Maritime Electric Co. Ltd: On-Island Capacity for Security of Supply Project

Application UE20742

Comments to the Island Regulatory and Appeals Commission

A New Era for Electricity Supply

Over the last ten (10) years the use of electricity for heating and cooling has increased significantly. Residential heating in 2015 was predominantly oil-based with some direct resistance in-floor and baseboard heating and portable electric heaters used as supplements. Few residences used summer cooling and very few homes had heat pumps. Maritime Electric (MECL) peak demands at that time were less than 240MW occurring in December, determined essentially by Christmas decorations. In 2015 the electricity infrastructure reliability requirements defining the minimum transmission capacity (MW) were adequately serviced by limited on-Island back up generation and purchased capacity from mainland New Brunswick Power (NBP).

Through the PEI Government's policy of following the Federal Government's funding encouragement to replace oil heating, the 75% of PEI Residential heating load jointly served by heating oil and electricity has driven the 2015 load sharing of 50% oil and 25% electricity to a complete reversal. The MECL 2024 forecast for heating energy source components is now 25% oil and 50% electricity. As a result transmission capacity requirements have accelerated beyond 300MW; 340MW in 2024 which is projected to be close to 400 MW by the end of 2026. The normal "household" loads of lighting and appliances which occur randomly between households but importantly have no alternative energy source other than electricity are now seriously impacted by this new heating load. Equally important is that this heating load is not random, but is synchronized for all households every time the outside temperature drops which maximizes the coincident electricity peak load.

An Earlier Proposed Response to this New Electricity Supply Era.

The following text is extracted from "A Call to Action for the Natural Resources and Environmental Sustainability Standing Committee" letter that I sent to this Legislative Committee on February 10th 2025. In my letter I referenced the final section of a February 6th 2025 in-person presentation to the same Committee, provided by the lead engineers of Summerside Electricity Utility (SEU), who delivered a candid and stern warning of the precarious direction in which our Island's electricity infrastructure is heading. Building upon this warning, I summarized my assessment of the PEI electricity infrastructure issues for the Committee as:

1) The 300MW PEI/Nova Scotia/New Brunswick shared transmission limit that has existed for many years, has been accepted without any determined corrective actions taken by

either MECL or our Government. It is now proving to be a serious back-stop and electricity import limit for the rapidly increasing PEI demand.

2) Since the installation of our new undersea cables in 2016, this shared capacity limit has undermined the total undersea cables capacity of 560MW. If Nova Scotia needs 100MW from New Brunswick, then our maximum import is 200MW – far short of the recent 393MW PEI demand.
3) Our PEI Government's Energy Net Zero Policy and electrification strategy has a single focus upon customers electricity demand and has totally ignored the electricity supply sources. Where is the Supply Side strategy?
4) The current PEI Energy Strategy document dates back to 2017 and has no context related to the Energy Net Zero Policy; a renewed strategy has been promised over the last three years.
5) There is no adequate and permanent Government entity responsible for our Island's electricity infrastructure which is the most complex infrastructure portfolio of PEI
6) The recent MECL Application submitted to IRAC citing a need for adding on-Island electricity generation for a cost of $427M should be a major "wake-up" call.

I continued my letter by offering some suggestions that the Committee might consider under a "Call to Action" report to the Legislature:

1) Call a moratorium on all PEI electrification projects
2) Close all electrification incentive programs
3) For space heating there is a very real, practical partnership between fossil fuels and electricity. For any Island, fossil fuels cannot be eliminated until there is adequate electricity storage and enough Renewable Energy and a willingness/acceptance to "spill" any excess when overproducing.
4) Strike a Legislature Committee to expedite the new Energy Strategy with a focus upon increasing the Supply of electricity. Set a tone of urgency.
5) Call for an acceleration in the Skinners Pond and Wejipek wind farms – both have approved Environmental Assessments.
6) Accelerate the adoption of practical energy storage – Battery and Green Hydrogen

It was disappointing that the concerns raised or the proposed remedial actions in my letter were not referenced in the Committee's latest summary report to the Legislative Assembly in April.

Application Conclusions for the Commission's Consideration

1) This application is a clear signal and a warning statement that PEI electricity demand is exceeding supply. It also discloses that there are unprecedented, indirect forecasted costs of the PEI Government's Energy Net Zero Policy that must be reduced.
2) The current generation capacity (peak load) for PEI is irreversible and will increase alongside the thrust for more housing starts. Major PEI Government electrification policy changes are urgently required if the trend of electricity demand exceeding economic electricity supply is to be halted. Electricity Supply cannot be ignored.
3) In conjunction with the PEI Government revamping the Energy Net Zero Policy, there is a companion need for our Government to invoke radical changes in the planning and control of the PEI electricity infrastructure. The hitherto ad-hoc arrangement between our three (3) Utilities - MECL, SEU and the PEI Energy Corporation (PEIEC) - cannot and should not endure. (The long-awaited "Operations of PEI Utilities and Ways to Improve Regulatory Structure" external report commissioned by the PEI Department of Environment, Energy and Climate Change may apply here but the document has not yet been released)
4) In the Application MECL has provided justification for unprecedented capital expenditures based upon forecasts of increasing electricity demand and the declining availability of excess electricity supply in the Atlantic Region. The entire focus of the Application is upon increasing Supply with no tangible proposals for reducing Demand.
5) MECL is suggesting just one electricity supply solution – namely increasing the on-Island generation capacity, ironically using fossil fuels that the Energy Net Zero Policy is eliminating.
6) Section Eight (8) of the Application cites tangible alternative off-Island generation capacity contributions which are incomplete because in-depth information and detailed investigation of the future Atlantic Region supply situation is absent.
7) Public information is available suggesting that changes in the Atlantic Region electricity supply environment are imminent. Our future electricity supply direction has to involve decisions around PEI's participation in electricity generation and transmission in Newfoundland & Labrador, Nova Scotia and New Brunswick and the evolving regional restructuring of the different Electricity System Operations and the controlling agencies (ESOs).
8) With the PEI electricity infrastructure representing 10% of each of the other three (3) Atlantic Region provinces' infrastructure, a PEI capital investment of $427 million into the Region would drive up to $15 billion new generation and transmission capital to benefit the whole Region.
9) How can the Commission adjudicate on an unprecedented, long-term capital expenditure application based upon current PEI and Atlantic Region policies when obvious PEI Government policy corrections and future Atlantic Region strategies are neither proposed nor investigated?