

All our energy.
All the time.



November 26, 2020



*Hand Del
4:06 pm
MLA*

Ms. Cheryl Mosher
Island Regulatory & Appeals Commission
PO Box 577
Charlottetown PE C1A 7L1

Dear Ms. Mosher:

**General Rate Application - Docket UE20944
Response to Interrogatories from Mr. John te Raa**

Please find attached the Company's response to Interrogatories from Mr. John te Raa with respect to Docket UE20944 – General Rate Application and the Application submitted by the Company for electric rates effective March 1, 2020 and March 1, 2021.

Yours truly,

MARITIME ELECTRIC

Gloria Crockett, CPA, CA
Manager, Regulatory & Financial Planning

GCC21
Enclosure
cc: Nicole McKenna – Carr, Stevenson & MacKay

All our energy.
All the time.



Via email: johnteraa@gmail.com

November 26, 2020

Mr. John te Raa
1848 Hardy Mill Rd – Rte 220
York PE C0A 1P0

Dear Mr. te Raa:

**General Rate Application
Doc. UE20944
Response to Interrogatories**

Please find attached the Company's response to your Interrogatories with respect to Docket #UE20944 - General Rate Application and the Application submitted by the Company for electric rates effective March 1, 2020 and March 1, 2021.

Yours truly,

MARITIME ELECTRIC

A handwritten signature in blue ink that reads "Gloria Crockett".

Gloria Crockett, CPA, CA
Manager, Regulatory & Financial Planning

GCC20
Enclosure
cc IRAC – Cheryl Mosher

**(UE20944) General Rate Application
Additional Responses to Interrogatories
from John te Raa**

Maritime Electric

The breakdown of these charges is as follows:

NB Interconnection Facilities Rental & Transmission Services		Comment
Cable Interconnection Lease Payments	\$ 3,217,538	Repayment of Provincial contribution to upgraded cable interconnection facilities (2017)
NB Power Schedule 9 Charges	1,138,914	Charges related to NB portion of upgraded interconnection facilities, per NB OATT (2017)
Other Costs Associated with Operating and Maintaining Cable Interconnections	231,596	Charges associated with operating and maintaining ("O&M") the submarine cable interconnections such as underwater diving inspections of the cables, regular electrical testing of the cables, etc.
Murray Corner O&M	190,253	Ongoing O&M charges related to original interconnection facilities between Memramcook and Murray Corner (1977)
Memramcook O&M	167,723	Ongoing O&M charges related to Memramcook substation expansion (2003)
Murray Corner Breaker Rental	183,878	Ongoing O&M charges related to expansion of Murray Corner (1990)
ECC E-tagging and Scheduling	12,075	Fees required to utilize the Open Access Technology Inc. e-tagging system website, and other Scheduling costs
IPL Transmission Charges	941,486	Charges related to Maritime Electric's 30 MW firm transmission reservation on IPL between Maine and NB
TOTAL	\$ 6,083,464	

Maritime Electric

IR-2 EPA Firm Energy Purchases in the amount of \$59,046,454.

How many MW is contracted for in this amount?

Response:

The Capacity amount associated with the Firm Energy product in the Energy Purchase Agreement (“EPA”) with New Brunswick Energy Marketing (“NBEM”) was 115 MW for the 2019 calendar year.

Maritime Electric

IR-3 EPA System Energy Purchases in the amount of \$8,724,769.

In 2019, how many MW did Maritime Electric have available to be able to purchase system energy as required? How many MW of wind generation is included in this amount?

Response:

System Energy Purchases

System Energy Purchases are comprised of Secure Energy and Assured Energy product purchases.

Maritime Electric is able to purchase up to 50 MW of the Secure Energy product which is backstopped by the 50 MW Combustion Turbine 3 located in Charlottetown, PEI.

Maritime Electric is able to purchase up to 40 MW of the Assured Energy product which is backstopped by the 40 MW Borden Generating Station (PEI) in the winter period and NBEM during the summer period. The Charlottetown Thermal Generating Station backstops the Assured Energy product after the first 90 days in both the winter and summer Periods.

Wind Generation

As wind generation is non-dispatchable, it cannot be used to backstop recallable System Energy purchases from NBEM and, therefore, 0 MW of wind generation is included in that amount under the EPA.

Maritime Electric

IR-4 In the above table the calculated Point Lepreau energy cost is 11.03 cents/kWh based on available data.

Is this the correct value for the unit cost of Lepreau energy in 2019?

Response:

The energy and capacity pricing associated with the Point Lepreau Nuclear Generating Station ("Lepreau") are part of a confidential entitlement participation agreement, however, your figure is a reasonable approximation for the Lepreau energy and capacity costs for 2019.

Maritime Electric

IR-5 Assuming that the new windfarm planned by the PEI Energy Corporation will not be available in 2021.

For the 2021 Forecast, what if any will be the impact on required MW contracted as part of the EPA Firm Energy Purchases? What is the financial cost?

Note: Reference Grant Thornton Report Date October 14, 2020

EPA - Firm Energy Purchases page 22 of 100, line 10 thru 13

We inquired of MECL the reason for the fluctuation. Per MECL, the increase in Firm Energy Purchases is due to an increase in capacity purchases from 115MW to 120MW for the 2020 calendar year as well as a delay of the new 30MW Wind Farm which was scheduled for commercial operation on September 1, 2020. The 30MW Wind Farm is now forecast to be in commercial operation as of January 1, 2021.

Response:

The 29.4 MW windfarm is scheduled to be in-service in summer 2021 (pending approval of all permits) and will increase the Effective Load Carrying Capability ("ELCC") of Maritime Electric's purchased wind generation from 21.0 MW to 24.4 MW¹, thus a net increase of 3.4 MW. This 3.4 MW increase will be delayed if the 29.4 MW windfarm is not available in 2021.

The ELCC for wind offsets the amount of short-term Planning Capacity that Maritime Electric needs to acquire, as can be seen in 'Maritime Electric Peak Load and Capacity Options' Table² below. Therefore, Planning Capacity not supplied by the 29.4 MW wind farm will have to be purchased from NBEM. Maritime Electric will incur additional capacity costs if the capacity has to be supplied by NBEM. In addition, there are also potential implications in terms of energy purchase costs depending on the duration of the delay.

The potential financial impacts of this delay are confidential as the commercial terms of Maritime Electric's Energy Purchase Agreement with NBEM and Power Purchase Agreements with the PEI Energy Corporation are confidential.

¹ The ELCC of 24.4 MW is the additional load which the system can supply with 122 MW (existing 92.5 MW + new 29.4 MW) of wind generation added to the system, while still maintaining the same level of reliability of supply.

² From Table 15 of Integrated System Plan filed with IRAC on September 30, 2020.

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Maritime Electric

Maritime Electric Peak Load and Capacity Options								
	Actual		Forecast					
	2018	2019	2020	2021	2022	2023	2024	2025
Maritime Electric capacity requirement (MW)								
- Maritime Electric peak load	243	250	267	275	283	291	299	306
- less interruptible load	15	16	14	14	14	14	14	14
- plus 15 per cent planning reserve	34	35	38	39	40	42	43	44
Total	263	269	290	300	309	319	328	336
Maritime Electric capacity sources (MW)								
- CTGS	55	48	38	38				
- Borden Plant	40	40	40	40	40	40	40	40
- Combustion Turbine 3	49	49	49	49	49	49	49	49
- Pt. Lepreau (at Murray Corner)	29	29	29	29	29	29	29	29
- Short term capacity purchases (NB)	80	100	115	120	170	180	190	195
Subtotal	253	266	271	276	288	298	308	313
Wind								
- Maritime Electric purchased wind nameplate ³	92	92	92	122	122	122	122	162
- ELCC as % of nameplate	23	23	23	20	20	20	20	16
- ELCC (MW)	21	21	21	24	24	24	24	26
Total	274	287	292	300	312	322	332	339
Percentage of Capacity from Off-Island Sources	40%	45%	49%	50%	64%	65%	66%	66%
Percentage of Capacity Purchased as Short-Term Capacity	29%	35%	39%	40%	54%	56%	57%	58%

³ Assumes 30 MW windfarm added in 2021, and an additional 40 MW added in 2025.

Maritime Electric

IR-6 For 2019 Maritime Electric calculated the Residential Space Heating load at 44 MW.

The forecasted space heating load for 2021 is 68 MW.

In 2019 the temperature at peak was minus 5.3C on Dec.16.

For 2021 the temperature at peak is assumed to be minus 9.0C.

For 2021 please provide the calculated on-peak load at assumed temperatures of minus 15 deg.C and minus 20 deg.C and state the heat pump COP used at those temperatures.

Response:

The forecasted Residential space heating load at system peak for 2021 of 68 MW is based on a load temperature coefficient of 3.5 MW/deg C.

For a temperature of minus 15 deg C, the estimated space heating load would be
 $68 \text{ MW} + (15 - 9) * 3.5 = 89 \text{ MW}$

For a temperature of minus 20 deg C, the estimated space heating load would be
 $68 \text{ MW} + (20 - 9) * 3.5 = 106.5 \text{ MW}$

The load temperature coefficient of 3.5 MW/deg C is based largely on linear regression analysis of monthly Residential kWh load against monthly heating degree days. Declining heat pump coefficient of performance ("COP") with temperature is not incorporated explicitly in the forecast model.

However, regression of hourly system load against temperature shows that the load-temperature relationship remains linear down to at least minus 20 deg C. Thus there appears to be a factor that is offsetting the electric resistance heating in all-electrical heat homes that comes on to compensate for the decline in heat pump COP with temperature. This factor is thought to be the large number of mini-split heat pumps that are installed by homeowners to offset a portion of their furnace oil usage. In these homes it is the oil furnace that provides an increasing portion of the heating load as temperature declines. The electricity drawn by the heat pump tends to flatten out at colder temperatures because the heat pump is operating at maximum capacity. In some cases the heat pump may automatically shut off below a certain design temperature.

Maritime Electric

IR-7 What is the dollar value in 2021 of the amount of additional energy and capacity purchases required at system peak at minus 15C and minus 20C relative to 2021 costs at forecasted temperature of minus 9 deg.C at peak?

Response:

These incremental energy and capacity purchases would be priced using the commercial terms of the EPA with NBEM which is a confidential document and as such cannot be provided.

**(UE20944) General Rate Application
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Maritime Electric

IR-8 The 2019 Lepreau energy costs of \$24,442,271 includes a \$1,995.576 Decommissioning Charge.

What will be the total amount paid by Maritime Electric for decommissioning when the Lepreau plant is taken out of service?

How is this money managed and invested?

Does the decommissioning charge cover any and all of Maritime Electric's obligations associated with the future decommissioning of the plant under the Participation Agreement?

Response:

1. Based on Maritime Electric's current decommissioning charge annual payment of \$1,995,576⁴, the estimated total amount paid when the Point Lepreau plant is taken out-of-service would be approximately \$54.5 million. The total future amount to be paid is, however, uncertain as the decommissioning charge is not fixed and can vary over time as a result of changes in the liability estimates or actual expenditures incurred, operating life assumptions, or discount rate assumptions.
2. NB Power has established the following funds, each held in a custodial account:

Fund	Trustee	Purpose	Funding requirement
Decommissioning segregated fund and used nuclear fuel segregated fund	Provincial Minister of Finance	To meet the license conditions for the Point Lepreau Nuclear Generating Station set by the CNSC	Determined annually based on the current obligations and market value of the funds. The amount of the contribution in the 2019/20 year was \$nil (2018/19 - \$nil)
Nuclear Fuel Waste Trust fund	BNY Mellon	To meet the Nuclear Fuel Waste Act and to meet the CNSC requirements	The Nuclear Fuel Waste Act requires NB Power to deposit to the trust fund an amount based on the approved funding formula. The amount of the contribution in the 2019/20 year was \$4 million (2018/19 - \$4 million)

The funds are managed by Vestcor Investment Management Corporation in accordance with the Statement of Investment Policy and Goals that has been established by NB Power. The primary objective is to ensure that funds are available to meet the cash flow obligations of the decommissioning and used fuel management liabilities as they occur.

⁴ Since 2013, Maritime Electric has contributed annual equalized payments based on the expected funding requirement to provide for the Company's share of the liabilities at the end of the Station's useful life, factoring in any over/under contribution as at December 31, 2012.

Maritime Electric

The investment objectives of the Funds must consider the assets, liabilities, and risk profile of NB Power. Thus, consideration must be made for long-term capital market opportunities, funding status, anticipated cash flows, and NB Power's tolerance for risk, and indirectly, the Province's tolerance for risk. The current annual decommissioning charge to Maritime Electric considers a five per cent nominal return.

3. Yes, the current charge is intended to cover any and all of Maritime Electric's obligation associated with future plant decommissioning. The charge is intended to result in Maritime Electric's obligation to be fully funded by the end of life for Point Lepreau. The calculation is updated periodically to adjust for changes in liability estimates and discount rates. An updated calculation is expected to be provided prior to NB Power's fiscal year end of March 31 2021, in order to reflect the most current estimates.