aside in an accrual account until Stage 2 is designed and approved. Only then will the fair and equitable distribution of excess revenue be fully understood.

Residential Customers

Comparable to the tariff choice afforded to 523 Industrial Farm customers, the Application does not present the 8000+ Residential customers most affected by second block elimination with any choice of mitigating the billing increases. However, MECL has usefully segmented Residential customers into energy use “tiers”. As an example, the 7,017 Residential customers using January energy of between 2301 KWh to 5000 KWh are responsible for a coincident peak demand of 48.4MW and will be the most affected by the second block elimination. An annual MECL cost reduction opportunity exists by inviting this tier of customers to reduce their 48.4MW demand and therefore offsetting their increased cost of second block elimination. Offering, over the four year duration of Stage 1 Rate Changes, incremental demand based or time-shift tariffs would provide these customers with a cost offset choice. One example here that does not involve any metering changes is to install interrupt timers on electric domestic hot water storage tanks such that heating is briefly interrupted during the morning and evening electricity peak demand periods. Heat storage is a perfect enabler of shifting demand.

For the two lowest energy tiers of between 0 KWh to 1200KWh comprising almost 42,000 customers another “Revenue and Cost Reduction” opportunity is to repeat each year the very successful 2010 “Winter Challenge”. More than 10,000 customers’ participated and over 5000 customers received a 10% next-month bill reduction by reducing their December (peak load month) energy consumption. An estimated MECL cost of \$160,000 resulted in saving over \$2,000,000 in Demand costs!

Proposed Changes to Section 11 – Proposed Order:

The proposed changes are identified below in ***bold/italic*** font:

2A. Maritime Electric shall increase the Residential class declining second block rate to equal the first block rate in four equal annual steps beginning on March 1, 2022.

2B. *Maritime Electric shall deploy incremental new-tariff programs and specific customer-centric incentives for Residential customers to reduce peak load. Over the four-year transition period of Stage 1 Rate Changes these programs will enable those customers most affected by the second block elimination opportunities to mitigate the billing increases and contribute to long term peak load reduction.*

3. Maritime Electric shall allow farm customers to be eligible under both the Residential and Small Industrial classes ***until March 2026; all Industrial Farm customers will only then be eligible under the Small Industrial class.***

7. The additional revenue recovered from the Residential, Large Industrial and Street Lighting classes as a result of paragraphs 2, 5 and 6 above ***will be held in an accrual account until Stage 2 is designed and approved.*** This accrual of revenue shall occur in each of the four annual steps of Stage 1 such that the overall impact is revenue neutral to the Company. ***The distribution of this accrual account will be defined within the Stage 2 plan.***