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Additional Interrogatories of Commission Staff

TO: Maritime Electric Company, Limited

FROM: Cheryl Bradley, Senior Financial Advisor

DATE: February 26, 2025

RE: 2025 Capital Budget Application

DOCKET: UE20741

BACKGROUND

In Order UE25-01, the Prince Edward Island Regulatory and Appeals Commission (the "Commission") approved Maritime Electric Company, Limited's ("MECL") 2025 Annual Capital Budget, with the exception of the following three capital projects:

- 6.1(d) – West Royalty Substation 13.8 kV Distribution Replacements
- 6.1(e) – Scotchfort Substation
- 6.2(c)(iii) – Y-119 Extension to Scotchfort

As stated in the Order, due to the combined capital costs of these projects, including interdependent projects, a further review of these specific capital items is required. The following additional interrogatories will assist the Commission with its review:

UPDATED FORECASTS

25. Refer to MECL's 2020 Integrated System Plan (Docket UE21227). Please update Table 5 – Energy and System Peak Forecast 2020 – 2023 and Table 12 – Detailed Maritime Electric Load and Peak Forecast to include actuals up to (and including) 2024 and updated forecasts from 2025 to 2030. Please explain (a) any variance between forecast and actuals, and (b) any change to MECL's forecasts.

26. There have been a number of recent regulatory approvals that are expected to impact MECL's load growth and peak load. These approvals include the EE&C Plan (Order UE24-02) and Advanced Metering Infrastructure (Order UE24-06). AMI technology, once implemented, will allow for innovative rate structures that can incent customers to shift load and reduce peak. Please explain the impact of these regulatory approvals on MECL's forecast future load growth and peak load.

27. Refer to MECL's 2023 General Rate Application (Docket UE20946). Please update Table 4-4 – Energy Sales to include actuals up to (and including) 2024 and updated forecasts from 2025 to 2030. Please explain (a) any variance between forecast and actuals, and (b) any change to MECL's forecasts.

WEST ROYALTY SUBSTATION 13.8 kV DISTRIBUTION REPLACEMENTS

28. MECL states that upgrades to the West Royalty Substation are justified, in part, due to load growth in the service area. Please provide the historic and forecast load growth for the West Royalty Substation from 2020 to 2030.

29. MECL states that the addition of two new 69 kV circuit breakers will decrease the probability of interruptions on the T-1, T-13 and T-15 transmission lines.

    a. Please provide particulars of all unplanned interruptions on lines T-1, T-13 and T-15 from 2020 to present.

    b. With respect to the interruptions referred to above, please provide details of any resulting customer outages, including the number of customers affected and the duration of each outage.

30. Refer to MECL's response to IR-21 of Commission Staff. MECL states that a transformer consulting service provided a diagnosis on the two units serving the 13.8 kV load in West Royalty. Please provide a complete copy of the diagnosis.

31. Refer to MECL's response to IR-21 of Commission Staff. As justification for the proposed West Royalty Substation project, MECL states that the 13.8 kV underground cables and switchgear have recently experienced failures.

    a. Please provide details of all failures experienced by the 13.8 kV underground cables and switchgear at the West Royalty substation from 2020 to present.

    b. With respect to the failures referred to above, please provide details of any resulting customer outages, including the number of customers affected and the duration of each outage.

32. Refer to MECL's response to IR-21 of Commission Staff. MECL states that "*repairing the damaged insulation on the termination required specialized expertise that was not readily available and required several months to secure*".

    a. Please provide details of all similar failures at the West Royalty Substation from 2020 to present.

    b. With respect to the incident referred to in the IR response:

        i. Please explain why expertise was not available to repair MECL's equipment.
        ii. Please provide details of the resulting customer outages (if any), including the number of customers affected and the duration of each outage.

33. Refer to MECL's response to IR-21 of Commission Staff. MECL states that the proposed upgrades to the West Royalty Substation will improve reliability.

    a. Please provide all reliability and other performance metrics available for the West Royalty Substation from 2020 to present.

    b. Assuming all of the proposed upgrades are approved, please quantify the forecast reliability improvements. Include all supporting data and assumptions.

34. The 2020 ISP anticipates replacement of the X6 transformer with a 75 MVA 138/69 kV transformer in 2026 due to transformer condition and increasing load. Will approval of the West Royalty Substation upgrades in the 2025 Capital Budget impact the timing, cost or scope of the X6 replacement? Please explain.

35. The 2020 ISP indicated it intended to undertake a detailed system study for West Royalty, its surrounding areas, and the City of Charlottetown surrounding areas in the next several years.
    a. Has MECL conducted a detailed system study as indicated in the 2020 ISP?
    b. If so, please provide a copy of the report.

36. Appendix B to the 2025 Capital Budget Application includes West Royalty Substation Upgrades in 2027 ($3,210,000) and 2028 ($3,339,000). Please provide particulars of the proposed 2027 and 2028 upgrades.

37. Assume the West Royalty Substation 13.8 kV Distribution Replacements project is approved as proposed in the 2025 Capital Budget. Once in-service:

    a. What is the rate impact of this project on customer rates? Please calculate as both a percentage and dollar figure.
    b. What is the impact of this project on rate base?
    c. What annual rate of return will MECL earn on these assets? Please calculate as both a percentage and dollar figure.

SCOTCHFORT SUBSTATION

38. The 2020 ISP indicates a 2027+ timeline for the Scotchfort Substation project. Please explain why MECL is proposing to move the project timeline up to 2025. In responding, please provide all supporting data and assumptions.

    For example, if MECL's position is that the project should be moved up due to load growth in the service area, explain changes in load growth from the 2020 ISP to present, together with the reason for any variance.

    If MECL's position is that the project will improve reliability, please provide all reliability or other performance metrics available for the Scotchfort Substation from 2020 to present, together with forecast reliability improvements.

39. In its 2024 Capital Budget Application, MECL stated (at pages 118-119) that a new Scotchfort Substation would be in the near term, but that timing would depend on other more pressing system requirements. MECL is now seeking approval to begin work on the

Scotchfort Substation in 2025. Does this mean that there are no other more pressing system requirements for MECL? Please explain.

40. Refer to the 2025 Capital Budget at section 6.1(e). MECL is proposing to combine the Scotchfort Substation and switching station into a single project due to "*construction and cost efficiencies*".

    a) Please quantify the construction and cost efficiencies of combining the substation and switching station. Provide all supporting calculations and assumptions.

    b) As recently as MECL's 2024 Capital Budget, MECL intended to proceed with the Scotchfort Substation project in 2025 and a separate Scotchfort switching station in 2026. Please explain why MECL is now proposing to combine these into a single project with a 2025 start date.

    c) Please quantify the benefits to ratepayers arising from combining the projects with a 2025 start date.

41. Refer to the 2025 Capital Budget at Section 6.1(e). MECL states that the proposed Scotchfort Substation is interdependent with several other projects, including the Scotchfort Substation transmission modifications project planned for 2027. If the new Scotchfort substation is approved in the 2025 Capital Budget, it will be completed in 2027. Please explain why MECL is proposing modifications to the substation in 2027, being the year of completion. Please include particulars of the anticipated modifications.

42. MECL states that the new Scotchfort substation will not be constructed at the site of the existing Scotchfort substation due to land size constraints.

    a. What does MECL intend to do with the site of the existing Scotchfort substation once the existing substation is retired?

    b. Please explain how the site of the existing Scotchfort substation will be used and useful once the substation is retired.

43. MECL states that the new Scotchfort substation is required as the existing substation is at the end of life.

    a. Please provide evidence that the existing Scotchfort Substation is at the end of life.

    b. What are the forecast decommissioning costs (if any) to retire the existing Scotchfort Substation? How will these costs be recovered?

    c. Is the existing Scotchfort Substation fully depreciated? If not, what is the forecast net asset balance? How will this amount be recovered?

44. As justification for the combined Scotchfort Substation and switching station, MECL states that the proposed Y-119 Extension needs to be connected to a switching station. Assume the Y-119 Extension is not approved as part of the 2025 Capital Budget. What impact will this have on the proposed Scotchfort Substation, including the scope, timing and cost of the project?

45. Assume the Scotchfort switching station is not approved as part of the 2025 Capital Budget.

    a. What impact will this have on the proposed Y-119 Extension?

    b. What modifications are required to the West Royalty Substation to accommodate Y-119?

    c. What is the forecast cost of the modifications referred to in (b) above?

46. MECL states that the new Scotchfort switching station will serve existing lines Y-104, Y-106 and Y-114. What switching station currently serves these lines?

47. MECL states that the new Scotchfort Substation will reduce the potential for significant customer outages when unplanned transmission line outages occur.

    a. Please confirm the specific transmission lines that MECL is referring to.

    b. Please provide particulars of all unplanned outages on the lines referred to in (a) above from 2020 to present.

    c. With respect to the outages referred to above, please provide details of any resulting customer outages, including the number of customers affected and the duration of each outage.

    d. Please explain how the proposed new substation would reduce customer outages caused by unplanned transmission line outages.

48. MECL states that the new Scotchfort Substation will improve system reliability in central and eastern PEI.

    a. Please provide all reliability or other performance metrics available for the existing Scotchfort Substation from 2020 to present.

    b. Assuming the new combined substation and switching station is approved, please quantify the forecast reliability improvements. Include all supporting data and assumptions.

49. In the 2020 ISP, MECL states that the Scotchfort transformer will be redeployed once the existing Scotchfort substation is retired. Please provide particulars of the redeployment, including any associated costs or costs savings.

Y-119 EXTENSION

50. In the 2020 ISP, MECL identified a need for a third 138 kV transmission line from the Interconnection at loads above 353 MW. Is this referring to a base load or peak load of 353 MW?

51. In each year from 2020 to 2024, how many times and for what duration did MECL's system experience peak loads of 353 MW or higher? Please provide particulars of each instance.

52. Between 2020 and present, how many times has MECL experienced an outage on Y-109 and/or Y-111 during peak loading?

    a. Please provide complete details, including the cause and duration of any outage, the steps taken by MECL to ensure continuity of supply, and particulars of any customer outages resulting from the loss of Y-109 or Y-111.

53. Please provide the SAIDI, SAIFI and any other performance metrics tracked by MECL for each of Y-109 and Y-111 from 2020 to present.

54. The 2020 ISP states (at pages 56-57) that a third west to east line will be required if dispatchable generation is not added in the Charlottetown area. Similarly, in the 2025 Capital Budget, MECL states that on-Island generation would deliver power locally and prevent a widespread outage due to the loss of Y-109 or Y-111.

    MECL has recently filed an application seeking approval to add 150 MW of on-Island capacity at a forecast cost of $427 million (Docket UE20742). If the additional on-Island capacity is approved, is a third 138 kV transmission line required to provide safe and reliable service? Please explain.

55. In Appendix N to the 2025 Capital Budget, MECL states that it considered the operation of existing dispatchable on-Island generation rather than construction of a new transmission line. However "*fuel costs associated with the operation of on-Island generation during transmission outages is the primary reason why this option was not selected*".

    a. Please quantify the fuel cost to run on-Island generation.

    b. Please quantify the fuel costs that MECL has incurred from 2020 to present due to outages on Y-109 and/or Y-111 during peak loading.

    c. MECL states that it has considered the operation of <u>existing</u> dispatchable on-Island generation. Has it considered the operation of <u>future</u> dispatchable on-Island generation as proposed in Docket UE20742?

    d. Please quantify the cost to run on-Island generation if MECL's application to add 150 MW of on-Island capacity is approved.

56. Is constructing and maintaining a new 138 kV transmission line a lesser cost option than relying on on-Island generation? Please provide all supporting calculations and assumptions.

57. Assume the Scotchfort Substation and Y-119 Extension are approved as proposed in the 2025 Capital Budget. Once in-service:

    a. What is the rate impact of these two projects on customer rates? Please calculate as both a percentage and dollar figure.
    b. What is the impact of these two projects on rate base?
    c. What annual rate of return will MECL earn on these assets? Please calculate as both a percentage and dollar figure.

d. What is the impact of all four interdependent projects on customer rates? Please calculate as both a percentage and dollar figure.
e. What is the impact of all four interdependent projects on rate base?
f. What annual rate of return will MECL earn on these assets? Please calculate as both a percentage and dollar figure.

Additional interrogatories may follow.

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