



## Interrogatories of Commission Staff

**TO:** Synapse Energy Economics  
**FROM:** Cheryl Bradley  
**DATE:** May 13, 2026  
**RE:** On-Island Capacity for Security of Supply Project  
**DOCKET:** UE20742

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The Prince Edward Island Regulatory and Appeals Commission (the “Commission”) requests responses to the following interrogatories arising from the report prepared by Synapse Energy Economics entitled “*Electric System On-Island Capacity Alternatives for Prince Edward Island*” dated April 9, 2026 (the “Synapse Report”):

1. Refer to footnote 2 on page 1 of the Synapse Report. The footnote refers to some – but not all – interrogatory responses filed in this matter.
  - a. Please confirm that Synapse has reviewed all interrogatory responses from MECL and the PEI Energy Corporation with respect to this matter.

### Contingency Planning

2. Please explain the contingency or contingencies that justify additional on-Island capacity at this time (i.e. disconnection from mainland, extreme weather events, etc.).
  - a. How likely are each of these contingencies to occur?
  - b. Have these contingencies previously resulted in a service interruption or load shedding for MECL customers? If so, please explain the frequency, duration and impact of the interruption.
3. There has only been one incident of full disconnection from New Brunswick since the second set of cables were installed in 2017.<sup>1</sup> Neither MECL nor its expert, Sargent & Lundy (S&L), has performed any probabilistic analysis of the chance of partial or full disconnection of the import capacity from New Brunswick. However, MECL states that “*the probability of full and partial disconnection events occurring is low*”.<sup>2</sup>

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<sup>1</sup> Synapse Report at pages 9-10

<sup>2</sup> MECL response to Synapse IR-10 (Exhibit M-6)

- a. Is it appropriate to plan for a contingency that has a low probability of occurring?
  - b. How probable should a contingency be for capacity planning purposes?
4. In the 2024 Resource Adequacy Report prepared by New Brunswick Power,<sup>3</sup> the utility states that generation reliability criteria are governed by the loss of load expectation (LOLE) metric. As explained by NB Power, LOLE is a probabilistic calculation of the likelihood of experiencing a loss of load event based on a stochastic analysis of the likelihood that available generation capacity is not sufficient to meet the load demand. The Northeast Power Coordinating Council (NPCC) sets a benchmark of a loss of load expectation of no more than 0.1 days per year.
- a. Is the LOLE metric, and the NPCC benchmark of 0.1 days per year, relevant to MECL's application for on-Island capacity?
  - b. If not, what is the applicable metric and/or probabilistic analysis?

### Capacity Needs

5. In the Capacity Resource Study, S&L initially recommended a minimum of 85 MW of additional on-Island capacity. However, following the polar vortex in February 2023, S&L recommended that on-Island capacity be increased to 125 to 150 MW.<sup>4</sup> According to MECL, "*Polar vortexes are uncommon and resulted in an abnormally high system peak due to the extreme cold*".<sup>5</sup>
- a. Is it reasonable to rely on an "abnormally high" system peak caused by an "uncommon" event for capacity planning purposes? Please explain.
6. Historically, Maritime Electric has not used the percentage of peak load to determine the amount of generating capacity that should be installed on-Island.<sup>6</sup> Rather, the availability of surplus generating capacity on the mainland and the import capacity of the Interconnection determined the amount of generating capacity required on-Island.
- a. What is the appropriate metric to determine on-Island capacity needs (i.e. percentage of peak load, regional generating capacity, other)? Please explain.
7. Historically, MECL has used the single highest system peak load (1CP) to allocate costs in its Cost Allocation Studies. However, in its most recent 2023 Cost Allocation Study, MECL used 3CP to minimize volatility associated with the extreme weather conditions during the February 2023 polar vortex.<sup>7</sup>
- a. Please explain whether a similar approach to average the system peak should (or should not) be used for capacity planning purposes.

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<sup>3</sup> NBEUB Docket EL-002-2025, Renewables Integration and Grid Security (RIGS) Project, Appendix A to the Application (Exhibit NBP6.07)

<sup>4</sup> Addendum to the Capacity Resource Study, Appendix D to the Application (Exhibit M-1)

<sup>5</sup> Application, page 39, footnote 56 (Exhibit M-1)

<sup>6</sup> MECL response to Synapse IR-6 (Exhibit M-6)

<sup>7</sup> Commission Docket UE22503 (Rate Design), specifically Exhibit M-13

## Alternatives to On-Island Capacity

8. Historically, purchasing generating capacity from NB Power resulted in cost savings for Maritime Electric customers because off-Island capacity was more economical than building new on-Island capacity resources.<sup>8</sup>
  - a. Is adding new on-Island generating capacity the least cost option to address MECL's forecast capacity deficit?
  - b. If on-Island capacity is not the least cost option, do the reliability benefits of having generating capacity on-Island justify the expenditure? Please explain.
9. MECL states that purchasing capacity and ancillary services from NB Power is not a viable option due to a capacity shortage in the region.<sup>9</sup> Does Synapse agree? Please explain.
10. What is the current forecast capacity surplus (or deficit) for the maritime region?
11. In 2015, Maritime Electric sought Commission approval to purchase and install a 50 MW combustion turbine.<sup>10</sup> The application was withdrawn to allow MECL to focus on expanding the New Brunswick-PEI Interconnection.<sup>11</sup> Today, the NB-PEI Interconnection remains a limiting factor in transmission capacity to PEI. Although the physical capacity of the four subsea cables is 560 MW, the Interconnection capacity is limited to 300 MW.
  - a. Is improving the NB-PEI Interconnection to increase transmission capacity above 300 MW a reasonable alternative to on-Island generation? Please discuss and consider the cost, reliability, and anticipated availability of capacity in the region.
12. MECL's current Energy Purchase Agreement with NB Power expires on December 31, 2026. In its Application, MECL has assumed that NB Power will maintain its current contracted firm capacity (190 MW), but that no additional firm capacity will be available to MECL in 2027 and subsequent years. However, new capacity has been planned for the region since the Application was filed in December 2024.
  - a. In the event that MECL can secure additional firm capacity (more than 190 MW) from NB Power, is MECL's target of having 50 percent of its capacity requirements on-Island still reasonable? Please discuss.
13. Since the Application was filed in December 2024, a new 500 MW generating facility has been planned for New Brunswick. Is purchasing additional capacity from this planned facility a reasonable alternative to on-Island capacity? Please discuss.
14. In its Application, MECL states that *"As the cost to source and install these units will be relatively similar across Atlantic Canada, the cost of purchasing additional capacity from off-Island resources is expected to be comparable to the cost of building additional on-Island generating capacity resources"*.<sup>12</sup>

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<sup>8</sup> MECL response to Synapse IR-4 (Exhibit M-6)

<sup>9</sup> MECL response to Synapse IR-2 (Exhibit M-6)

<sup>10</sup> Commission Docket UE20723

<sup>11</sup> Application, page 17, footnote 16 (Exhibit M-1)

<sup>12</sup> Application, page 86 (Exhibit M-1)

- a. Does Synapse agree with this statement?
- b. Are there additional costs associated with owning a capacity asset? Please explain.
- c. Is there a financial benefit for MECL to own the asset, compared to purchasing off-Island capacity? Please explain and provide any supporting calculations.

### Optimum Capacity Resource Mix

15. According to S&L, a battery energy storage system (BESS) can be used to shift load but not to generate electricity. In the event of a disconnection from New Brunswick, are there reliability risks associated with BESS as a capacity resource compared to a CT or a RICE? Please explain and discuss specifically the impact of the state of charge and the duration of the outage.
16. Assume there is an extreme weather event, such as a polar vortex, and either the wind is not blowing or the turbines are offline. In this scenario, which on-Island capacity resource (or mix of capacity resources) is most effective/reliable?
17. Assume the PEI electrical grid is disconnected from New Brunswick for an eight-hour period, as it was in November 2018. In this scenario, which on-Island capacity resource (or mix of capacity resources) is most effective/reliable?
18. Synapse concludes that both the proposed CT project and a BESS resource alternative fully support MECL's "use case" for on-Island capacity.<sup>13</sup>
  - a. Assume that MECL will install 150 MW of additional on-Island capacity. What is Synapse's opinion on the optimum resource mix? Please discuss and explain.
  - b. Please comment on a scenario in which 100 MW of capacity is from CTs (as proposed in MECL's August 2025 Supplemental Filing) and the remaining 50 MW is from a BESS.
19. In its report, Synapse discusses how a BESS can be used to shift load and reduce winter net peaks. In this way, can a BESS be used as a resource to minimize, reduce or defer capital expenditures associated with peak demand? Please explain.

### Government Policy & Regulations

20. Since the Application was filed in December 2024, the Federal Government has introduced Clean Electricity Regulations (CER) that aim to create a net-zero electricity grid by 2050.
  - a. What impact do (or should) government policy and regulations have on new capacity resources?
  - b. In its Capacity Resource Study, S&L discusses the risk of stranded assets if Canadian regulations change the allowable fuels for electricity generation. Please

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<sup>13</sup> Synapse Report at pages ES-1, 56

explain the risk and implications of a stranded asset for both MECL and its customers.

The Commission requires responses to these interrogatories no later than 4:00 p.m. on May 29, 2026.

**Additional interrogatories may follow.**

A handwritten signature in blue ink that reads "Cheryl Bradley". The signature is written in a cursive style with a large initial "C".

Cheryl Bradley, CA, CPA  
Director of Finance & Regulatory Affairs  
Prince Edward Island Regulatory & Appeals Commission