



Energy  
Corporation

Société de  
l'énergie



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October 16, 2015

Mr. Mark Lanigan, CA  
Island Regulatory and Appeals Commission  
PO Box 577  
Charlottetown, PE C1A 7L1

Dear Mr. Lanigan,

Please find enclosed Government's comments on Maritime Electric's 2016 Capital Budget and Demand Side Management Plan.

Sincerely,

Kim Horrelt

cc: Steve Loggie, CA  
Maritime Electric Company, Limited

**CANADA**

**PROVINCE OF PRINCE EDWARD ISLAND**

**BEFORE THE ISLAND REGULATORY**

**AND APPEALS COMMISSION**

**IN THE MATTER** of section 16.1 of the Electric Power Act (R.S.P.E.I. 1988, Cap.E-4) and **IN THE MATTER** of the application by Maritime Electric Company, Limited for an order of the Commission approving an Energy Efficiency and Demand-Side Management Plan for the years 2015 to 2020 and for certain approvals incidental to such an order.

COMMENTS OF THE GOVERNMENT OF PRINCE EDWARD ISLAND

Filing Docket UE21406

## **Overview**

The Government of Prince Edward Island (hereinafter referred to as the Province) is pleased to provide comments on this application by Maritime Electric Company, Limited (hereinafter referred to as MECL) for approval of an Energy Efficiency and Demand Side Management Plan (hereinafter referred to as the Plan).

The Province does have some concerns, specifically around the lack of direction provided to MECL, the initiatives not included in the Plan, the application of the Total Resource Cost test (TRC), the estimated costs for some of the initiatives analyzed but not proposed, the lack of market information that the Province believes to be critical to properly design and implement the Plan, and the approach by MECL to require each initiative to stand alone rather than bundling initiatives together in a portfolio approach.

## **Lack of Direction**

In November 2013, the *Electric Power Act* (R.S.P.E.I. 1988, Cap.E-4) was amended to transfer responsibility for energy efficiency and demand side programs back to utilities. The amendments provide the Island Regulatory and Appeals Commission (hereinafter referred to as IRAC) with the authority to direct any public utility to prepare an energy efficiency and demand-side resources plan and when doing so, IRAC must outline what it expects the public utility to achieve.

These amendments were introduced based on recommendations of the PEI Energy Commission, which also proposed that the Office of Energy Efficiency (OEE) act as a program delivery resource to MECL and as a technical resource to IRAC. The amendments also gave IRAC the authority to determine the results expected of the Plan over the course of its term

(i.e. set the goals of the Plan). While this did not happen in this case and the utility prepared its plan in a vacuum, IRAC should, in the future, set the goals it expects MECL to achieve with any Plan.

### **Firm Targets**

The Plan under review does set expected targets for energy and demand reductions based on the proposed initiatives. Total energy reductions of 13.5 GWh amount to approximately 1% of MECL energy sales in 2020. This is the low range for energy reductions in other jurisdictions in North America. Targets for similar initiatives used across North America range anywhere from 1.5% to 2.5%. The 1% target should be incrementally increased in any subsequent Plan toward the upper range of 2.5% (of total energy sales).

Given the current state of the electricity system in the province with the rapid expansion of space heating from electricity and the apparent gap between energy supply and energy demand in future years (2017-2025), significant efforts need to be expended to increase the amount of energy efficiency and demand-side resources being utilized.

### **Need for Better Information**

MECL states that it has not reviewed the activities of other jurisdictions in the type and delivery of energy efficiency programs or the way other jurisdictions use the Total Resource Cost Test. Furthermore, MECL agrees that it has not gathered any data on how people in Prince Edward Island are using electricity, specifically the types of lighting and appliances that are being sold in PEI.

In order to properly design and implement energy efficiency and demand-side management programs the following is necessary:

1. A review of those jurisdictions who have successfully implemented energy efficiency and demand-side programs,
2. A review of the tools and methodologies that these successful jurisdictions use to ensure the effectiveness of their programs, and
3. The collection of data on the local marketplace to ensure a full understanding of how Islanders are using electricity and the technologies being adopted by Islanders.

Without this information as a starting point, it is difficult to make decisions on how best to help Islanders change their behavior and reduce their energy consumption.

### **Lack of Comprehensiveness**

Pursuant to Section 16.1 of the *Electric Power Act*, MECL could be required to acquire all cost-effective energy efficiency and demand-side resources. In order to accomplish this, a more comprehensive approach would be needed, comprising programs and initiatives in all sectors.

For instance, MECL is offering programs primarily to the residential sector. While residential is the largest single customer group for MECL (46% in 2014), commercial and industrial customers together are a larger component at 53% and it makes sense to offer programming to these sectors as well.

Furthermore, with approximately 10% of Island households (~ 6,000) using electric resistance space heating and an estimated 12,000 to 15,000 Island households having installed a

mini-split heat pump (over the past 3 to 4 years), the number of households on PEI using some form of electrical space heating is closing in on 30%. Given this significant transition, MECL should be offering programs to assist Island homeowners (with an electrical heating source) in reducing the overall energy consumption in their homes with initiatives to increase insulation levels, reduce air leakage and generally improve their overall energy efficiency. The Province, through the Office of Energy Efficiency, could help to assist MECL with this effort.

### **Application of the Total Resource Cost Test**

MECL uses the Total Resource Cost (TRC) test to determine which initiatives are cost-effective and should be implemented. The TRC test is one of a series of tests developed in California in the early 1980's to evaluate different energy efficiency program options. The TRC is seen by some as an all-encompassing test, incorporating a more holistic view by accounting for all costs and all benefits.

Over the past 30+ years that the TRC has been in use, there have been problems with the way the test is used and the results its use has achieved. In fact, the TRC does not include all benefits but does include all costs. This results in skewed analysis in favour of doing less energy efficiency. There have been a number of studies on this effect and the most prevalent recommendation is the addition of a 15% adder to the TRC benefit side, to better reflect the actual benefits of energy efficiency. The use of the TRC by MECL should be modified to include the 15% adder.

Also with respect to the application of the TRC, MECL's approach is to require each initiative to stand alone in passing the test. Many other jurisdictions who are successful in designing and implementing energy efficiency programs bundle initiatives together to allow for

greater energy reductions. Bundling very economic initiatives with those that are slightly uneconomic will allow MECL to achieve much greater energy and demand reductions, with the entire portfolio of initiatives still being economic.

### **Miscellaneous Issues**

Specific concerns regarding the numbers used in several initiatives include:

#### **Refrigerator Roundup**

The fixed expenses for this program seem extremely high. The Province considered a similar program a few years ago and it determined there would be no recycling or appliance retirement expenses as Island Waste Management currently provides these services.

Furthermore, the inclusion of \$165,000 in management and call centre expenses also appears to be excessive. The current management staff at MECL should be able to perform these minimal extra duties with little or no additional costs. This also calls into question the costs apportioned to all other initiatives analyzed by MECL for this plan.

#### **Energy Star Clothes Washer**

MECL neglected to include reduced water consumption in its analysis, which is a non-energy benefit that should be included. The assertion is based on Table 6.4 in the *National Action Plan for Energy Efficiency (2008)*, which explicitly includes water as an additional resource savings.

#### **LED Holiday Lighting**

MECL's analysis shows a LED Holiday Lighting Program as economic if the system peak falls in December, but uneconomic if the system peak falls in January or

February. While this may be generally true, the real question is will holiday lights be used when the system peak is set?

For instance, if New Years day falls on a Wednesday, it is likely that most holiday lights will remain up until the following weekend when people have some time to take them down. In that situation, if the system peak happened between January 1<sup>st</sup> and 4<sup>th</sup>, the Holiday Lighting program would still be economic.

Furthermore, evidence provided by MECL shows there have been only two system peaks outside of the month of December in the past ten years and the last three consecutive years, the system peak has been in December. This should support implementing a Holiday Lighting Program.

## **Recommendations**

With respect to the current application, IRAC should:

1. Approve the current MECL plan for a period of one year with the expectation that a new expanded energy efficiency and demand-side plan will be designed and implemented following the completion of year one of the MECL plan.

With respect to future planning, IRAC should:

1. Provide specific direction to MECL in future plans, including expected energy and demand reductions over specific time frames.
2. Require MECL to complete a review of jurisdictions successful in implementing comprehensive energy efficiency programs and to incorporate lessons learned from these jurisdictions in the new energy efficiency and demand-side plan, including the tools and methodologies used.



- a. Specifically, IRAC should require MECL to:
  - i. Conduct a review of those jurisdictions who have successfully implemented energy efficiency and demand-side programs,
  - ii. Conduct a review of the tools and methodologies that these successful jurisdictions use to ensure the effectiveness of their programs, and
  - iii. Collect data on the local (PEI) marketplace to ensure a full understanding of how Islanders are using electricity and the systems and technologies (including lighting and appliances) being adopted by Islanders.
3. Direct MECL to utilize a 15% adder to the benefit side of the TRC when determining cost-effectiveness of energy efficiency programming.
4. Direct MECL to use the bundled portfolio approach when applying the TRC to energy efficiency program initiatives.
5. Closely review the input costs and the assumptions used by MECL in its economic evaluation of energy efficiency program initiatives, including but not limited to:
  - a. The application of the TRC with respect to non-energy benefits, and
  - b. The management and labour costs used by MECL.