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All the time.



September 9, 2022

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

Dear Ms. Mosher:

**2022 Supplemental Budget Request  
Purchase of Transmission Assets - Bedeque, PE - Docket UE20736  
Response to Interrogatories from Commission Staff**

Please find attached the Company's response to Interrogatories from Commission Staff with respect to the Purchase of Transmission Assets – Bedeque, PE filed on July 6, 2022.

An electronic copy of this submission will be forwarded shortly.

Yours truly,

MARITIME ELECTRIC

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

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

GCC28  
Enclosure



# **INTERROGATORIES**

**Responses to Interrogatories  
of  
Commission Staff**

**2022 Supplemental Budget Request (UE20736)  
Purchase of Transmission Assets – Bedeque, PE**

**Submitted September 9, 2022**

**(UE20736) 2022 Supplemental Budget Request  
Purchase of Transmission Assets - Bedeque, PE  
from Commission Staff – August 11, 2022**

**Maritime Electric**

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**IR-1** Maritime Electric states that the transmission assets, if purchased by MECL, will be included in rate base.

- a) What is the value of the assets that will be recorded in Maritime Electric's rate base in each of 2022 to the end of the useful life of the assets?
- b) What is the return on rate base (in dollars per year) that will MECL earn on the assets during their lifetime?

**Response:**

- a. The value of the transmission assets that will be included in Maritime Electric's rate base is the net book value of the Company's total capital investment, less the future tax liability associated with deducting the investment more quickly for tax purposes as capital cost allowance, rather than the annual depreciation for accounting purposes.

Table 1 provides a summary of the annual cumulative impact on rate base over the next seven years to reflect the ongoing replacement costs related to the transmission assets, as estimated in Table 1 of Section 5.1 in the Supplemental Budget Request Application (the "Application").

<b>Table 1 Annual Rate Base Impacts 2023 to 2030</b>		
<b>Year</b>	<b>Increase in Rate Base (\$000s)</b>	<b>Increase over 2022 Forecast Year End Rate Base<sup>a</sup> (%)</b>
2023	164	0.0
2024	330	0.1
2025	318	0.1
2026	2,811	0.6
2027	7,773	1.7
2028	10,385	2.3
2029	10,362	2.3
2030	10,003	2.2

- a. 2022 forecast year end rate base was \$459,903,000 as provided in Table 6-2 of the General Rate Application (the "GRA") filed with the Commission on June 20, 2022.

As the initial investment continues to depreciate over the useful life, the amount included in rate base will continue to be reduced until their eventual replacement or decommissioning.

- b. Maritime Electric's forecast annual return on rate base includes the combined cost of debt and equity in a given year and is equivalent to the Company's weighted average cost of capital for that year. The return on rate base will fluctuate over the life of the assets as new debt is issued and if the Company's return on average common equity, as approved by the Commission, changes. Table 2 provides the Company's estimated return on rate base from 2023 to 2030 based on its current forecast return on rate base of 6.9 per cent.<sup>1</sup>

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<sup>1</sup> 2023 to 2025 forecast return on rate base was provided in Table 6-7 of the GRA.

<b>Table 2 Estimated Return on Rate Base 2023 to 2030</b>		
<b>Year</b>	<b>Increase in Rate Base (\$000s)</b>	<b>Annual Return on Rate Base (\$000s)</b>
2023	164	11
2024	330	23
2025	318	22
2026	2,811	194
2027	7,773	535
2028	10,385	715
2029	10,362	714
2030	10,003	689

The annual return in dollars will continue to reduce as the annual rate base is reduced over the life of the assets, until the assets are fully depreciated and decommissioned or replaced.

The underlying calculations, inputs and assumptions for Tables 1 and 2 are provided in electronic format.

**Maritime Electric**

**IR-2** Maritime Electric states that there was a catastrophic failure of 138 kV circuit switch CS1 in 2018. An internal inspection was conducted which identified that the equipment was approaching the end of life requiring near term replacement.

- a) What was the financial cost of the catastrophic failure in 2018 and who paid for this?
- b) Please provide a copy of the internal inspection performed in 2018.
- c) Have any of the assets been replaced since 2018? If yes, please provide full particulars, including the cost and who paid for the replacement.

**Response:**

- a. The total cost for the catastrophic failure in 2018 was \$149,125, which was invoiced to the PEI Energy Corporation and then paid through the Contingency Fund ("Fund"). A copy of the invoice to the PEI Energy Corporation is provided as IR-2 – Attachment 1.
- b. A copy of the internal inspection summary report completed in 2018, as well as the engineering consultant's report that it references, is provided as IR-2 – Attachment 2.
- c. None of the transmission assets have been replaced since 2018.

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**Maritime Electric**

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**IR-3** In addition to operating and capital costs, will there be decommissioning costs and/or depreciation expense associated with the transmission assets? If yes, please provide the forecast cost of same over the useful life of the assets.

**Response:**

As the transmission assets will be purchased for the nominal amount of one dollar, there will be no depreciation expense over the remaining useful life of the assets.

Decommissioning costs will be incurred when the transmission assets are replaced. These are estimated in Table 3 as cost of removal, along with the corresponding annual investment and depreciation amounts.

<b>Table 3 Estimated Annual Investment, Cost of Removal and Depreciation</b>			
<b>Year</b>	<b>Investment (\$000s)</b>	<b>Cost of Removal (\$000s)</b>	<b>Depreciation (\$000s)</b>
2023	142	29	2
2024	146	30	6
2025	-	-	8
2026	2,138	438	36
2027	4,322	885	121
2028	2,436	499	210
2029	286	59	246
2030	-	-	250
<b>Total</b>	<b>9,470</b>	<b>1,940</b>	<b>879</b>

**Maritime Electric**

**IR-4** Please provide a copy of the Interconnection Lease Agreement of July 2017, which was attached as Appendix “A” to the May 2, 2022 correspondence from the Provincial Government.

**Response:**

A copy of the Interconnection Lease Agreement of July 2017 is provided as IR-4 – Attachment 1.

**Maritime Electric**

**IR-5** In the General Rate Application currently before the Commission, MECL advises that the terms of the Interconnection Lease have been amended effective July 1, 2022. Please provide a copy of the amended Interconnection Lease Agreement effective July 1, 2022.

**Response:**

Amendments to the Interconnection Lease Agreement that will reflect new lease terms effective July 1, 2022 have not yet been finalized. The Commission will be provided a copy of the amended Interconnection Lease Agreement as soon as the amendments are complete and the document is signed by all parties.

**Maritime Electric**

**IR-6** According to the Application, the Contingency Fund was established to pay for capital replacements related to the interconnection.

- a) Is the Contingency Fund funded solely by MECL, or are funds contributed by other sources? Please explain.
- b) Please provide the historic capital expenses for the transmission assets for the previous 10 years.
- c) Who paid for the capital expenditures detailed in response to (b) above?
- d) Why is the Contingency Fund “*no longer the appropriate manner of financing*” capital replacement costs? (reference Application at page 7, lines 22 to 24)
- e) The Contingency Fund could be used to partially fund the required capital investment in the 138 kV transmission assets. This is consistent with the purpose of the Contingency Fund and past practice. Please explain why this is not presented as an option in this Application.

**Response:**

- a. Since July 1, 2017, the effective date of the current Interconnection Lease Agreement, Maritime Electric’s annual contribution to the Contingency Fund is collected from transmission users in accordance with provisions of Maritime Electric’s Open Access Transmission Tariff (“OATT”). The Fund is recovered from transmission users through OATT Schedule 7 (Firm Point-to-Point Transmission Service), Schedule 8 (Non-Firm Point to Point Transmission Service), and Attachment H (Network Transmission Service). Each transmission user pays for the Fund according to its relative use of the transmission system. In 2020, the transmission system usage breakdown was approximately 80.5 per cent Maritime Electric, and 19.5 per cent combined for West Cape Wind Energy and the City of Summerside.

- b. Historic capital expenses for the interconnection transmission assets for the previous 10 years are as follows:

2011	Submarine Cable Radio System Capital Replacement	\$ 438,472
2012	Cable #1 Capital Repairs	\$ 3,171,072
2018	Circuit Switch CS1 and Reactor #1 Capital Repairs	\$ 149,125

- c. The PEI Energy Corporation paid for the capital expenditures identified in the response to IR-6b through the Contingency Fund. The invoice to the PEI Energy Corporation for the radio system and cable #1 repairs is provided as IR-6 – Attachment 1, and the invoice for the circuit switch and reactor repairs is provided in the response to IR-2.
- d. The primary purpose of the Contingency Fund is to ensure that money is readily available to carry out emergency cable repairs, as was necessary on two occasions since the interconnection was established in 1977. The first emergency repair was required in 1997 when a ship’s anchor severed cable # 2, and the other was in 2012 when two hydraulic fluid leaks were discovered in cable #1. In both instances, the cost of repair fully depleted the Fund.

**Maritime Electric**

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With the exception of the capital repairs to current switch CS1 and reactor #1 in 2018, the Fund has only been used in the past for the repair, replacement or addition of other interconnection components when it had accumulated a surplus above the target balance of \$3 million. The surplus had accumulated as a result of interest-bearing growth, and only the surplus was used to cover the costs that were incurred.

The reference to “no longer the appropriate manner of financing” capital replacement costs was discussed within the context of having just used the Fund to repair current switch CS1 and reactor #1. In these discussions it was recognized that the collective replacement of the aged 138 kV overhead transmission interconnection assets for cables #1 and #2 will need to occur soon and, with the Fund not scheduled to reach its new target balance of \$5 million until 2027, further use of the Fund to complete non-emergency interconnection asset replacements would deplete it and negate its ability to serve its primary purpose.<sup>2</sup> This approach is reflected in the second paragraph of the Government Letter provided as Appendix B to the Application.

- e. The Contingency Fund is still being replenished following its full depletion in 2012, and, at the current replenishment rate of \$375,000 per year, the Fund will not reach its new target balance of \$5 million until 2027. For this reason, and because, as stated in the response to IR-6d, the primary purpose of the Fund is to ensure that money is readily available to carry out emergency cable repairs, the use of the Fund to partially finance the replacement of the transmission assets was not presented as an option.

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<sup>2</sup> The target balance of the Contingency Fund was changed from \$3 million to \$5 million in 2017, when cables #3 and #4, and the associated overhead transmission components, were added as new interconnection assets.

**Maritime Electric**

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**IR-7** MECL is currently collecting \$375,000 from transmission users, in accordance with the provisions of the Interconnection Lease Agreement, in order to increase the balance of the Contingency Fund to \$5.0 million.

- a. Are the transmission assets to be purchased by MECL included in the existing OATT rates? If not, will MECL be seeking Commission approval to further amend the OATT rates and schedules?
- b. If the Application is approved, will transmission users be required to both contribute \$375,000 to the Contingency Fund, and also pay for capital replacement costs of the transmission assets?
- c. If the assets are purchased by MECL, which portion of the forecast capital costs in each year (2022 to 2029) will be recovered from transmission users, and which portion will be recovered from distribution customers?

**Response:**

- a. The operating and maintenance costs associated with the transmission assets to be purchased by Maritime Electric are already the responsibility of the Company's OATT customers per the Interconnection Lease Agreement, and as such are included in the current OATT rates and schedules.

The future capital investments required for the replacement of the transmission assets will be recovered through the OATT as described in the response to IR-11.

- b. Yes, if the Application is approved, transmission users will be required to continue to contribute to the Contingency Fund until the \$5 million balance is reached in 2027, and also pay replacement costs that recover the associated capital investment over the life of the transmission assets, in accordance with provisions of the OATT.
- c. If the transmission assets are purchased by Maritime Electric, 100 per cent of the forecast capital costs in each year (2022 to 2029) will be recovered from the transmission users. As Maritime Electric is a transmission user under the OATT and its share of transmission costs, which is currently 80.5 per cent, is included in the Company's rate base, Maritime Electric's distribution customers will ultimately pay the Company's share of the forecast capital costs for the transmission assets.

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from Commission Staff – August 11, 2022**

**Maritime Electric**

**IR-8** Maritime Electric states that it currently maintains the transmission assets. As a result, the transfer in ownership will not change the operating expenses associated with their maintenance. Please provide the historic operating expenses for the transmission assets for the previous 10 years, as well as the forecast operating expenses for 2022 to 2029.

**Response:**

Maritime Electric's record of operating expenses for the Government-owned interconnection assets, as shown in Table 4, includes costs associated with the operation and maintenance ("O&M") of all cables and transmission assets, as well as cable financing, Contingency Fund and NB Power OATT payments. As such, the record includes the Bedeque to Murray Corner interconnection as well as the Borden-Carleton to Cape Tormentine interconnection, with the latter being included beginning in 2017 when cables #3 and #4 were put into service.

<b>Table 4 Interconnection Operating Expenses 2012 to 2021</b>					
<b>Cost Description</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
Operating and Maintenance	\$415,936	\$430,690	\$178,358	\$151,561	\$89,222
Contingency Fund, Cable Financing and NB OATT	-	-	-	-	-
<b>Total</b>	<b>\$415,936</b>	<b>\$430,690</b>	<b>\$178,358</b>	<b>\$151,561</b>	<b>\$89,222</b>

<b>Cost Description</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Total</b>
Operating and Maintenance	\$122,565	\$127,542	\$206,308	\$270,374	\$264,005	\$2,256,561
Contingency Fund, Cable Financing and NB OATT	2,681,281	4,396,865	4,411,740	4,352,302	4,721,866	20,564,054
<b>Total</b>	<b>\$2,803,846</b>	<b>\$4,524,407</b>	<b>\$4,618,048</b>	<b>\$4,622,676</b>	<b>\$4,985,871</b>	<b>\$22,820,615</b>

Specific to the O&M costs shown in Table 4, expenditures have varied each year depending upon necessary activities, with most of the costs associated with the cables. Notable issues and activities that caused variations in operation and maintenance costs between 2012 and 2021 include:

2012	Operations associated with cable #1 repairs;
2013	Murray Corner initial environmental assessment and remediation;
2014 to 2021	Murray Corner ongoing environmental remediation;
2019	Cable #1 inspection and Y-101/103 vegetation ground cutting;
2020	Cable #2 inspection and Y-101/103 vegetation maintenance; and
2021	Cable #3 inspection and cable #2 protection repairs.

As with the historical operating expenses, Maritime Electric's current (2022) and five-year (2023 to 2027) budget forecast of operating expenses for the interconnection assets does not specify separate amounts based on asset type, location or ownership.<sup>3</sup> As such, the forecast amounts shown in Table 5 are collective, for all interconnection assets, which is consistent with past practice.<sup>4</sup>

<sup>3</sup> Maritime Electric budgets on a five-year business cycle and, therefore, operating expenses for 2028 and 2029 have not yet been forecast.

<sup>4</sup> Maritime Electric has always been responsible for the O&M costs of the interconnection assets (i.e., cables and associated transmission); therefore, a change in ownership of the transmission assets does not necessitate a

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**Maritime Electric**

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<b>Table 5 Budget Forecast for Interconnection O&amp;M Costs 2022 to 2027</b>						
<b>Cost Description</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>
Operating and Maintenance	\$ 260,000	\$ 250,000	\$ 276,000	\$ 287,000	\$ 293,000	\$ 343,000 <sup>a</sup>

- a. Includes a budget allocation of approximately \$25,000 for vegetation maintenance on transmission lines Y-101 and 103, in addition to the estimated annually recurring O&M costs.

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change in how O&M costs for the interconnection assets are recorded.

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**Maritime Electric**

**IR-9** Please provide the age, end of useful life, and forecast replacement cost for each asset listed in Appendix A of the Application.

**Response:**

For the transmission assets listed in Appendix A of the Application, Table 6 provides the age, end of useful life and forecast replacement cost.

<b>Table 6 Transmission Assets Age and Replacement Estimate</b>				
<b>Maritime Electric Designation</b>	<b>Age (years)</b>	<b>Item/Equipment</b>	<b>Approximate Retirement Year</b>	<b>Indicative Replacement (Purchase) Cost<sup>a</sup></b>
Y-101	44	H Frame Transmission Line (9.74 km)	2027	\$ 210,000/km
Y-103	44	H Frame Transmission Line (9.84 km)	2028	220,000/km
162-R1	45	Reactor #1	2026	1,300,000
163-R2	41	Reactor #2	2027	1,300,000
970-CS-1	46	138 kV Circuit Switcher	2026	140,000
971-CS-2	46	138 kV Circuit Switcher	2027	140,000
952	46	138 kV Breaker	2023	104,000
954	46	138 kV Breaker	2024	104,000
512	44	138 kV Breaker Switch	2028	26,000
513	44	138 kV Grounding Switch	2029	26,000
522	44	138 kV Breaker Switch	2028	26,000
523	44	138 kV Grounding Switch	2029	26,000
562	44	138 kV Y-101 Line Isolating Switch	2028	46,000
564	15	138 kV Y-103 Line Isolating Switch	2028 <sup>b</sup>	46,000
565	44	138 kV Reactor #1 Switch	2026	26,000
566	44	138 kV Reactor #2 Switch	2027	26,000

a. Excluding transmission lines Y-101 and Y-103, the estimates are for the equipment only and are based on 2022 equipment costs.

b. Major capital repairs were completed in 2018; therefore, depending upon its condition in 2028, the replacement date may be extended.

The costs listed in Table 6 are indicative and specific to the item/equipment replacement costs. In addition, there will also be costs for civil works, additional high voltage components, panels and wiring. The estimated total of the item/equipment costs and all additional costs are provided in the Annual Capital Expenditure Forecast provided as Table 1 in the Application.

**Maritime Electric**

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**IR-10** If approved, what (if any) impact will the purchase of the transmission assets have on the OATT Schedule Update and the General Rate Application currently before the Commission, including the rates proposed therein? Please provide supporting calculations, inputs and assumptions.

**Response:**

The purchase of the transmission assets will have no impact on the OATT application that was approved by the Commission in Order UE22-04. The approved tariff is based on the 2020 Cost Allocation Study which does not include the transmission assets, as they were not owned by the Company in 2020.

The purchase of the transmission assets will also not have an impact on the GRA currently before the Commission as the initial annual investments to replace these assets over the GRA period (i.e., \$142,000 in 2023, \$146,000 in 2024 and \$0 in 2025) have been included in the capital expenditure forecast provided in Table 4-6 of the GRA. As such, any impact on revenue requirement over the GRA period has been included in the rates proposed in the GRA.

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**Maritime Electric**

**IR-11** Please provide the rate impact for both transmission and distribution customers, for 2022 to 2029, if the transfer of the transmission assets is approved. Please provide all supporting calculations, inputs and assumptions.

**Response:**

The rate impact for transmission customers if the transfer of the transmission assets is approved, will be reflected in OATT rates in 2027 based on a 2026 Cost Allocation Study ("CAS") and in 2030 based on a 2029 CAS, as estimated in Table 7.

<b>Table 7 Total Rate Impact for Services in Maritime Electric's OATT</b>						
<b>Services</b>	<b>Schedule in OATT</b>	<b>Reference</b>	<b>Approved OATT Rates (\$/MW-month) per UE22-04</b>	<b>2027 OATT Rates (\$/MW-month) Adjusted to Reflect 2026 Investments in Bedeque</b>	<b>2030 OATT Rates (\$/MW-month) Adjusted to Reflect 2029 Investments in Bedeque</b>	<b>Total (%) Change to Approved Rates</b>
Scheduling, System Control and Dispatch	1	Appendix F	96.56	96.45	96.07	-0.5
Reactive Supply and Voltage Control from Generation Sources	2	Appendix H	70.65	70.3	69.23	-2.0
Regulation (Automatic Generation Control) <sup>a</sup>	3(a)	NB OATT	8,210.57	8,210.57	8,210.57	n/a
Load Following <sup>a</sup>	3(b)	NB OATT	8,175.68	8,175.68	8,175.68	n/a
AGC and Load Following for Non-Dispatchable Wind <sup>a</sup>	3(c)	NB OATT	\$0.44/MWh	\$0.44/MWh	\$0.44/MWh	n/a
Energy Imbalance	4	Section 6.3	n/a	n/a	n/a	n/a
Operating Reserve – Spinning <sup>a</sup>	5	NB OATT	8,164.06	8,164.06	8,164.06	n/a
Operating Reserve – Supplemental (10 minute) <sup>a</sup>	6(a)	NB OATT	3,908.48	3,908.48	3,908.48	n/a
Operating Reserve – Supplemental (30 minute) <sup>a</sup>	6(b)	NB OATT	3,908.48	3,908.48	3,908.48	n/a
Point-to-Point Transmission Service	7 and 8	Appendix D	3,831.93	3,917.32	4,182.14	9.1
Non-Capital Support Charge Rate	9	Section 8.0	1.77%	1.74%	1.65%	-6.8
Residual Uplift	10	Section 6.3	n/a	n/a	n/a	n/a
Network Transmission Service	Att. H	Appendix E	3,831.93	3,917.32	4,182.14	9.1

a. Rates shown are taken directly from the NB Power OATT, effective January 1, 2019, and are provided for reference.

The rate impact for distribution customers will depend on timing of GRAs and their ultimate approval by the Commission. Table 8 is a forecast annual rate impact and annual customer cost for a benchmark residential customer and general service customer, based on the annual capital investments set out in Table 1 of the Application.

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**Maritime Electric**

<b>Table 8 Annual Rate Impact of Transmission Assets on Distribution Customer Rates and Cost</b>						
<b>Year</b>	<b>Annual Revenue (\$) Requirement A</b>	<b>80.5% to Maritime Electric Customers<sup>a</sup> B = A x 80.5%</b>	<b>Forecast Sales (kWh)<sup>b</sup> C</b>	<b>Cost per kWh D = B / C</b>	<b>Annual Cost (\$) Residential using 650 kWh per month E = D x 650 kWh x 12 mos</b>	<b>Annual Cost (\$) GS using 10,000 kWh per month F = D x 10,000 kWh x 12 mos</b>
2023	14,000	11,000	1,391,749,000	0.00001	0.08	1.20
2024	32,000	26,000	1,412,245,000	0.00002	0.16	2.40
2025	33,000	27,000	1,431,087,000	0.00002	0.16	2.40
2026	255,000	205,000	1,454,557,000	0.00014	1.09	16.80
2027	724,000	583,000	1,478,412,000	0.00039	3.04	46.80
2028	1,016,000	818,000	1,502,657,000	0.00054	4.21	64.80
2029	1,050,000	845,000	1,527,301,000	0.00055	4.29	66.00
2030	1,026,000	826,000	1,552,349,000	0.00053	4.13	63.60

- a. Based on Maritime Electric forecast average prorata share of OATT Revenue Requirement from 2022 to 2025.  
b. GRA Forecast 2023 - 2025 kWh GRA sales forecast plus 1.64 per cent average annual growth from 2026 to 2030 per load forecast.

The underlying calculations, inputs and assumptions for Tables 7 and 8 are provided in electronic format.



# INTERROGATORIES

IR-2 – Attachment 1

PO Box 1328, 180 Kent Street  
Charlottetown PE C1A 7N2  
[www.maritimeelectric.com](http://www.maritimeelectric.com)  
Toll Free 1.800.670.1012

**Bill To:**

PEI Energy Corporation  
PO Box 2000  
Charlottetown PE C1A 7N8

<b>Invoice Number</b>	INV0021468
<b>Date</b>	10/15/2019
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**MARITIME**  
**ELECTRIC**  
A FORTIS COMPANY

Interest will be charged on overdue accounts at the rate of 1.65% per month.

Please detach the bottom portion of this invoice and return with your payment to:

Maritime Electric  
PO Box 1328  
Charlottetown PE C1A 7N2

Invoice Number: INV0021468  
Amount Due: \$ 171,493.32  
Customer Number: PEIEN001  
Customer Name: PEI Energy Corporation



# INTERROGATORIES

IR-2 – Attachment 2

## 2018 Circuit Switcher Failure in Bedeque

### 2018 Circuit Switcher Failure Summary

The Circuit Switcher CS1 for Reactor 1 in Bedeque Substation failed at 10:57:48 PM on July 27<sup>th</sup>, 2018. The interrupters on Phase B and C of CS1 exploded as shown in the picture below.

The protective relay events indicated that CS1 started suspicious operations from 10:27:43 PM. The CS1 failure resulted in the 138 kV Y101/Cable 1 tripped and locked out in both Murray Corner Substation, NB and Bedeque Substation, PEI.



The two interrupters that failed on the CS1 were original equipment that came with the unit when it was new. In 2002, the third interrupter on A phase was replaced after it failed during a fault.

## 2018 Circuit Switcher Failure in Bedeque



## 2018 Circuit Switcher Failure in Bedeque

**Based on the preliminary investigation the following steps were taken.**

1. Emergency repairs of the circuit switcher CS1 were arranged with S&C's emergency stock out of Toronto and two new interrupters were received August 1, 2018
2. With these two new interrupters together with one in MECL's stock, all three units on the circuit switcher CS1 were replaced.
3. Based on the protection investigation, the Circuit Switcher CS1 showed misaligned phase operations about 7 minutes prior to the failure of the two interrupters. The weather condition, especially high humidity, could be one of the contributing factors of the failure.
4. Additional spare interrupters were ordered outside of S&C's emergency stock which decreased the price of the spare units. It was decided to order three interrupters to cover the two S&C Circuit Switchers in service at Bedeque substation.
5. A transformer/reactor engineering consultant (van Kooy Transformer Consultant Services Inc.) was contacted to review the results along with the latest fault numbers to assess the impact of the CS1 failure on the Reactor 1.



## **2018 Circuit Switcher Failure in Bedeque**

### **2018 Reactor 1 Inspection & Testing**

An oil sample was taken from Reactor 1 and the results were concerning due to the extended fault that Reactor 1 saw during the CS1 failure.

Based on the gas in the oil samples the consultant recommended that an internal inspection be completed. MECL went out for pricing for two transformer contactors for the inspection.

While the contractor was mobilizing, a second sample was taken and the results were improved but an inspection was still required based on the fault levels and duration of the event. The disparity between the two samples drawn may be due to the fact that there was a significant fault near the top of Reactor 1 and the oil had not had a chance to mix sufficiently to be carry the elevated gases to the lower tank sampling point. The oil is circulated in the tank by convection and takes time to cycle through the reactor.

It was determined that the oil would only need to be lowered to just above the core which would greatly reduce the amount of oil required to be replaced and also the transformer would not need to be degasified.

During the internal inspection at the top of the Reactor tank, no evidence of arcing or overheating were observed. However some other issues were observed:

## 2018 Circuit Switcher Failure in Bedeque

### Flaking Paint



The paint was flaking off and peeling from the corona shields between the bushings and the top end frame support structure was evident in multiple locations. Certainly, paint chips in the oil is not a good thing but this condition had no bearing on the failure. All the loose paint chips were removed and the covers were cleaned.

### Broken Fiber Rods



## 2018 Circuit Switcher Failure in Bedeque

Fibre bolts used to secure the shields were found broken leaving the corona shields to potentially slip out of position between the bushings and the top end frame support. It is believed this was long standing issue caused by internal vibration. This condition was rectified before the Reactor was returned to service with new fiber rods.

After these repairs were completed the Reactor was closed up and the unit was topped up with new oil. The old oil had to be disposed of because of a low level PCB concentration.

Once Reactor 1 was topped up a complete series of High Voltage tests were completed by MECL all of which passed.

Based on the inspection and testing of the Reactor and repaired Circuit switcher, both were returned to full service .

### **Cost for repairs.**

Cost associated with this work are as follows:

Labour	\$ 18,681.75
Transportation	\$ 8,575.00
Purchases	\$ <u>121,930.88</u>

Subtotal:	\$ <u>149,124.63</u>
HST:	\$ 22,368.69

<b>Estimated Total:</b>	<b>\$ 171,493.32</b>
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## 2018 Circuit Switcher Failure in Bedeque

### Recommendations:

In the final report the Transformer consultant (see attachment) also recommended the following for consideration.” Notwithstanding, looking at the oil test history of this Reactor, it is clear that the device is approaching end of life. The levels of Carbon Monoxide and Carbon Dioxide have been slightly to moderately elevated for some time. This is a 41 year old device and should be on the list for near future replacement. I would suggest a planned replacement in the next 2 to 3 years.”

Although the Circuit switcher was not part of the consultants report MECL would recommend the replacement of the circuit at the same time as the CS1 is 30 years old and will need to be designed for the new reactor based on current system requirements.

MECL would suggest that PEIEC uses an Electrical Consultant such as Strum Engineering or CBCL for the Reactor and Circuit Switcher specification, tender evaluation and final commissioning. MECL will work with the consultant to ensure that the reactor and associated equipment will integrate with our system properly.

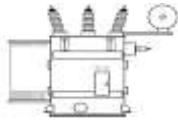
Based on this MECL has put together an estimate for PEIEC to replace the Reactor and Circuit Switcher for Cable #1 in a couple of years. The cost of the consultant is not included in the estimate below.

This estimate is based on civil works, equipment purchases and MECL completing connections and final testing review before connected to the system.

Reactor 1 (R1)	Equipment- \$1,300,000
	Civil Works- <u>\$100,000</u>
	\$1,400,000
Circuit Switcher (CS1)	Equipment- \$140,000
	Civil Works- <u>\$140,000</u>
	\$280,000

**Project Total -\$1,680,000**





**van Kooy**  
**Transformer Consulting Services Inc.**

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web site [www.vankooy.com](http://www.vankooy.com)

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Sept 17, 2018

To: Paul Cyr, Michaels Arthurs - Maritime Electric

Subject: Bedeque 30000 kVA Shunt Reactor  
GE S# 289066, Manufactured in 1977  
Report on Internal Inspection Findings

After the failure of the circuit switcher, abnormally elevated currents flowed through the shunt reactor. The Gas Detector Relay filled with free gas.

There were two oil samples taken for Dissolved Gas in Oil Analysis after the failure event. One sample, taken from the gas detector relay at the top of the reactor has extremely high levels of combustible gases, the other sample taken from a valve at the bottom of the reactor has slightly elevated levels in relation to previous sample results.

The transformer has been out of service since the circuit switcher failure.

Prudently, oil was lowered in the main tank to the top of the core and coil assembly and an internal inspection was performed.

Summary of Dissolved Gas in Oil (DGA) Data, parts per million concentration

DATE	Hydrogen	Methane	Ethylene	Ethane	Acetylene	Carbon Monoxide	Carbon Dioxide	Oxygen	Nitrogen
	H <sub>2</sub>	CH <sub>4</sub>	C <sub>2</sub> H <sub>4</sub>	C <sub>2</sub> H <sub>6</sub>	C <sub>2</sub> H <sub>2</sub>	CO	CO <sub>2</sub>	O	N
5 Oct 2016	71	9	10	3	1	693	5287	19274	67778
25 Sep 2017	97	11	13	4	1	904	6764	17015	71566
9 Apr 2018	47	9	11	3	1	639	5399	20278	65005
6 Aug 2018	95	52	63	12	1	876	7007	17239	69524
6 Aug 2018	317871	198311	14357	521	723	13054	7747	63979	274396
Internal insp.									
28 Aug 2018	66	38	48	9	1	631	5262	13391	53766
28 Aug 2018	46	34	46	9	1	527	4879	16055	55632
Threshold Norm*	100	120	50	65	3	850	3750	na	na

\*- Upper level of normal levels for a transformer of this size, age and application

The disparity between the two samples drawn on Aug 6 soon after the fault may have been explained by a significant fault near the top of the Reactor and the oil had not had a chance to mix sufficiently to be carry the elevated gases to the lower tank sampling point.

## van Kooy Transformer Consulting Services Inc.

The 2 subsequent samples, again one from the top and one from the bottom of the tank were drawn well after the fault and certainly any significant fault gases would have had the opportunity to become well dispersed in the total volume of oil. Neither of these results show significant fault gases.

What we have is one very bad DGA result that was not confirmed with subsequent testing. Although I have never seen this before, I believe the very high result can be discounted.

### Internal Inspection

During the internal inspection at the top of the Reactor tank, no evidence of arcing or overheating were observed. Certainly only a small percentage of the total entire core and coil assembly was inspected but lack of evidence for a dielectric event is a positive sign.

Some issues were observed, one which can be rectified inside the tank, but in my opinion these anomalies are long standing and not a results of the recent failure event.

### Flaking Paint



Flaked off and peeling paint on shields between the bushings and the top end frame support structure was evident in multiple locations. I expect this is an OEM paint adherence problem this has been a long standing unseen issue and not caused by the

## **van Kooy Transformer Consulting Services Inc.**

recent failure event. Certainly paint chips in the oil is not a good thing but this condition has not lead to failure.

### Broken Fibre Bolts

Fibre bolts used to secure the shields have broken leaving the shields to potentially slip out of position between the bushings and the top end frame support. I believe this to again be a long standing issue caused by internal vibration. This condition should be rectified before the Reactor is returned to service.



## van Kooy Transformer Consulting Services Inc.

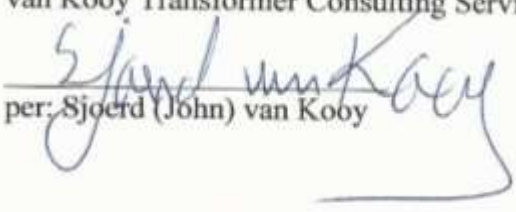
### Conclusions

If we ignore the very high DGA result from Aug 8 which inexplicably could not be validated by subsequent testing, and further based on the lack of arcing and overheating damage noted during the internal inspection, I believe the transformer is suitable for re-energization.

Repeat Capacitance and Power Factor testing of the Bushings and compare to the bushing nameplates and previous test results.

Notwithstanding, looking at the oil test history of this Reactor, it is clear that the device is approaching end of life. The levels of Carbon Monoxide and Carbon Dioxide have been slightly to moderately elevated for some time. This is a 41 year old device and should be on the list for near future replacement. I would suggest a planned replacement in the next 2 to 3 years.

Regards,

van Kooy Transformer Consulting Services Inc.  
  
per: Sjoerd (John) van Kooy



# INTERROGATORIES

IR-4 – Attachment 1

**PEI-NB INTERCONNECTION FACILITIES**

**INTERCONNECTION LEASE AGREEMENT**

**BETWEEN**

**THE PROVINCE OF PRINCE EDWARD ISLAND**

**AND**

**THE PRINCE EDWARD ISLAND ENERGY CORPORATION**

**AND**

**MARITIME ELECTRIC COMPANY, LIMITED**

**JULY 2017**

## **INTERCONNECTION LEASE AGREEMENT**

**THIS AGREEMENT** made as at the 1<sup>st</sup> day of July 2017 (the “Effective Date”),

**BETWEEN:**

**THE GOVERNMENT OF PRINCE EDWARD ISLAND**, as represented by the Minister of Transportation, Infrastructure and Energy (hereinafter referred to as the “**Province**”)

**OF THE FIRST PART**

**- AND -**

**THE PRINCE EDWARD ISLAND ENERGY CORPORATION**, a body corporate, established pursuant to section 2 of the *Energy Corporation Act*, R.S.P.E.I. 1988, Cap. E-7, as represented by its Chief Executive Officer (hereinafter referred to as the “**Energy Corporation**”)

**OF THE SECOND PART**

**- AND -**

**MARITIME ELECTRIC COMPANY, LIMITED**, a body corporate, incorporated under the Canada Business Corporations Act, R.S.C 1985, c. C-44, as represented by its President and Chief Executive Officer (hereinafter referred to as “**MECL**”)

**OF THE THIRD PART**

**WHEREAS** the Province owns a nominal 200-MW interconnection from Island Terminal #1 to Mainland Terminal #1 (hereinafter referred to as Interconnection #1);

**AND WHEREAS** the Energy Corporation owns a nominal 360-MW interconnection from Island Terminal #2 to Mainland Terminal #2 (hereinafter referred to as Interconnection #2);

**AND WHEREAS** MECL is a public utility as defined in the *Electric Power Act*, R.S.P.E.I 1988, Cap. E-4 (the “**Act**”) with a franchise to produce, transmit, distribute and furnish electric energy in Prince Edward Island;

**AND WHEREAS** the Parties wish to cooperate such that the Interconnection Facilities are operated and maintained in accordance with Good Utility Practice for the benefit of the electric power consumers of the Province of Prince Edward Island and other transmission users as the case may be;

**AND WHEREAS** the Province and MECL have an existing interconnection lease agreement for Interconnection #1, which concerns the operation and maintenance of the interconnection, among other things;

**AND WHEREAS** MECL will surrender the said lease agreement for Interconnection #1;

**AND WHEREAS** this Agreement supersedes the existing interconnection lease agreement, concerning Interconnection #1, between the Province and MECL;

**Now Therefore this Agreement Witnesseth** that the Parties to this Agreement, in consideration of the mutual covenants and agreements contained herein, hereby covenant and agree as follows:

### **Article 1 – Definitions**

**1.1** The terms defined in this Section 1.1 shall have, for all purposes of this Agreement, the following meanings:

- (i) **“Agreement”** means this instrument governing the operation and maintenance of the Interconnections as may be amended from time to time, and the expressions, “herein”, “hereto”, “hereof”, “hereby”, “hereunder” and similar expressions referred to in this instrument shall refer to the instrument hereto as so defined and not to any particular article, section, subsection or other subdivision hereof;
- (ii) **“Applicable Laws”** means all laws, statutes, bylaws, rules, directives, policies, codes, regulations, treaties, requirements, standards, orders and decrees of, or issued by, any Authority, as may be amended from time to time, that are applicable to, and that are legally binding on or in respect of, the Parties and this Agreement, and any matter or thing related to or in respect of any of them, or any other matter or thing arising under or in respect of this Agreement, including under the common law and equity, to the extent applicable;
- (iii) **“Authority”** means each and every government, governmental agency, authority, bureau or department, court, or other entity or instrumentality, as practicable, having legal jurisdiction;
- (iv) **“Capital Addition”** means any addition of facilities which consists of one or more Units of Property made upon the mutual agreement of the Owners and MECL, following the In-Service Date as may be necessary to retain and/or to increase the capacity of the Interconnection;
- (v) **“Capital Replacement”** means any addition of facilities which is made to take the place of any part of the Interconnection Facilities removed from service made upon the mutual agreement of the Owners and MECL and which consists of one or more Units of Property;

- (vi) **“Commission”** means the Prince Edward Island Regulatory and Appeals Commission as established under the *Island Regulatory and Appeals Commission Act*, R.S.P.E.I. 1988, Cap. I-11;
- (vii) **“Contingency Fund”** means a fund for Capital Replacements created from payments by MECL, established in accordance with Section 9.1;
- (viii) **“Cost of Acquisition”** means the value of the land being conveyed from MECL to the Energy Corporation as per Section 6.1, and includes the current value of the land as determined by an appraiser appointed with the mutual agreement of MECL and the Energy Corporation, commissions, legal and survey expenses incurred in connection with the lands, real property taxes paid in respect of the lands and any other charges incidental thereto;
- (ix) **“Debt”** has the meaning ascribed in the Debt Collection Agreement;
- (x) **“Debt Collection Agreement”** means the agreement between MECL, Summerside, the Province and the Energy Corporation dated July 2017 which concerns repayment of the Initial Capital Cost;
- (xi) **“External Arbitration Procedures”** shall have the meaning ascribed in Section 21.2;
- (xii) **“Force Majeure Event”** means an event beyond the reasonable control of the Party affected including the following events (to the extent beyond the reasonable control of the Party affected by the event):
  - a) an act of God or the public enemy;
  - b) restrictive governmental laws or regulations;
  - c) an order of a court or tribunal of competent jurisdiction;
  - d) freight or other embargoes, inability to obtain fuel, power, raw materials, equipment or transportation;
  - e) casualty, fire, floods, tidal waves, earthquake, storm, hurricane, tornado, winds in excess of operating limits, slides;
  - f) epidemics, quarantine restrictions;
  - g) war, declared or undeclared, acts of terrorism, revolution, riots, insurrections, hostilities, civil disturbances, blockades, explosions;
  - h) strikes, walk-outs, work stoppages, lockouts, railroad obstructions, stoppages of labour, deliberate work slowdowns, other labour difficulties other than the unavailability of labour; or
  - i) any similar cause or circumstance beyond the reasonable control of the Party affected when claiming suspension which makes impracticable the fulfillment of its obligations hereunder and which by exercise of due diligence the Party is unable to prevent or overcome, but not including any event arising from lack of funds;

- (xiii) **“Good Utility Practice”** means those project management, design, procurement, construction, operation, maintenance, repair, removal, and disposal practices, methods and acts that are engaged in by a significant portion of the electric utility industry in Canada during the relevant time period, or any other practices, methods or acts that, in the exercise of reasonable judgment in light of the facts known at the time a decision is made, could have been expected to accomplish a desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be the optimum practice, method, or act to the exclusion of others, but rather to be a spectrum of acceptable practices, methods or acts generally accepted in such electric utility industry for the project management, design, procurement, construction, operation, maintenance, repair, removal and disposal of electric utility facilities in Canada. Notwithstanding the foregoing references to the electric utility industry in Canada, in respect solely of Good Utility Practice regarding subsea alternating current transmission cables, the standards referenced shall be the internationally recognized standards for such practices, methods, and acts generally accepted with respect to subsea alternating current transmission cables. Good Utility Practice shall not be determined after the fact in light of the results achieved by the practices, methods or acts undertaken but rather shall be determined based upon the consistency of the practices, methods or acts when undertaken with the standard set forth in the first two sentences of this definition at such time;
- (xiv) **“Initial Capital Cost”** means, for purposes of this Agreement, the aggregate of all the costs of construction and commissioning of Interconnection #2 and associated parts of the NB Interconnection Transmission incurred by the Energy Corporation, net of funding received from the Government of Canada, up to the In-Service Date, including interest actually paid by the Energy Corporation from the time planning for construction began until the In-Service Date, plus any costs incurred for the construction and commissioning of Interconnection #2 and associated parts of the NB Interconnection Transmission incurred by the Energy Corporation after signing of this Agreement;
- (xv) **“In-Service Date”** means July 1, 2017;
- (xvi) **“Interconnection Abandonment”** means the abandonment of the Interconnection Facilities, where, as a result of submarine cables or other facilities being degraded, destroyed or damaged to an extent rendering repairs impractical or uneconomic, or being otherwise involuntarily removed from the possession and control of the Owners and MECL, the Owners and MECL mutually agree not to replace them;
- (xvii) **“Interconnection #1”** means all facilities, equipment, apparatus, transmission lines and structures of every kind and nature required for and used in connection with the transmission of electric power and energy from Mainland Terminal #1 to

Island Terminal #1 and existing at the In-Service Date, including but not limited to:

- (a) Two, three conductor, 138 kV submarine cables having an approximate capacity of 200 MW, cable termination stations in NB and in PEI to change the mode of transmission from submarine cable to overhead conductor and to permit switching of cable circuits and 138 kV overhead transmission lines from such stations to the Mainland Terminal #1 and Island Terminal #1 respectively;
  - (b) Transmission, switching, control and metering facilities and compensation devices which may be required to transmit power from the Mainland Terminal #1 to Island Terminal #1 and vice versa; and
  - (c) All facilities, equipment, apparatus, structures and land required for the operation of all such facilities, including electric signs, markers and other necessary warnings to navigation and located between the Mainland Terminal #1 and Island Terminal #1;
- (xviii) **“Interconnection #2”** means all facilities, equipment, apparatus, transmission lines and structures of every kind and nature required for and used in connection with the transmission of electric power and energy from Mainland Terminal #2 to Island Terminal #2 and existing at the In-Service Date including but not limited to:
- (a) two, three conductor, 138 kV submarine cable systems having an approximate capacity of 360 MW, cable termination stations in NB and in PEI to change the mode of transmission from submarine cable to overhead conductor and to permit switching of cable circuits and 138 kV overhead transmission lines from such stations to Mainland Terminal #2 and Island Terminal #2 respectively;
  - (b) Transmission, switching, control and metering facilities and compensation devices which may be required to transmit power from Mainland Terminal #2 to Island Terminal #2 and vice versa; and
  - (c) All facilities, equipment, apparatus, structures and land required for the operation of all such facilities, including electric signs, markers and other necessary warnings to navigation and located between Mainland Terminal #2 and Island Terminal #2;
- (xix) **“Interconnection Committee”** means the committee constituted under Article 8;
- (xx) **“Interconnection Facilities”** means Interconnection #1 and Interconnection #2 or parts thereof;
- (xxi) **“Island Terminal #1”** means the point at which the Interconnection Facilities transition to transmission facilities owned by MECL in Bedeque, PEI, which shall be the PEI side bushings of the line Y101 and Y103 circuit breakers as shown in Appendix A;
- (xxii) **“Island Terminal #2”** means the point at which the Interconnection Facilities transition to transmission facilities owned by MECL in Borden-Carleton, PEI,

which shall be where the overhead transmission line deadend insulator connects to the station structure, or where the underground cable pothead connects to overhead station infrastructure, as the case may be, as shown in Appendix B;

- (xxiii) “**Mainland Terminal #1**” means the point at which the cable system transitions to transmission facilities owned by NB Power in Murray Corner, NB;
- (xxiv) “**Mainland Terminal #2**” means the point at which the cable system transitions to transmission facilities owned by NB Power in Cape Tormentine, NB;
- (xxv) “**NB**” means the Province of New Brunswick;
- (xxvi) “**NB Interconnection Transmission**” means the transmission facilities in New Brunswick that are owned by NB Power and are designated as direct assignment facilities in accordance with the NB Power Open Access Transmission Tariff and by agreement between NB Power, MECL and Owners;
- (xxvii) “**NB Power**” means the New Brunswick Power Corporation;
- (xxviii) “**OATT**” means MECL’s Open Access Transmission Tariff as approved by the Commission under Section 20 of the *Electric Power Act*, R.S.P.E.I. 1988, Cap. E-4, or a successor transmission system access tariff as the case may be;
- (xxix) “**Operation and Maintenance License Agreement**” means an agreement entered into between Her Majesty The Queen in Right of Canada, Her Majesty The Queen in Right of Prince Edward Island, Her Majesty The Queen in Right of New Brunswick and The Prince Edward Island Energy Corporation and Maritime Electric Company, Limited, and entitled “Operations and Maintenance License Agreement for PEI-NB Cable Interconnection Upgrade Project”;
- (xxx) “**Owner**” or “**Owners**” means the Province and the Energy Corporation, jointly or severally;
- (xxxi) “**Party**” means either the Corporation or MECL and “**Parties**” refers to both the Corporation and MECL;
- (xxxii) “**PEI**” means the Province of Prince Edward Island;
- (xxxiii) “**Rate Base**” means the maximum valuation of assets fixed by the Commission pursuant to the *Electric Power Act* R.S.P.E.I. 1988, Cap E-4 upon which MECL may earn a percentage of return established by the Commission or another method of computing the maximum return as determined by the Commission;
- (xxxiv) “**Rent**” shall mean the Rent payable by MECL to the Owners pursuant to Article 4.0 hereof and in addition thereto an amount shall be paid to build up a Contingency Fund to cover Capital Replacements as hereinafter provided;

- (xxxv) “**Service Life**” means the period during which the Interconnection and Capital Additions and Capital Replacements thereto are, by mutual agreement of the parties hereto, capable of being operated economically to transfer electric power and energy;
- (xxxvi) “**Subsequent MECL Capital Costs**” means the aggregate cost of Capital Replacements and/or Capital Additions incurred by MECL after the In-Service Date (including interest during construction) which are paid for by MECL;
- (xxxvii) “**Summerside**” means the City of Summerside;
- (xxxviii) “**Term**” shall have the meaning ascribed in Article 3;
- (xxxix) “**Transmission Users**” means a ‘Transmission Customer’ as defined in the OATT who takes ‘Transmission Service’ as defined in the OATT;
- (xl) “**Unit of Property**” means the smallest item of property which is separately written into the Interconnection Facilities plant account.

## **Article 2 - Agreement to Lease**

- 2.1. Following the In-Service Date, the Owners will retain ownership of the Interconnection Facilities but lease and deliver administration and operational control of the Interconnection Facilities to MECL. MECL shall operate, repair and maintain the Interconnection Facilities in accordance with Good Utility Practice on behalf of the Owners at MECL’s expense throughout the Service Life.
- 2.2. The lease does not include fibre optic cables included in the construction of the submarine cable system of Interconnection #2 except to the extent necessary for the operation and monitoring of the Interconnection Facilities.
- 2.3. In the event that MECL uses only a portion of the available fibre optic cable capacity located within Interconnection #2 for the operation and monitoring of the Interconnection Facilities, and in the event that MECL requires the use of additional fibre optic capability located within Interconnection #2 for the operation and monitoring of the Interconnection Facilities whether due to damage to existing fibre optic facilities or requirement for expansion of capabilities, the Owner shall make such fibre optic capability available to MECL at no charge within the timeframe prescribed by MECL so as to continue the safe and reliable operation of the Interconnection Facilities.

## **Article 3 – Term of Agreement**

- 3.1 The term of this Agreement shall be for the duration of the Service Life. This Agreement shall commence on the In-Service Date.

#### **Article 4– Rent**

- 4.1 Rent payable hereunder shall be the sum of one (\$1.00) dollar of lawful money of Canada by MECL to the Owner payable annually on the anniversary date of this Agreement. (It being understood and agreed that the failure of MECL to pay the basic rent of \$1.00 in any year shall not entitle the Owner to terminate this Agreement unless notice of default in payment of basic rent is given in writing by the Owner to MECL and MECL has not rectified such default within 15 days of notice).
- 4.2 Should Interconnection Abandonment occur, then all Rent due to the Owner shall terminate on the date MECL commissions replacement generation in order to meet the electric power requirements of its customers and shall not resume unless the Parties mutually agree to return the Interconnection Facilities to service. Replacement generation is understood to mean adequate emergency capacity. MECL will proceed to install additional capacity as required in order to provide reserve capacity in accordance with Good Utility Practice.

#### **Article 5– Operation, Maintenance and Repairs**

- 5.1 Commencing on the In-Service Date, MECL shall operate, maintain and repair the Interconnection Facilities in accordance with Good Utility Practice.
- 5.2 MECL shall undertake such operation, maintenance and repairs of the Interconnection Facilities as required and as is consistent with MECL's repairs and maintenance of its own facilities in accordance with Good Utility Practice and in consultation with the Owners.
- 5.3 MECL shall undertake all clean up, reporting and restoration on behalf of the Owner in response to a release of any hazardous product to the environment from the Interconnection Facilities in a manner consistent with MECL's clean up, reporting and restoration for similar releases from its own facilities.
- 5.4 In the event that the Interconnection Facilities require actions to be undertaken as per Sections 5.2 and 5.3, and in the event that these actions, in MECL's opinion, have to be taken in an urgent or emergency situation and MECL attempts to consult with, and receive prior approval from, the Owners for the required actions but cannot do so in a timely manner, MECL shall respond to the urgent or emergency situation, without Owner consultation and prior approval, with operating, maintenance and repair actions in accordance with Good Utility Practice, or in a manner consistent with MECL's clean up, reporting and restoration for similar situations involving its own facilities, as the case may be.
- 5.5 MECL shall inform the Owners of actions undertaken in Section 5.4 as soon as reasonably possible.
- 5.6 MECL agrees to accept sole responsibility to submit any applications, reports, payments

or contributions for sales taxes, income tax, Canada Pension Plan, Employment Insurance, Workers' Compensation assessments, goods and services tax, harmonized sales tax, or any other similar matter which MECL may be required by law to make in connection with the operation, maintenance and repairs performed under this Agreement.

- 5.7 MECL agrees to accept sole responsibility to comply with all Applicable Laws which may have application to the operation, maintenance and repairs performed by MECL under this Agreement and without limiting the generality of the foregoing agrees to comply with all provincial and federal legislation affecting conditions of work and wage rates including the *Employment Standards Act* R.S.P.E.I., 1988 Cap. E-2, the *Workers Compensation Act* R.S.P.E.I., 1988 Cap. W-7 and similar applicable legislation in the Province of New Brunswick or any other laws that impose obligations in the nature of the employers' obligations.
- 5.8 MECL agrees that it shall operate and maintain the Interconnection Facilities in accordance with and in compliance with the Operation and Maintenance License Agreement.

#### **Article 6 – Land**

- 6.1 Land already vested in MECL which is, in the opinion of the Owners and MECL, necessary or necessarily incidental to the construction and operation of Interconnection #2, shall be conveyed to Energy Corporation at the Cost of Acquisition thereof by MECL to become part of Interconnection #2.
- 6.2 Lands in PEI which are required for the construction, operation, maintenance and use in common of both MECL owned transmission facilities and the Interconnection Facilities including any additions thereto shall remain vested in MECL.
- 6.3 MECL shall grant to the Energy Corporation rights of way across lands in PEI which are already vested in MECL and that are necessary for accessing Interconnection #2 by means of foot or vehicle.

#### **Article 7 – Summerside and MECL Rights to Interconnection Capacity**

- 7.1 The Interconnection Facilities are part of the MECL Transmission System.
- 7.2 MECL and Summerside are contributing to the Initial Capital Cost and the associated parts of the NB Interconnection Transmission as set out in the Debt Collection Agreement.
- 7.3 The Parties agree that MECL and Summerside will share the import capacity from NB to PEI of the Interconnection Facilities based on each of MECL's and Summerside's ratio of contributions towards the Debt.

- 7.4 The Parties agree that, as per the Debt Collection Agreement, Summerside's percentage of the average 12 month coincident peak demand of electrical consumption in the PEI during the years 2012 through 2016 averaged 10.1%, and consequently for the years 2017 through 2021 inclusive Summerside shall be entitled to the same 10.1% of import capacity from NB to PEI across the Interconnection Facilities, provided it duly contributes said similar percentage of the Initial Capital Cost and the associated parts of the NB Interconnection Transmission as per the Debt Collection Agreement.
- 7.5 The Parties agree that, as per the Debt Collection Agreement, MECL's percentage of the average 12 month coincident peak demand of electrical consumption in the PEI during the years 2012 through 2016 averaged 89.9%, and consequently for the years 2017 through 2021 inclusive MECL shall be entitled to the same 89.9% of import capacity from NB to PEI across the Interconnection Facilities, provided it duly contributes said similar percentage of the Initial Capital Cost and the associated parts of the NB Interconnection Transmission as per the Debt Collection Agreement.
- 7.6 The Parties agree that each of MECL's and Summerside's relative assured access to the import capacity from NB to PEI across the Interconnection Facilities may change during the Term as per the Debt Collection Agreement.

#### **Article 8 – Interconnection Committee**

- 8.1 A committee to be known as the Interconnection Committee shall be established within 30 days of the Effective Date, consisting of one representative from each of the Province, Energy Corporation, MECL, and Summerside for the following purposes:
- i) the Interconnection Committee will meet on a semi-annual basis to review the operation, maintenance and cost report prepared by MECL and to receive updates on the condition of the assets and inspection reports.
  - ii) the Interconnection Committee will provide oversight as to the operation and maintenance of the Interconnection Facilities and in particular, contemplated Capital Additions or Capital Replacements, it being recognized that the Interconnection Committee exists principally for the sharing of information regarding the Interconnection Facilities, and also recognizing that ultimate control over the Interconnection Facilities vests in the Owners as per the terms of this Agreement.
- 8.2 The Interconnection Committee is not authorized to modify or amend any terms of this Agreement. While members of the Interconnection Committee may incur expenses that result from the Interconnection Committee's activities in accordance with this Agreement, the Interconnection Committee has no authority to commit or otherwise contractually bind any of the members of the Committee to directly incur or pay any cost or expenditure.
- 8.3 Energy Corporation shall prepare the agenda for the meetings which shall include matters specified by any of the representatives on the Interconnection Committee. The agenda shall

be settled and circulated fourteen days prior to the semi-annual meetings. Special meetings of the Interconnection Committee may be called at any time by the Energy Corporation representative on the Committee or at the request of two or more of the other Committee members.

- 8.4 Matters to be included in the agenda for discussion at a meeting of the Interconnection Committee shall include but not be limited to the following:
- a) amending, adding, or cancelling schedules;
  - b) assessment of compliance with the terms of this Agreement;
  - c) preparation, documentation, retention and distribution of Interconnection Committee minutes and agendas as prepared by or on behalf of the Energy Corporation; and
  - d) discussion for the purpose of input into the development and implementation of decisions involving but not limited to the following work activities:
    - (i) development and maintenance of procedures for active power and reactive power accounting, including but not limited to methods of energy balancing;
    - (ii) approval of information and data exchange costs and scope;
    - (iii) documented points of operational data, as required by mutual agreement;
    - (iv) development and maintenance of outage scheduling and coordination procedures with respect to the reliable operation of the Interconnection Facilities;
    - (v) coordination of system tests;
    - (vi) development of system restoration and mutual assistance procedures; and
    - (vii) approval of required Capital Additions and Capital Replacements, Interconnection Abandonment, and Operation and Maintenance License Agreement.

## **Article 9 – Capital Replacements**

- 9.1 In addition to basic rent there shall be a contribution paid by MECL to an account known as the Contingency Fund, which contribution shall be collected from Transmission Users in accordance with the provisions of the OATT. The contribution shall be \$300,000 annually between March 1, 2017 and February 28, 2019. Commencing March 1, 2019 the rate shall increase to \$375,000 annually. MECL shall be required to contribute to the Contingency Fund when the Contingency Fund has a balance of less than \$5,000,000, and shall not be required to contribute to the Contingency Fund when the Contingency Fund has reached its maximum balance of \$5,000,000.
- 9.2 The Contingency Fund shall be deposited with a Canadian chartered bank in an interest bearing investment (the “Fund”) as a trust fund from which Capital Replacements will be made as follows:
- (a) Capital Replacements will be made from the Fund up to the amount of the Fund;

- (b) Capital Replacements of a cost greater than the amount in the Fund will be subject to agreement between the Owner and MECL, and if paid for by MECL will be considered to be a Subsequent MECL Capital Cost to be included in Rate Base and collected from Transmission Users in accordance with the provisions of the OATT as submitted from time to time by MECL for approval by the Commission;
  - (c) The Owner and MECL must agree to make any necessary Capital Replacement or Interconnection Abandonment will be deemed to have occurred.
- 9.3 A list of Units of Property shall be agreed to by the Parties hereto prior to the In-Service Date and shall be in accordance with Good Utility Practice.
- 9.4 Based on future experience on Capital Replacements and on escalation, the maximum of \$5 Million in the Contingency Fund may be increased or decreased by mutual agreement between the Parties and there may be a minimum established by mutual agreement which will be left in the Fund to take care of small Capital Replacements from time to time.
- 9.5 If Interconnection Abandonment occurs or at the end of the Service Life of the Interconnection Facilities, any balance remaining in the Contingency Fund shall be used for decommissioning.
- 9.6 The Contingency Fund shall be owned and controlled by the Province and payments from the Fund will be made by the Province.
- 9.7 All Capital Replacements shall be free and clear of all liens and rights of others and shall be in as good operating condition as, and shall have a value and utility at least equal to, the parts replaced assuming such replaced parts were in the condition and repair required to be maintained by the terms hereof.
- 9.8 MECL shall make annual contributions as aforesaid, in the amounts of \$300,000 or \$375,000 as the case may be, to the Fund as necessary to build the Fund to \$5 Million or replace any amount withdrawn from the Fund for the purposes for which the Fund was established.

#### **Article 10– Capital Additions**

- 10.1 Upon mutual agreement of the Owners and MECL, Capital Additions may be made to the Interconnection Facilities from time to time.
- 10.2 If such Capital Additions are agreed upon and made as herein before provided, the Owners shall have the option to:
- (a) purchase and install such Capital Additions and to lease the same to MECL on the same terms and conditions, as are applicable, as set out in this Agreement, and MECL agrees to pay the Owners on account together with Summerside either (i) under an

agreement similar to the Debt Collection Agreement, or (ii) by revising the existing Debt Collection Agreement; or

- (b) direct MECL to purchase and install such Capital Additions with the Subsequent MECL Capital Costs to be included in Rate Base and collected from Transmission Users in accordance with the provisions of the OATT as submitted from time to time by MECL for approval by the Commission.

#### **Article 11 – Benefits of Suppliers’ Guarantees**

- 11.1 If any appliances, parts, instruments, appurtenances, accessories, furnishings and other equipment of whatever nature are found to be defective while still under the supplier’s guarantee or warranty, the benefits of such supplier’s guarantee or warranty, if any, shall accrue as follows if:

- (a) such benefits are in lieu of replacement of the defective part, such benefit shall accrue to MECL who shall apply such benefit to the replacement of such defective part; or if

- (b) such benefit is due to a penalty levied against a supplier under a contract with such supplier, such benefit shall accrue to the Owners and be used for the operation, maintenance, repair or financing of the Interconnection Facilities.

#### **Article 12 - Billing and Payment**

- 12.1 The operation, maintenance and repair of the Interconnection Facilities undertaken by MECL in Sections 5.1 and 5.2 shall be performed on behalf of the Owners, and shall be at the cost of MECL.
- 12.2 The clean up, reporting and restoration of the Interconnection Facilities undertaken by MECL in Section 5.3 in response to a release of any hazardous product to the environment from the Interconnection Facilities shall be performed on behalf of the Owners, and shall be at the cost of MECL.
- 12.3 Subject to the approval of the Commission, MECL shall include the costs that it incurs for the operation, maintenance, repair, clean up, reporting and restoration of the Interconnection Facilities as per Sections 12.1 and 12.2 in its annual revenue requirement and MECL shall collect the costs from Transmission Users in accordance with the provisions of the OATT.
- 12.4 Subject to the approval of the Commission, MECL shall be entitled to include the costs it incurs for undertaking urgent or emergency actions at the Interconnection Facilities as per Section 5.4 in its annual revenue requirement. In the event the Commission does not approve all or any part of the costs incurred by MECL under this Agreement then the unapproved costs shall be considered a Capital Replacement.
- 12.5 It is the intention of the Parties that in performance of this Agreement MECL will not incur any material costs or material increase in any costs that it would not otherwise incur

for which it is not compensated under Section 12.4, other than internal costs incurred in the administration of this Agreement and in performing its obligations hereunder.

### **Article 13- Ownership**

13.1 Nothing in this Agreement is intended to create, or shall create, in favour of MECL or its successors and assigns, any legal title of any nature whatsoever in the property comprising the Interconnection Facilities.

13.2 Nothing contained herein shall be construed as creating a partnership, joint venture or association of any kind.

13.3 (a) The Parties agree that MECL shall act as an independent contractor and that it is entitled to no other benefits or payments whatsoever than those specified in this Agreement.

(b) The Parties agree that entry into this Agreement will not result in the appointment or employment of MECL, or any officer, clerk, employee or agent of MECL, as an officer, clerk, employee or agent of the Province or the PEI Energy Corporation, nor shall the *Civil Service Act*, R.S.P.E.I. 1988, Cap. C-8 apply.

### **Article 14 – Indemnification**

#### **14.1 Indemnification Obligation**

Subject to the limitations on and exclusions of liability set forth herein, each Party agrees to indemnify, hold harmless, and defend the other Party, its affiliates, and their respective officers, directors, employees, agents, contractors, subcontractors, invitees and successors (collectively the indemnitees), from and against any and all claims, liabilities, costs, damages, and expenses which may be imposed on or asserted at any time against an indemnitee by any third party (including, without limitation, reasonable attorney and expert fees, and disbursements incurred by any indemnitee in any action or proceeding) for or arising from damage to property, injury to or death of any person, including the other Party's employees or any third parties (collectively, the loss), to the extent caused wholly or in part by any act or omission, negligent or otherwise, by the indemnifying Party and/or its officers, directors, employees, agents, and subcontractors arising out of or connected with the indemnifying Party's performance or breach of this Agreement, or the exercise by the indemnifying Party of its rights hereunder; provided, however, that no indemnification by a Party is required under this section to the extent such loss is caused by or results from the negligence or willful misconduct of the other Party or its indemnitee(s). In the event that such loss is the result of the negligence of both Parties, each Party shall be liable to the other to the extent or degree of its respective negligence, as determined by mutual agreement of both Parties, or in the absence thereof, as determined by the adjudication of comparative negligence.

#### 14.2 Control of Indemnification

If any third party shall notify any indemnitee of a claim with respect to any matter which may give rise to a claim for indemnification against the other Party (the indemnifying Party) under this section, then the indemnitee shall notify the indemnifying Party thereof promptly (and in any event within ten (10) business days after receiving any written notice from a third party). The indemnifying Party's liability hereunder to the indemnitee shall be reduced to the extent the indemnifying Party is materially adversely prejudiced by the indemnitee's failure to provide timely notice hereunder. In the event any indemnifying Party notifies the indemnitee within ten (10) business days after the indemnitee has given notice of the matter that the indemnifying Party is assuming the defense thereof, (i) the indemnifying Party will defend the indemnitee against the matter with counsel of its choice reasonably satisfactory to the indemnitee, (ii) the indemnitee may retain separate co-counsel at its sole cost and expense (except that the indemnifying Party will be responsible for the fees and expenses of the separate counsel to the extent the indemnitee reasonably concludes that the counsel the indemnifying Party has selected has a conflict of interest), (iii) the indemnitee will not consent to the entry of any judgment or enter into any settlement with respect to the matter without the written consent of the indemnifying Party (which shall not be unreasonably withheld, and (iv) the indemnifying Party will not consent to the entry of any judgment with respect to the matter, or enter into any settlement which does not include a provision whereby the plaintiff or claimant in the matter releases the indemnitee from all liability with respect thereto, without the written consent of the indemnitee (which shall not be unreasonably withheld). In the event the indemnifying Party does not notify the indemnitee within ten (10) business days after the indemnitee has given notice of the matter that the indemnifying Party is assuming the defense thereof, however, the indemnitee may defend against the matter in any manner it may deem appropriate.

#### 14.3 Recovery of Enforcement Costs

Notwithstanding any other provision of this Agreement, the indemnifying party will pay all damages, settlements, expenses and costs, including costs of investigation, court costs and reasonable attorneys' fees and costs the other Party incurs in enforcing this Article 14. Each Party agrees its indemnification obligation, as detailed under this Article 14, will survive expiration or termination of the Agreement.

#### 14.4 Limitations on Indemnity

Notwithstanding the foregoing, the Parties agree that should one Party be required to indemnify the other, overall liability by one Party to the other shall not exceed two million dollars (\$2,000,000). The Parties also agree that the mutual indemnifications set out herein shall not extend to indemnification for indirect or consequential damages including loss of profit.

### **Article 15 – Insurance**

- 15.1 MECL will, without cost to the Owner, maintain or have maintained in effect through the Term, the following insurance with independent and reputable insurers that (i) are

licensed in NB and Prince Edward Island and (ii) have a rating of not less than A- from A.M. Best Company, which insurance shall be in such form and amounts and with such deductibles and subject to such exclusions as set forth below:

- (a) insurance against loss or damage to the Interconnection Facilities from such risks and in such amounts as MECL would, in the prudent management of its properties, maintain or cause to be maintained with respect to similar equipment owned by it, due consideration being given to the probability that certain risks connected with the Interconnection Facilities are uninsurable. Notwithstanding the provisions of the foregoing sentence, however, MECL may self-insure against such risks by deductible provisions or otherwise if:
  - (i) the Interconnection Facilities are self-insured to no greater extent than any similar equipment owned by MECL, and
  - (ii) in the event of loss or damage affecting the Interconnection Facilities and property owned by MECL, no more than a pro rata portion of such self-insurance would be applicable to the Interconnection Facilities.

Any insurance policies carried in accordance with this subsection (a) shall name Owner, as owner of the Interconnection Facilities, as an additional insured, and losses shall be made payable to Owner as its interest may appear provided, however, that such proceeds shall first be used by MECL to pay the costs of repair or replacement of the Interconnection Facilities.

- (b) general liability insurance, including insurance against claims for personal injury, death, property damage and/or loss arising out of the operation of the Interconnection Facilities and extended to include coverage for contractual liability, contingent employer's liability, tenant's legal liability, owners'/contractors' protective liability, products and completed operations, collapse, explosion and underground hazards, limited pollution liability including coverage for sudden and accidental events, and non-owned automobile liability, all with a minimum combined single limit of Fifty Million Canadian Dollars (CDN\$50,000,000) per occurrence. Such policy will have a deductible not greater than Two Hundred and Fifty Thousand Canadian Dollars (CDN\$250,000) per occurrence;

Any insurance policies maintained in accordance with this subsection (b) shall:

- (i) name Owner as an additional insured as owner of the Interconnection Facilities. Coverage effected under this subsection shall insure the Owner's interest regardless of any breach of or violation by MECL of any warranties, declarations or conditions contained in such policies;
- (ii) contain a waiver by the insurer or insurers of all rights of subrogation or indemnity or any other claim to which such insurer or insurers might otherwise be entitled against the Owner and/or the licensors that are party to the Operation and Maintenance Licence;
- (iii) contain a non-vitiating clause; and

- (iv) contain a cross liability and severability of interest clause;
  - (c) watercraft and/or aircraft liability insurance if any aircraft and/or watercraft will be utilized in relation to the Interconnection Facilities for a limit of not less than Ten Million Canadian Dollars (CAD\$10,000,000) per occurrence;
  - (d) on or before the In-Service Date and thereafter at intervals of not more than twelve months, MECL shall furnish Owner a Certificate of Insurance signed by the MECL's insurer or their broker confirming that the insurance then maintained by MECL complies with the terms hereof.
- 15.2 MECL shall arrange to provide the other Owner with current certificates of insurance, in a form and content reasonably acceptable to the Owner, evidencing the required insurance policies hereunder within ten (10) days of the Effective Date and on each renewal of the insurance policies thereafter, and which require that the Owner shall receive thirty (30) days written notice prior to cancellation during the term of the policy (with the exception of cancellation for non-payment of premium for which a statutory fifteen (15) days' notice may apply). Umbrella insurance may be used to achieve the required insured limits under Section 15.1 above.
- 15.3 If MECL fails to maintain the required insurance described herein, the Owner may, but has no obligation to, pay the premium therefore and obtain reimbursement from MECL. MECL's required insurance shall be primary except to the extent of claims arising from the negligence of a third party for whom MECL is responsible in law.
- 15.4 If MECL fails to maintain the insurance policies set out above, the Owner (after notice to, and failure to remedy) shall be entitled (but not obligated) to effect such insurance as it deems proper and MECL shall promptly reimburse the Owner all premiums paid by the Owner, together with any additional costs incurred by the Owner.
- 15.5 The Parties to this Agreement may, at all times during the Term, maintain in force separate and individual insurance policies, in addition to the obligations listed above, to fully protect that Party against any claims for property damage, personal injury or death which might arise out of the performance or non-performance of either Party's obligations under this Agreement for which either Party may be held liable, whether such legal obligation is based on an action in contract, tort, warranty or otherwise.
- 15.6 The policies required shall be in a form and with insurers satisfactory to the Owner. The foregoing insurance shall be primary, with the exception of Owner's negligence, and not require the sharing of any loss by any insurer of Government or any other means of indemnity such as the Prince Edward Island Self Insurance and Risk Management Fund. A certificate of insurance shall be delivered to the Owner prior to the signing of this agreement. Default of delivery or receipt by MECL shall not be construed as acknowledgment or concurrence that there has been compliance with the terms of this Agreement. The insurer shall acknowledge that the policy is primary and any other insurance policies that may be in effect or any other sources of recovery the including the

Corporation or Government of Prince Edward Island's Self Insurance and Risk Management Fund shall not contribute in any way to any judgments, awards, payments, or costs or expenses of any kind whatsoever made as a result of actual or alleged claims.

- 15.7 MECL agrees that the insurance provided herein no way limits MECL's liability pursuant to the indemnity provisions provided for in this Agreement.
- 15.8 In order to maintain the sufficient and appropriate insurance, the insurance requirements set out in this Article 15 shall be reviewed, and if necessary adjusted, by the Parties at least once every five (5) year period during the Term or earlier, if (a) there are changes in applicable regulatory requirements for insurance specifications or coverage; or (b) if acting reasonably a clear change in risk is identified by either Party.

#### **Article 16 – Regulation**

- 16.1 MECL's participation in this Agreement shall be subject to the approval of the Commission.
- 16.2 The Parties agree that this Agreement is subject at all times to review and revision by the Commission provided, however, that should any review or revision made by the Commission be material, a Party may invoke the dispute resolution procedures contained in Article 21 of this Agreement.
- 16.3 In the process of the regulation of the electric power and energy rates of MECL by the Commission, no part of the Initial Capital Cost, or Capital Addition and/or Capital Replacement costs that are paid for by the Owners, shall be included in the Rate Base as submitted from time to time by MECL for the approval of the Commission.
- 16.4 Any Subsequent MECL Capital Costs that are otherwise not collected from the Owners may be included in the Rate Base and collected from Transmission Users in accordance with the provisions of the OATT as submitted from time to time by MECL for approval by the Commission.
- 16.5 MECL shall not claim depreciation of any part of the Initial Capital Cost, or Capital Addition or Capital Replacement costs that are paid for by the Owners, as an operating expense.

#### **Article 17 – Waiver of Subrogation**

- 17.1 The Parties agree not to make any claim or take any other or further proceedings or actions against or on behalf of any person or corporation who might claim subrogation, contribution or indemnity against the other Party or any other person or under any statute or otherwise.

## **Article 18 - Termination of Agreement**

- 18.1 At any time during the Term, the Parties may terminate this Agreement by mutual consent.

## **Article 19 - Force Majeure**

### 19.1 Force Majeure Events

No Party shall be liable to another Party if performance under this Agreement is interrupted or delayed due to Force Majeure Event.

### 19.2 Notice of Force Majeure

Should either Party claim delay or interruption arising from the occurrence of an event of Force Majeure, prompt notice in writing thereof shall be given to the other Parties.

### 19.3 Reasonable Efforts

A Party, whose performance under this Agreement is hindered by an event of Force Majeure, shall make all reasonable efforts to perform its obligations under this Agreement.

## **Article 20 - Assignment of Agreement**

- 20.1 No Party shall assign or delegate its rights and obligations hereunder without the prior written consent of the other Parties; provided, however, each Party may, without consent of each other Parties (but without relieving itself from liability hereunder), either:

- (i) transfer, sell, pledge, encumber or assign this Agreement or the accounts, revenues or proceeds hereof in connection with any financing or other financial arrangements, or
- (ii) transfer or assign and delegate this Agreement to any person or entity succeeding to all or substantially all of the assets of the assigning Party;

provided, however, that in each case, any assignee (or, in the case of an assignment pursuant to (i), any purchaser of substantially all of the property of a Party from such an assignee) must prior to exercising its rights under this Agreement agree in writing to be bound by the terms and conditions hereof in the place and stead of MECL, the Province or the Energy Corporation as the case may be.

## **Article 21 - Dispute Resolution**

### 21.1 Internal Dispute Resolution Procedures

Any dispute between the Owners and MECL as to their rights under this Agreement shall be referred to a designated senior representative of the Owners and a senior representative of MECL's Agent for resolution on an informal basis as promptly as practicable. In the event the designated representatives are unable to resolve the dispute

within thirty (30) business days (or such other period as the Parties may agree upon) by mutual agreement, such dispute may be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below.

#### 21.2 External Arbitration Procedures

Any arbitration initiated under this Agreement shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) business days of the referral of the dispute to arbitration, each party shall choose one arbitrator who shall sit on a three-member arbitration panel. The two arbitrators so chosen shall within twenty (20) business days select a third arbitrator to chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any Party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall generally conduct the arbitration in accordance with the *Arbitration Act*, R.S.P.E.I. 1988, Cap. A-6 and any applicable Commission rules or regulations.

#### 21.3 Arbitration Decisions

Unless otherwise agreed, the arbitrator(s) shall render a decision within ninety (90) days of appointment and shall notify the Parties in writing of such decision and the reasons therefor. The arbitrator(s) shall be authorized only to interpret and apply the provisions of this Agreement and shall have no power to modify or change any of the above in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction.

#### 21.4 Costs

Each party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable:

- (i) the cost of the arbitrator chosen by the Party to sit on the three member panel and one half of the cost of the third arbitrator chosen; or
- (ii) one half of the cost of the single arbitrator jointly chosen by the Parties.

In the event that it is necessary to enforce such award, all costs of enforcement shall be payable and paid by the Party against whom such award is enforced.

#### 21.5 Referral of Dispute to the Commission

Notwithstanding anything contained in this Article 21, either Party may, instead of proceeding through the External Arbitration Procedures outlined in Section 21.2 above, request the Commission hear and decide the dispute by filing a complaint with the Commission pursuant to the *Electric Power Act*, R.S.P.E.I. 1988, Cap. E-4, in the manner set out below and the decision of the Commission with respect to the matter shall be final and binding and the matter in dispute cannot thereafter proceed to the dispute resolution process. Complaints filed with the Commission must be in writing and must include

reasons and evidence in support of the dissatisfied Party's position. A copy of the complaint, together with the supporting reasons and evidence, must be filed with the other Party or Parties.

The Commission may require a complainant to provide such security for the costs incurred or to be incurred by the Commission, as it considers reasonable, and such security may be forfeited to the Commission if the complaint is not substantiated.

#### 21.6 Enforcement of Arbitration Decision

The *Arbitration Act*, R.S.P.E.I. 1988, Cap. A-6 shall govern the procedures to apply in the enforcement of any award made pursuant to Section 21.3.

### **Article 22 -Representations and Warranties of the Owners**

- 22.1 The Province and the Energy Corporation represent and warrant to MECL that: (i) the Energy Corporation is a body corporate, validly existing, and in good standing under the laws of PEI; (ii) the Owners have all necessary corporate power, authority and capacity to enter into this Agreement and to carry out its obligations under this Agreement and that the execution, delivery and performance of this Agreement have been duly authorized by all necessary corporate or administrative action of the Owners; (iii) there is no claim, action, proceeding or other litigation pending or, to the knowledge of the Owners threatened, which, if adversely determined, would restrict or otherwise interfere in any material respect with the obligations of the Owners under this Agreement; (iv) this Agreement constitutes a legal, valid and binding obligation of the Owners enforceable against the Owners in accordance with its terms, subject as to enforcement limits imposed by bankruptcy, insolvency or similar laws affecting creditors' rights generally and the availability of equitable remedies.
- 22.2 The execution and delivery of this Agreement by the Owners and the performance of these obligations contained herein will not result in the breach or violation of any of the provisions of, or constitute a default under, or conflict with or cause the acceleration of any obligation of the Owners under: (i) any contract, agreement, instrument or other document to which the Province or the Energy Corporation is a party or by which it or its properties or assets are bound; (ii) the constating documents of the Energy Corporation; (iii) any judgment, decree, order or award of any government agency having jurisdiction over the Province or the PEI Energy Corporation; (iv) any license, permit, approval, consent or authorization held by or for the benefit of the Province or the Energy Corporation; or (v) any applicable law, statute, ordinance, regulation or rule.

### **Article 23 - Representations and Warranties of MECL**

- 23.1 MECL represents and warrants to the Owners that: (i) MECL is a body corporate and is validly existing and in good standing under the laws of Canada; (ii) MECL has all necessary power, authority and capacity to enter into this Agreement and to carry out its obligations under the Agreement and that the execution, delivery and performance of this Agreement have been duly authorized by all necessary action of MECL; (iii) there is no

claim, action, proceeding or other litigation pending or, to the knowledge of MECL threatened, which, if adversely determined, would restrict or otherwise interfere in any material respect with the obligations of MECL under this Agreement; (iv) this Agreement constitutes a legal, valid and binding obligation of MECL enforceable against MECL in accordance with its terms, subject as to enforcement limits imposed by bankruptcy, insolvency or similar laws affecting creditors' rights generally and the availability of equitable remedies.

- 23.2 The execution and delivery of this Agreement by MECL and the performance of its obligations contained herein will not result in the breach or violation of any of the provisions of, or constitute a default under, or conflict with or cause the acceleration of any obligation of MECL under: (i) any contract, agreement, instrument or other document to which MECL is a party or by which it or its properties or assets are bound; (ii) the constating documents of MECL; (iii) any judgment, decree, order or award of any government agency or tribunal having jurisdiction over MECL ; (iv) any license, permit, approval, consent or authorization held by or for the benefit of MECL; or (v) any applicable law, statute, ordinance, regulation or rule.

#### **Article 24 - Notice**

- 24.1 Where in this Agreement any notice, payment, request, direction, or other communication is required to be given or made by any Party to another Party, it shall be in writing and is effective if delivered in person, sent by registered mail or by facsimile addressed to the Party for whom it is intended at the address so described in this Article and any notice, request, direction or other communication shall be deemed to have been given if by registered mail, when the postal receipt is acknowledged by the other Party; or by facsimile when transmitted.

- 24.1.1 The address for notice, payment, request, direction, or other communication for MECL shall be:

Maritime Electric Company, Limited  
180 Kent Street  
P.O. Box 1328  
Charlottetown, PE C1A 7K7

Attention: Vice President, Corporate Planning & Energy Supply  
Fax: (902) 629-3665

24.1.2 The address for notice, payment, request, direction, or other communication for the Government of Prince Edward Island shall be:

Department of Transportation, Infrastructure and Energy  
11 Kent Street, 3<sup>rd</sup> Floor  
P.O. Box 2000  
Charlottetown, PE C1A 7N8

Attention: Minister  
Fax: (902) 868-5385

24.1.3 The address for notice, payment, request, direction, or other communication for the PEI Energy Corporation shall be:

The Prince Edward Island Energy Corporation  
16 Fitzroy Street  
P.O. Box 2000  
Charlottetown, PE C1A 7N8

Attention: Chief Executive Officer  
Fax: (902) 894-0290

24.2 The address of any Party may be changed by notice in accordance with the procedure described in Section 24.1.

## **Article 25 - Confidentiality and Copyright**

- 25.1 Any and all information, knowledge or data made available to either Party by the other as a result of this Agreement shall be treated as confidential information. Neither Party will directly or indirectly disclose or use this information, knowledge or data or the products that arise from the information, knowledge or data for purposes unrelated to this Agreement at any time without first obtaining the written consent of the other, unless the information, knowledge or data is generally available to the public.
- 25.2 The Parties agree that all lists, reports, information, statistics, compilations, analyses, and other data generated or collected in any way as a result of this Agreement are the exclusive property of the Owners and shall not be distributed, released, transmitted or used in any way, via any media, outside the purposes of this Agreement, by MECL, its employees, agents, servants or others for whom MECL is responsible, without the written consent of the Owners.
- 25.3 The Parties acknowledge that they may wish to make public announcements about the existence of certain parts of this Agreement. If MECL is the Party advocating publicity through any medium, MECL will provide the Owners with the date and time of any proposed release of information, as well as a copy of such information proposed to be

released, for review and assessment by the Owners, at least ten (10) days prior to the scheduled public release. All promotional materials and arrangements for public release related to this Agreement must be approved by the Owners prior to any public release.

#### **Article 26 – Freedom of Information and Protection of Privacy Act**

- 26.1 The Parties acknowledge that this Agreement, and any information pursuant to it, may be subject to release under the *Freedom of Information and Protection of Privacy Act*, R.S.P.E.I. 1988, Cap. F – 15.01, (the “Act”). MECL shall be contacted prior to the release of information in regards to this Agreement that may be required under the Act.
- 26.2 MECL acknowledges and agrees that, in the event this Agreement involves the collection or use of personal information, it is subject to the *Freedom of Information and Protection of Privacy Act*, and that personal information may not be released to any third party or unauthorized individual.

#### **Article 27 - General**

##### **27.1 Headings**

The division of this Agreement into articles and sections and the insertion of headings are for convenience of reference only and shall not affect the construction or interpretation of the Agreement.

##### **27.2 Extended Meanings**

In this Agreement words importing the singular number only shall include the plural and *vice versa*, words importing the masculine gender shall include the feminine and neuter genders and *vice versa* and words importing persons shall include individuals, partnerships, associations, trusts, unincorporated organizations and corporations.

##### **27.3 Applicable Laws**

This Agreement shall be generally governed and interpreted in accordance with the laws in force in PEI and to the extent necessary the laws of NB and the laws of Canada applicable therein.

##### **27.4 Survival of Agreement**

This Agreement shall enure to the benefit of and be binding on the Parties and their respective successors and permitted assigns.

##### **27.5 Audit**

27.5.1 The Owners or their authorized representatives shall have the right at all reasonable times to audit, inspect, take extracts from, and make copies of records of MECL, on a confidential basis, relating to costs incurred by MECL.

27.5.2 MECL shall provide to the Owners such facilities as required for audit and inspection and shall furnish the authorized representatives of the Owners with

such information as the Owners from time to time, acting reasonably, may require with reference to the documents and information referred to in Section 27.5.1.

27.5.3 MECL shall not dispose of the documents referred to in Section 27.5.1 herein without the written consent of the Owners, but shall preserve and keep them available for audit and inspection for a period of five (5) years following the date of each document.

## 27.6 Restructuring

27.6.1 In the event that, pursuant to any provincial, federal legislation or corporate reorganization, the current corporate structure or the function of MECL as a vertically integrated utility is dissolved or restructured or changed in such a manner that MECL, or any successor entity, does not have the power and authority, statutory or otherwise to perform the obligations set forth in this Agreement (a "Restructuring"), this Agreement shall terminate coincident with the effective date of the Restructuring, provided MECL, upon Restructuring, uses all reasonable efforts, in good faith, to first secure the necessary power and authority, statutory or otherwise, to perform its obligations set forth in this Agreement, but is unable, due to circumstances beyond its control, to secure such power and authority.

27.6.2 If a Restructuring occurs and the provisions of the legislation authorizing the Restructuring, or the provisions of any legislation, provide that the entity which is given, or undertakes, or assumes, in the Restructuring, the obligations of entering into energy purchase agreements shall be bound by the terms of this Agreement, this Agreement shall not terminate and such entity shall be bound by the terms of this Agreement from and after the date of the Restructuring to the same extent and in the manner as if it had been an original party to this Agreement in the place and stead of the original MECL.

## 27.7 Waiver

No delay or omission by the Parties in exercising any right or remedy provided for herein shall constitute a waiver of such right or remedy nor shall it be construed as a bar to or waiver of any such right or remedy on any future occasion.

## 27.8 Right of Waiver

Each Party, in its sole discretion, shall have the right, but shall have no obligation, to waive, defer or reduce any of the requirements to which any other Party is subject under this Agreement at any time; provided, however, that no Party shall be deemed to have waived, deferred or reduced any such requirements unless such action is in writing and signed by the waiving party. A Party's exercise of any rights hereunder shall apply only to such requirements and on such occasions as such Party may specify and shall in no event relieve the other Party of any requirements or other obligations not so specified.

27.9 Amendments

This Agreement may be modified or amended only by an instrument in writing signed by the Parties.

27.10 Counterparts

This Agreement may be executed by the Parties in one or more counterparts, all of which taken together, shall constitute one and the same instrument. The facsimile signatures of the Parties shall be deemed to constitute original signatures, and facsimile copies hereof shall be deemed to constitute duplicate originals.

27.11 Severability

The invalidity of one or more phrases, sentences, clauses, sections or articles contained in this Agreement shall not affect the validity of the remaining portions of this Agreement so long as the material purposes of this Agreement can be determined and effectuated.

27.12 Joint Effort

Preparation of this Agreement has been a joint effort of the Parties and the resulting document shall not be construed more severely against one of the Parties than against the other. Any rule of construction that ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement, or any amendments or exhibits hereto.

27.13 Recitals

The Recitals form part of this Agreement and shall have effect as if set out in full in the body of the Agreement and accordingly any reference to this Agreement includes the Recitals.

27.14 Effectiveness

This Agreement shall be effective on, and shall be binding upon, the Parties upon the full execution and delivery of this Agreement, as of the Effective Date.

27.15 Further Assurances

The Parties agree that each of them shall, upon reasonable request of the other, do or cause to be done all further lawful acts, deeds and assurances whatever for the better performance of the terms and conditions of this Agreement.

27.16 Survival

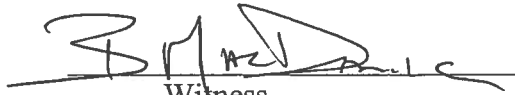
The provisions of this Agreement which, by their terms, are intended to survive or which must survive in order to give effect to continuing obligations of the Parties, shall survive the termination or expiry of this Agreement.

27.17 Time

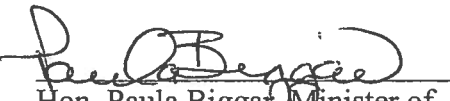
Time is of the essence of this Agreement and all the provisions thereof.

[THE REMAINDER OF THIS PAGE LEFT INTENTIONALLY BLANK]

IN WITNESS WHEREOF the Parties have executed this Agreement on the day and year first above written.

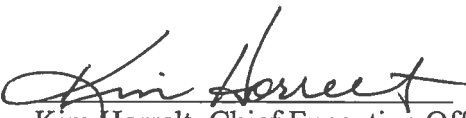
  
Witness

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**Government of Prince Edward Island**

Per:   
Hon. Paula Biggar, Minister of  
Transportation, Infrastructure and Energy

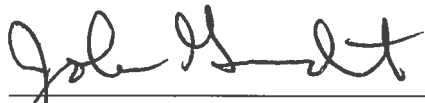
  
Witness

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**Prince Edward Island Energy Corporation**

Per:   
Kim Horreht, Chief Executive Officer

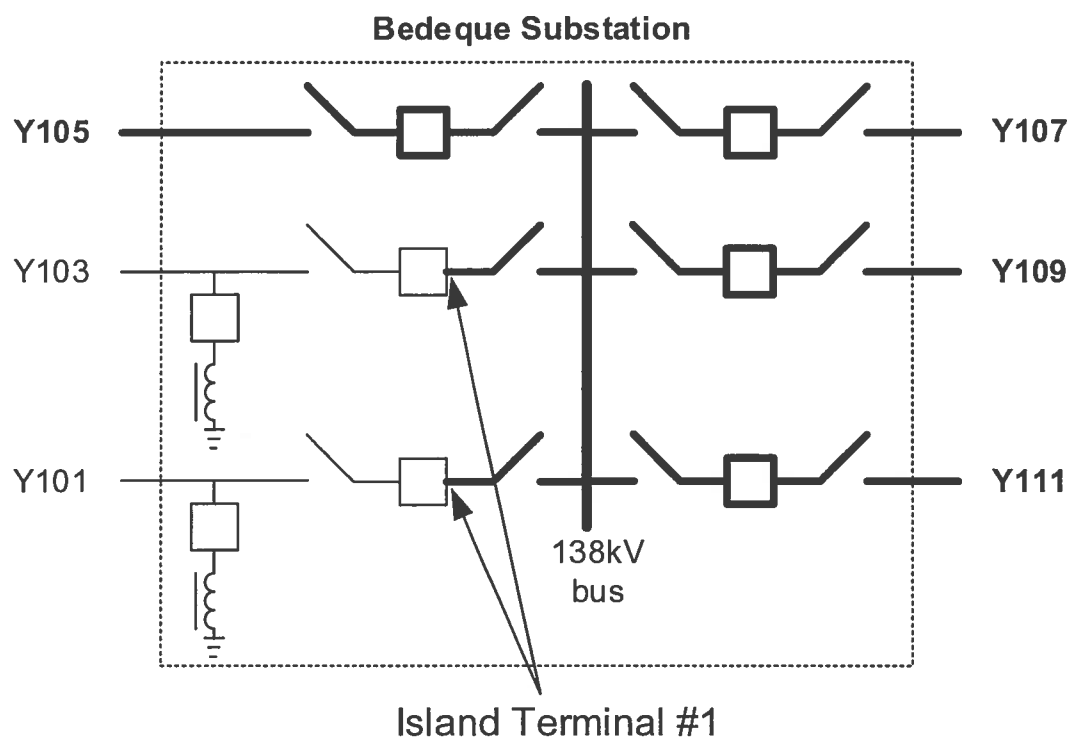
  
Witness

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**Maritime Electric Company, Limited**

Per:   
John Gaudet,  
President and Chief Executive Officer

## Appendix "A"

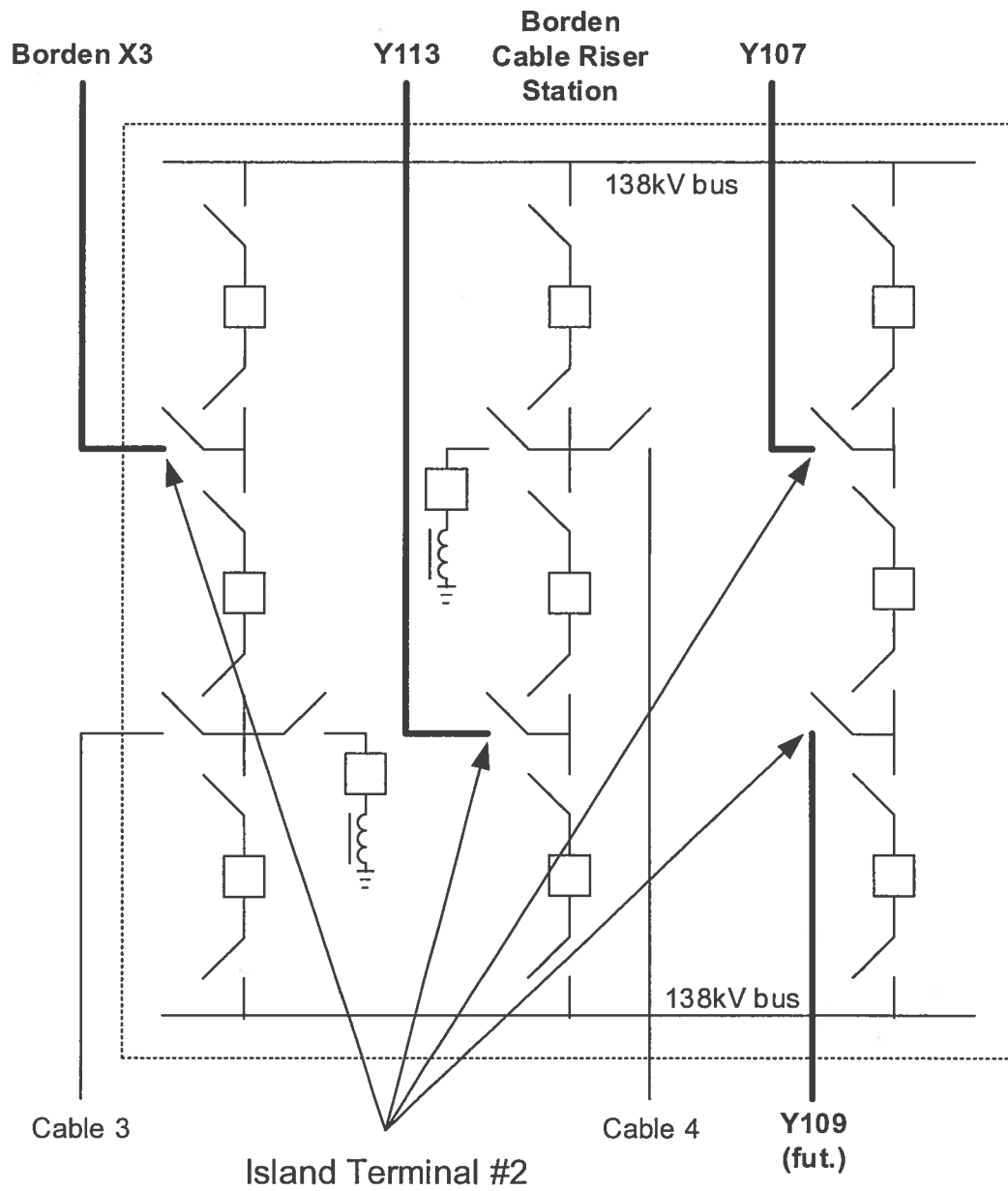
### *Island Terminal #1*



MECL-owned facilities illustrated in BOLD LINE  
Owner-owned facilities illustrated in THIN LINE

## Appendix "B"

### Island Terminal #2



MECL-owned facilities illustrated in BOLD LINE  
 Owner-owned facilities illustrated in THIN LINE



# INTERROGATORIES

IR-6 – Attachment 1

**Bill To:**

<b>Invoice Number</b>	INV0020173
<b>Date</b>	03/31/2013
<b>Page</b>	1



**MARITIME**  
**ELECTRIC**  
A FORTIS COMPANY

Please detach the bottom portion of this invoice and return with your payment to:

Invoice Number: INV0020173  
Amount Due: \$ 3,790,021.55  
Customer Number: PEIEN001  
Customer Name: PEI Energy Corporation