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Interrogatories of Commission Expert

TO: Maritime Electric Company, Limited

FROM: Multeese Consulting Inc.

DATE: January 4, 2019

RE: General Rate Application

Docket: UE20944

IR's 1- 14 are General Questions

Request IR-1:

Please describe how system planning, including both supply and delivery of electricity, is conducted for PEI.

- a) Who has primary responsibility for the planning?
- b) What is the role of each on-island utility with respect to system planning?
- c) What is the role of government (as represented by the PEI Energy Corporation) with respect to system planning?
- d) What role, if any, does NB Power play with respect to system planning?
- e) What software is used in the generation planning process?

Request IR-2:

When did PEI last need to add new supply in order to reliably serve its load, and what new supply (either new generation or new purchase agreement) was added? Please provide any supporting studies which provide the basis on which the new supply determined to be the best solution.

Request IR-3:

With respect to reliability:

- a) What are the planning criteria for PEI in terms of required reserve margin, Loss of Load Probability or Loss of Energy Expectation, and on what basis were they determined?
- b) Are the reliability criteria established for PEI as a stand-alone area, or as part of the NB system?
- c) When were the most recent reliability studies done for PEI?

- d) If the most recent reliability study was done within the last five years, please provide a copy of the study.

Request IR-4:

With respect to system operations:

- a) Who has primary responsibility for the operation of the PEI system on a daily basis?
- b) Please describe the basis on which PEI's supply resources (generation or purchases) are dispatched on a daily basis?
- c) How are system operations co-ordinated with NB Power?
- d) What software is used for system dispatch?

Request IR-5:

Please describe each generating unit on PEI, by supplying for each unit the following information:

- a) Who owns the unit?
- b) When was the unit built?
- c) Please provide details of any major refurbishments of the unit since it was built, including the dates and costs of such refurbishments.
- d) What type of unit is it (steam, combustion turbine, wind, etc.)?
- e) What is the nameplate capacity of the unit?
- f) If the unit uses a fuel, please specify the fuel used.
- g) If the unit uses a fuel, what is the annual average heat rate of the unit?
- h) What is the firm capacity of the unit used for capacity planning purposes?
- i) What was the average annual capacity factor of the unit over each of the last five years?

Request IR-6:

Please describe each of MECL's purchased power agreements:

- a) Who is the supplier?
- b) On what basis are the quantities of energy to be delivered determined?
- c) What are the energy prices associated with this agreement and on what basis are the prices of energy to be delivered determined?
- d) If the agreement includes the purchase of capacity, what is the specified capacity, and what percentage of it is firm capacity?
- e) What are the capacity prices associated with this agreement and on what basis are they determined?
- f) What economic, operational or other constraints are there on the delivery of either the capacity or energy?
- g) What is the term of the agreement?
- h) Please identify any third party to the agreement and the role of the third party?

Request IR-7:

With respect to Lepreau participation agreement:

- a) Does the portion of Lepreau devoted to PEI belong to MECL? If not, who owns it, and under what terms and conditions is it provided to MECL?
- b) What is the delivery point for the power and energy delivered under the agreement?
- c) If the delivery point is at the Lepreau generating station, at what interconnection point is it delivered to the PEI transmission system, and under what conditions and tariffs is it delivered to the PEI transmission system?

- d) What capacity and annual energy is provided at the delivery point?
- e) If the delivery point is not at the interconnection of the NB Power and PEI transmission systems, what demand and energy losses are incurred to get it to that point?

Request IR-8:

Regarding the PEI underwater cable interconnection with NB Power:

- a) When was this interconnection first made?
- b) Why was the interconnection made?
- c) How many cables ran between PEI and NB when the interconnection was first made?
- d) At what voltage did the cables operate?
- e) What was the capacity of the first interconnection?
- f) What was the cost of the first interconnection?
- g) What parties provided funding for the first interconnection, and how much was contributed by each party?
- h) Please provide a copy of any studies which supported the interconnection as the best option for PEI.
- i) What is the current status of the initial interconnection? Has it been retired?
- j) What was the cost of the second interconnection in 2017, what parties provided funding for the project, and how much was contributed by each party?
- k) How many cables are currently in service between PEI and NB?
- l) At what voltage do the cables operate?
- m) What is the current capacity of the interconnection?
- n) Who owns the interconnection? If it is not owned by MECL, please provide terms and conditions under which MECL uses it, including the annual cost to MECL and the basis on which those costs are determined.
- o) If MECL does not own the interconnection, please provide a copy of the contract between MECL and the interconnection owner, under which MECL uses the interconnection.
- p) How are interconnection costs included in OATT? If they are not included, please explain why not.

Request IR-9:

Please explain the basis on which the most recent upgrade of the interconnection with NB determined to be the most attractive supply option, and provide any supporting planning studies.

Request IR-10:

Please describe MECL's transmission system:

- a) Does it include the interconnection with NB? If not, please explain why not.
- b) At what voltages does the MECL transmission system operate?
- c) What is the minimum voltage considered to be transmission, rather than distribution?
- d) For cost allocation purposes, are transformers whose high side voltage is transmission voltage but whose low side voltage is distribution voltage, considered to be transmission or distribution assets?

Request IR-11:

What are the capacity and energy losses (in percent) at the transmission and distribution levels, and how are they determined?

Request IR-12:

For each rate class served by MECL:

- a) What is the total coincident and non-coincident demand, and on what basis are these determined?
- b) What is the total non-firm coincident demand, and on what basis is it determined?
- c) What are the total annual sales, and on what basis are they determined?

Request IR-13:

Regarding wind generation, what portion of nameplate capacity is considered to be firm supply for system planning purposes, and on what basis is that portion determined?

Request IR-14:

What percentage of MECL's residential customers has electric heat, and what percentage has electric hot water?

IR's 15- 24 relate to the Chymko CAS**Request IR-15:**

With respect to Schedule 6.0 of the Chymko CAS:

- a) Please describe what is included in Account 7000 (NB Power Assured) and explain why no portion of it is considered Demand related.
- b) Please describe what is included in Account 7008 (Other Energy).
- c) Please describe what is included in Account 7046 (NB Power Secure) and explain how it is different from Account 7000 and why no portion of it is considered Demand related.
- d) Please describe what is included in Account 7049 (Capacity Other).
- e) Please describe what is included in Account 7050 (NB Power Firm) and explain why no portion of it is considered Demand related.
- f) Please describe what is included in Accounts 7053 (Imbalance Energy) and 7054 (Imbalance Premium). If either or both is related to OATT, please explain why it is not included in Account 7510.
- g) Please describe what is included in Account 7055 (COS Energy Purchase) and explain why it is all assigned to Demand.
- h) Please describe what is included in Account 7056 (E-Tagging and Scheduling) and explain why none of it is Demand related.
- i) Please describe what is included in Account 7058 (IPL Transmission Sch 1,2, 7) and explain why it is all assigned to Demand. Also, please explain why it is not included in Account 7510 (OATT).
- j) Please describe what is included in Account 7150 (ECC Operations) and explain why none of it is assigned to Demand.
- k) How are the costs included in Account 7150 different from the ECC costs that are included in OATT? If they are not different, are they not captured in Account 7510?
- l) Please describe what is included in Account 7415 (MICF Gov Misc Lab & Exp) and explain why none of it is assigned to Demand.
- m) Please describe what is included in Account 7510 (OATT) and explain why none of it is assigned to Demand.
- n) Please describe what is included in each of Accounts 7500 – 7508 and Accounts 6340 – 6348.

- o) Please break down account 9400 (Amortization) to show amortization associated with generation, transmission, distribution separately. Please also provide the generation portion broken down by generating station, with the Charlottetown CT shown separately from the Charlottetown steam units.
- p) Please describe what the cost in Account 9420 (Amortization – DSM Costs) covers and provide its derivation. In answering this question, please show how this cost relates to the discussion in Section 4.2.1 of the November 28, 2018 filing.
- q) What are the annual costs to MECL for its use of the interconnection with NB, and where are those costs included in Schedule 6.0?

Request IR-16:

With respect to Schedule 3.1 of the Chymko CAS, please reconcile the total revenue requirement of \$182,601K shown in Schedule 3.1 to the 2017 revenue requirement of \$192,535K provided in Schedule 14-4 of MECL's Application dated November 28, 2018.

Request IR-17:

Beginning with the costs by account as per Schedule 6.0, please derive the 2017 revenue requirement in the categories provided in Schedule 14-4 of MECL's Application dated November 28, 2018, except with the Operating Expenses broken down into the following categories:

- a) Generation
- b) Purchases from NB
- c) Purchases from Wind
- d) Other Purchases
- e) Transmission (to reconcile to Schedule 9-1)
- f) Distribution (to reconcile to Schedule 9-3)
- g) T&D Other (to reconcile to Schedule 9-4)
- h) General and Administrative (to reconcile to Schedule 10-1)
- i) Corporate Services and Support (to reconcile to Schedule 10-2)

Request IR-18:

With respect to Schedule 3.1:

- a) Is the OATT revenue shown on Line 31 a net of what MECL pays and receives under OATT?
- b) Please provide a derivation of the OATT revenue shown on Line 31.
- c) Why are the Energy Costs, which are functionalized as transmission (Row 7), and the Transmission costs which are functionalized as transmission (Rows 11 and 13) excluded from OATT?

Request IR-19:

With respect to Schedule 4.0, please explain what is included in the Substations 1841 Account, why it is split between Transmission and Substations, and how the percentages assigned to each are derived.

Request IR-20:

With respect to Schedule 3.0, please identify any revenue requirement associated with transmission portion of Substations 1841 Account and explain where is included in Schedule 3.0.

Request IR-21:

With respect to Schedule 3.0 of the Chymko CAS:

- a) Please describe the function of the substations that drive the costs included in “Substations” and explain why these costs are classified as 100% Demand.
- b) Please identify the dollar amounts associated with any substation (or portion of substation) whose function is not Distribution related.
- c) If any portion of Substations is transmission, please explain why it is not included in OATT.

Request IR-22:

With respect to Schedule 2.2 of the Chymko CAS:

- a) What are the units associated with the “Site Allocator Weighting Assumptions” shown in Rows 6 – 10, and how were the numbers in Rows 6 -10 determined?
- b) Please provide the derivation of the “Base Allocators” in Rows 15 – 21.

Request IR-23:

With respect to Schedule 5.1:

- a) Please confirm that the Exogenous Allocators are based on MECL professional judgement. If this is not the case, please provide their derivation.
- b) Please identify any other allocators that are based on MECL judgement.

Request IR-24:

With respect to Schedule 2.3:

- a) What is the purpose of this Schedule?
- b) Please explain this schedule, demonstrating how its purpose is achieved.
- c) What is the source of the data used in this Schedule?

IR’s 25 – 54 are Questions related to MECL’s November 28 Filing**Request IR-25:**

With respect to outstanding costs under the Energy Accord, It is noted on page 15 that PEIEC intends to restructure the financing with fixed repayment terms, and it is proposed “that the fixed repayment amounts charged to customers for costs recoverable on behalf of the Province should, subject to Commission approval, be recovered as an energy related cost as opposed to a rider on customers’ bills. This will eliminate the variability in the monthly repayment amount associated with a rate rider based on monthly consumption levels.” It is further proposed (page 16) that these costs “would be recovered through the Energy Cost Adjustment Mechanism”. Please elaborate on how the inclusion of these costs in ECAM eliminates the variability in the monthly repayment amount.

Request IR-26:

With respect to Schedule 4-2 on page 16, it is noted that these costs relate to “deferred energy costs associated with the closure of Dalhousie and the refurbishment of Point Lepreau”. Please explain how the proposal to recover these costs through ECAM is consistent with the Company’s proposal to classify 25% of Lepreau as Demand.

Request IR-27:

With respect to the Weather Normalization Reserve as discussed in Section 5.2, please describe how the balance shown in Appendix 5, Schedule 4 is being applied to customer rates in this proceeding. If the balance is not affecting the proposed rates, please explain why not.

Request IR-28:

With respect to Schedule 8-3, page 45, please provide a table showing the contribution of each generation unit and purchase agreement to the supply of the NPP for the years 2017 and 2020. For purchases, please show the purchase under each agreement separately.

Request IR-29:

With respect to Schedule 8-4, page 46, please provide a copy of the purchase agreements associated with each purchase from New Brunswick.

Request IR-30:

With respect to Schedule 8-4, page 46, please provide the derivation of the costs shown for each of the following for each of the years 2017 - 2021:

- a) Point Lepreau
- b) Energy Purchase Agreement – Firm Energy Purchases
- c) Energy Purchase Agreement – System Energy Purchases (with Secure Energy and Assured Energy shown separately)
- d) Wind

For each of the above, please provide:

- The annual energy purchased and the average price of that energy
- The portion of the costs that arises because of the purchase of capacity

Request IR-31:

With respect to Schedule 8-4, page 46, please explain why Firm Energy Purchases under the Energy Purchase Agreement increase significantly over the years shown while the System Energy Purchases decline significantly.

Request IR-32:

The discussion of Assured Energy on pages 47 notes that it is backed up by the Charlottetown GS (55MW) and by Borden-Carleton (40MW). However, page 48 states that from November – March, this backup will be supplied by Borden-Carleton only. Please clarify the role of each plant in providing backup. Are both plants ever providing backup simultaneously?

Request IR-33:

With respect to Schedule 8-8, page 51, please provide a copy of the purchase agreements associated with purchase of wind energy.

Request IR-34:

Page 51 notes that purchases from 79MW of wind are based on prices ‘comparable to the Minimum Purchase Price Regulations under the Renewable Energy Act’. Please provide the minimum purchase price effective April 1, 20017, and show how it was developed based on the Minimum Purchase Price Regulations.

Request IR-35:

With respect to Schedule 9-2 (page 58), please reconcile the OATT expenses for 2017 to the OATT expenses in Schedule 6.0 of the Chymko CAS.

Request IR-36:

At page 127, the Company proposes two changes within the Residential class, both of which are said to be “based on the results of the 2017 CAS”. Please elaborate on how each change is based on the 2017 CAS results.

Request IR-37:

It is noted at Page 128, last paragraph that “with changes in meter reading technology and increases in customer density throughout PEI” the cost difference between urban and rural is “no longer considered material”.

- a) Please identify the components of the cost that are included in the monthly service charge?
- b) Please provide any tracking of costs or other analysis done by MECL to reach its conclusion that the difference in service cost for urban and rural is now immaterial.

Request IR-38:

Please provide copies of MECL’s input to PEIEC with respect to its EE&C Plan (Docket UE 41400), as referenced on page 131, paragraph 2.

Request IR-39:

As noted at Page 131, paragraph 2, MECL proposes to “gather the data necessary to develop consumption and rate mitigation solutions” through “the load and consumption study for farms, as well as the proposed Load Research Study”. Has this been done? If not, when will it be done, and on what basis were the customer impacts (as shown in this Application) determined? How does it relate to Schedule 13-9 on page 133?

Request IR-40:

Further to Schedule 13-9, please provide the number of customers whose monthly consumption, averaged over a year, falls within the following ranges: 1-200kWh, 201-400kWh, 401-500kWh, 501-600kWh, 601-700kWh, 701-800kWh, 801-900kWh, 901-1000kWh, 1001 -1200kWh, 1201-1500kWh, 1501-2000kWh.

Request IR-41:

The Company notes on page 138 that with only six months of data accumulated to date, it is “not in a position to provide conclusive recommendations to the Commission (or farm customers) with respect to the recommended rate classification and resulting rates for farm customers”.

- a) Which months of data does the Company currently have?
- b) What is the source of the data currently being used by the Company in its cost allocation study to assign costs to the farm class?
- c) Based on the data currently available, does the Company have any preliminary indication of the rate class (or classes) into which farms might reasonably fit? If not, please explain why not?
- d) Is the Company of the view that if farms are assigned to a new class, all farms will move to the same class? If yes, what is the most likely class? If not, to which classes might farms be assigned?
- e) Does the Company anticipate that any farms will remain in the Residential class?
- f) Based on the information currently available, what effect would the addition of all farms to the General Service class have on the R/C ratio of that class?
- g) Based on the information currently available, what effect would the addition of all farms to the Small Industrial class have on the R/C ratio of that class?

Request IR-42:

With respect to Schedule 13-12:

- a) Please confirm that there is a two year timing difference between the effective dates of the proposed service charge reduction to rural customers and the proposed increase of first block energy to 5000kWh.
- b) If a) is confirmed, please provide the estimated R/C for Residential for the two years between the reduction of the service charge and the change to the energy blocks.

Request IR-43:

Please provide calculations (preferably in Excel format with all formulae intact) supporting Schedules 13-13 and 13-14.

Request IR-44:

With respect to the last paragraph on Page 141, please provide details of the expanded Bridge Meter project expansion, as filed in Docket UE20728 (2019 Capital Budget).

Request IR-45:

At Section 13.4.2 at pages 141 and 142, the Company discusses the General Service class and notes that its planned studies with respect to farms will likely impact this class. However, no such discussion is included with respect to the Small Industrial class. Has the Company concluded that no farms could be transferred to the Small Industrial class? If so, on what basis has this conclusion been reached?

Request IR-46:

With respect to Schedule 14-4 at page 153, please reconcile the 2017 Operating Expenses of \$135,579,065 with the sum of the 2017 costs provided in Sections 8, 9 and 10.

Request IR-47:

With respect to Schedule 14-5 at page 154:

- a) Please provide a breakdown of the Network Service revenue by customer.
- b) Please confirm that no OATT customer uses point to point service. If this is not confirmed, please identify any revenue for such service (by customer) and identify where such revenue is included in this Schedule.

Request IR-48:

Please provide (preferably in Excel format, with all formulae intact) the derivation of the 2018 class revenues in Schedule 14-6, showing the unit prices and the monthly billing determinants to which they are applied.

Request IR-49:

Please provide (preferably in Excel format, with all formulae intact) the derivation of the 2019-2021 class revenues in Schedule 14-7, showing the unit prices and the monthly billing determinants to which they are applied.

Request IR-50:

With respect to Schedules 15-2 and 15-3:

- a) Please provide (preferably in Excel format, with all formulae intact) the derivation of these Schedules.
- b) Please provide similar schedules based on average monthly consumptions of 325 and 975 kWh.

Request IR-51:

Regarding Schedule 15-2, please explain and provide the derivation of the Provincial Costs Recoverable, the Provincial Energy Efficiency Program, Cable Contingency Fund, RORA, and the Provincial Clean Energy Rebate.

Request IR-52:

With respect to Schedule 15-4, please provide the derivation of the Provincial Costs Recoverable, the Provincial Energy Efficiency Program, Cable Contingency Fund, RORA. Also please explain why there is no Provincial Clean Energy Rebate.

Request IR-53:

Please provide Schedule 15-4 for a 50KW customer whose load factor is 15% and 50%.

Request IR-54:

Please provide Appendix 4 as an Excel file, with all formulae intact and functioning.