Second set of interrogatories for MECL

Requested by Synapse Energy Economics on Behalf of the Island Regulatory and Appeals Commission

On-Island Capacity Application (UE20742)

1. **Lead Times**. On page 66 of MECL's December 2024 Supplemental Capital Budget Request, MECL states that it expects that specific BESS equipment associated with a 10 MW BESS project would have lead times of approximately one year from the time of order. It also notes that other components are expected to have an 18-month lead time. MECL also notes, in footnote 98, that longer lead times ("…could require up to three years…") may be required depending on the "final arrangement". MECL also includes, in the August 14, 2025 Supplemental Budget Request, at page 15, that "2 x generator step up transformers" appear to be required for the CT project.
    a. Please confirm or explain otherwise whether MECL continues to estimate a one-year lead time for BESS equipment for a 10 MW scale BESS facility.
    b. What is MECL's current best estimate for the lead time for BESS equipment (e.g., battery and inverter modules) for a 50 MW, 4-hour or 6-hour facility?
    c. What is MECL's current best estimate for the lead time for BESS equipment (e.g., battery and inverter modules) for a 100 MW, 4-hour or 6-hour facility?
    d. Confirm or explain otherwise that the 2x generator step up transformers listed on page 15 of the Supplemental Request are to be provided by the ProEnergy contractor.
    e. Other than the CTs that are part of the proposed project, what are the longest lead-time items associated with the overall project?
    f. If MECL considered installation of a 50 MW or 100 MW BESS facility at the Charlottetown site, would new step up transformer(s) be required? If so, what is MECL's estimate of the lead time for such equipment?
    g. If MECL's current lead time estimate for BESS equipment differs from the December 2024 estimate, please provide the updated lead time estimate, the date and source of the updated information, and a description of the factors or market developments that led to the change.
2. **Use case for the proposed project**. On page 13 of MECL's December 2024 Supplemental Capital Budget Request, MECL states that "This capacity will primarily serve as peaking and backup capacity for responding to unplanned system events, hold-to-schedule directives from NB Power and facilitating planned maintenance activities." MECL also states that the project will reduce the need for off-island capacity purchases, will

support additional renewable energy development and enhance the reliability and security of electricity supply to customers. At page 68, MECL lists "Project Justification" elements including "limit exposure to Interconnection transfer limitations or curtailments from the NB system, which is a reliability benefit for customers". In this respect:

a. Confirm or explain otherwise that the above points summarize MECL's "use case" criteria for the proposed project. If additional "use case" elements are part of the proposal, please further explain those elements.
b. Is the "limit exposure…[to] curtailments" in reference to NB firm energy, non-firm energy, or both? Please discuss.
c. Confirm or explain otherwise that NB import energy for MECL's use (firm, or non-firm) can, and is, made available to MECL in part and at different times by NB energy marketing physically delivering less energy from New Brunswick proper, while simultaneously allowing some of its share of on-island (PEI) wind capacity (i.e., West Cape wind farm) to be used to meet a portion of MECL's firm or non-firm energy request.
d. State the operational conditions under which the CTs are expected to be dispatched (e.g., peak demand periods, system contingencies).
e. What is MECL's expectation for the typical duration of continuous CT dispatch, expressed in units of hours or days (e.g., a period of hours on a peak day, operation for a full day, or for multiple days), when the proposed project CT would be operated? If MECL expects different continuous operation patterns under different contingency conditions, please include this differentiation in your response.
f. Provide any additional details concerning the magnitude, frequency and duration of either a partial or a full NB interconnection outage that MECL is planning for with the proposed project.
g. Confirm, or explain otherwise, that at this time the proposed project, on its own, would not be able to fully support MECL's winter peak load needs under a circumstance where the full interconnection capacity with New Brunswick is severed, and that loss of firm load would be expected in that circumstance.
h. Confirm, or explain otherwise, that required planning considerations would not expect MECL to have sufficient capacity to meet winter peak load day conditions under the severe event of a loss of the full interconnection capacity with NB.

3. **BESS Alternative**. At page 113 of the December 2024 Application, MECL states "A large-scale BESS to address the forecast capacity deficit during a system peak is not recommended as the system peak reduction capabilities of a BESS are limited". MECL

provides as an academic exercise Figure 29 (system peak load curve) and Table 21(BESS peak reduction capabilities) as part of the section addressing BESS as an alternative.

a. In examining large-scale BESS as an alternative to the proposed project, to what extent has MECL considered the ability of a BESS alternative to optimize the multi-hour supply of energy available from on-island wind resources and energy available from NB imports, during the full course of a winter peak day (as opposed to its ability to "reduce system peak")?
b. Please discuss which of these two "use cases" for BESS – reduce peak load, vs. optimize energy availability across on-island and off-island resources – best support the overall goals associated with on-island capacity supply.
c. Confirm that a 100 MW BESS resource at the Charlottetown plant site would meet all of the "Project Justification" bullet points listed on page 68 of the December 2024 Application. If not confirmed for any of the seven points, provide an explanation of why MECL does not think such a resource meets the criteria.
d. If MECL sees a distinction between the way in which the proposed project and a similarly-size BESS capacity alternative (at either 4 hours or 6 hours duration) would provide the benefit for any given element listed, please fully describe the nature of the distinction.

4. **Diesel fuel costs**. Please provide MECL's historical delivered diesel fuel costs for CTs on PEI for at least the past 3 years, summarized at a seasonal level (e.g., monthly) or finer granularity, and MECL's projections for delivered diesel fuel cost for the next five to ten years, as data is available.
5. **Average annual capacity factor of proposed project.**
    a. Please provide MECL's projected average annual capacity factor for the proposed combustion turbine package for each year from the expected in-service date through 2045, or through the latest year for which projections are available.
    b. If MECL has not developed such projections, please explain why MECL considers it reasonable not to have developed projections as part of the project's application process.
6. **New Wind**. Provide MECL's planned or expected wind additions by year along with the associated capital cost estimates in CAD $/kW or in $/MWh.