All our energy. All the time.



September 9, 2022

Ms. Cheryl Mosher Island Regulatory & Appeals Commission PO Box 577 Charlottetown PE C1A 7L1 RECEIVED SEP 0 9 2022 The Island Regulatory and Appeals Commission

Dear Ms. Mosher:

General Rate Application - Docket UE20946 Response to Interrogatories from London Economics International Inc.

Please find attached the Company's response to Interrogatories from London Economics International Inc. with respect to the General Rate Application filed on June 20, 2022.

Please note that two attachments to the response to IR-18 have not been included in this submission. The source data for Attachments 9 and 10 to IR-18 is from a third party to Concentric Energy Advisors Inc. This third party does not permit public disclosure of this information under the terms of their agreement.

As you know, Maritime Electric will be applying to the Commission to have certain interrogatory responses remain confidential, including these two attachments. In the event that the Commission denies Maritime Electric's request in relation to these two attachments, we will advise the third party accordingly.

In addition, in IR-47, London Economics has requested the Company's historical financial statements. The Company will provide annual reports for the years requested. However, since the Company is a privately held corporation, these annual reports are not publicly distributed and we will file these as a separate confidential response pending approval from the Commission.

An electronic copy of this submission will be forwarded shortly.

Yours truly,

MARITIME ELECTRIC

Dlovia Crocket

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

GCC27 Enclosure

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INTERROGATORIES

Responses to Interrogatories from Commission Expert – Long Economics Int LLC

General Rate Application (UE20946)

Submitted September 9, 2022



Maritime Electric

INTERROGATORIES REGARDING THE GENERAL RATE APPLICATION:

IR-1 The General Rate Application does not mention Distributed Energy Resources.

Question(s):

a. To what extent does MECL anticipate potential for grid defection due to Distributed Energy Resources ("DERs")?

Response:

a. The annual load forecast includes an estimated impact of solar photovoltaics installations based on recent trends, which in turn impacts the sales forecast.

Currently, Maritime Electric does not anticipate that small-scale wind will have an impact on the system, given the historical issues with customers being able to economically perform maintenance on small-scale wind units. Likewise, small-scale battery installations are not yet common due to the upfront cost, and economic value, of these battery installations. Therefore, neither small-scale wind nor battery installations are anticipated in the current load forecast.

IR-2 On page 17 of the General Rate Application, MECL states:

The quarterly customer satisfaction survey is conducted via phone by a third-party provider. Randomly selected customers are asked a series of questions regarding their perception of the overall service they receive. Chart 4-2 shows customers' overall satisfaction with Maritime Electric's service delivery, referred to as the customer service index, from 2016 to 2021.

Question(s):

- a. Have participation rates in the quarterly customer satisfaction surveys changed between 2016 and 2021?
- b. Does MECL believe that use of a phone survey instead of other means of engaging with customers induces any bias into the outcomes?

Response:

- a. Maritime Electric has used phone surveys for the past two decades. Completion rates have declined from 2016 levels which, according to Narrative Research, is reflective of industry trends. Despite the declining completion rates, the sampling process employed continues to ensure that the results reflect the true population distribution. Narrative Research employs quotas for gender, age and regions, and also weights the final dataset along these dimensions to ensure the results reflect the true population distribution. Narrative Research also uses both landline and cellular telephone records to ensure broad population coverage.
- b. Any survey is potentially subject to bias or error. The sampling process employed by Narrative Research minimizes potential sampling error. Quotas are employed along the key dimensions of age, gender, and region, and results are subsequently statistically weighted along these same dimensions in line with the 2021 Statistics Canada census. The statistical weights implemented have been relatively small, given that the data collected already approximates the actual distribution of adults.

A number of steps are also taken to minimize bias due to non-sampling error. Surveys are conducted using online interviewing technology to ensure proper survey skip patterns are followed, and to minimize errors due to data entry and data capture. The survey is pretested with a small sample of respondents to ensure the survey material was easily understood by respondents, and that the resultant data are being captured properly.

Improved understanding of service performance is an important focus for the Company. In the 2023 Capital Budget Application, the Company proposed the addition of a new function to the Virtual Contact Centre to track customer satisfaction with the service provided by Customer Service Representatives through telephone, email and web chat. **IR-3** On page 20 of the General Rate Application, MECL provides Chart 4-4 SAIDI (MED excluded) - Maritime Electric Comparison with other Atlantic and Canadian Utilities 2012 to 2021.

Question(s):

- a. Please provide underlying data and calculations (in excel) associated with Chart 4-4.
- b. EC sample shown in Chart 4-4 includes a small subset of Ontario utilities. Why were New Market-Tay Power Distribution, Veridian Connections and Waterloo North Hydro the only other Ontario utilities (other than Hydro One) that were included in the sample? Are these the only utilities that serve "a mix of urban and rural markets" in Ontario?

Response:

- a. The underlying data and calculations associated with Chart 4-4 is included in the Excel spreadsheet IR-3 Attachment 1.
- b. Hydro One, New Market-Tay Power Distribution, Veridian Connections and Waterloo North Hydro are the Ontario utilities classified by Electricity Canada as Region 2 utilities (i.e., utilities that serve a mix of urban and rural markets).

The listing of Electricity Canada Region 2 utilities footnoted in Chart 4-4 should have also included Elexicon Energy (an Ontario utility), Blue Mountain Power Co-op, Barbados Light and Power Company, Caribbean Utilities, Dominica Electricity Services Ltd. and St. Lucia Electricity Services. As such, the title and footnote for Chart 4-4 has been updated in the Excel spreadsheet IR-3 – Attachment 1.

IR-4 On page 22 of the General Rate Application, MECL states:

Chart 4-6 shows that major events are a regular occurrence on PEI, substantially impacting the service reliability experienced by customers.

Question(s):

- a. Please provide underlying data and calculations (in excel) associated with Chart 4-6.
- b. How does the frequency of major events at MECL compare against the frequency of major events at comparator utilities?

Response:

- a. The underlying data and calculations associated with Chart 4-6 is included in the Excel spreadsheet IR-4 Attachment 1.
- b. The Company's frequency of major events is 25.7 per cent higher than at comparator utilities. From 2017 to 2021, as shown in the following table, Maritime Electric experienced an average of 4.4 major events per year, compared to an average of 3.5 major events per year at comparator Atlantic utilities (i.e., Nova Scotia Power, NB Power and Newfoundland Power).

Maritime Electric Frequency of Major Events Comparison						
2017 2018 2019 2020 2021 Annua Averag						
Maritime Electric	4	8	3	5	2	4.4
Comparator Atlantic Utilities Average	2.7	6.7	4.7	2.7	1	3.5

IR-5 On page 24 of the General Rate Application, MECL provides Chart 4-7 SAIDI (All in) Five-Year Rolling Average Comparison 2017 to 2021

Question(s):

- a. Please provide underlying data and calculations (in excel) associated with Chart 4-7.
- b. Acknowledging that a 5-year rolling average requires a longer data set (since 2012), is it possible to provide a longer time series? If yes, please provide, with underlying data and calculations (in excel).

Response:

- a. The underlying data and calculations associated with Chart 4-7 is included in the Excel spreadsheet IR-5 Attachment 1.
- b. Yes, a revised Chart 4-7, along with the underlying data and calculations extended back to 2007, is included in the Excel spreadsheet IR-5 Attachment 1.

IR-6 On page 26 of the General Rate Application, MECL states in footnote 29:

Maritime Electric currently follows the Canadian Standards Association recommendations that overhead structures be built to withstand a half inch of radial ice and 100 km/hour winds at - 20 degrees Celsius. However, **major weather events are increasingly exceeding these parameters**. [emphasis added]

Question(s):

a. Please provide empirical evidence associated with the following statement: "major weather events are increasingly exceeding these parameters."

Response:

a. The Canadian Standards Association ("CSA") document for Overhead Systems CSA C22.3 No. 1:20 indicates Prince Edward Island is in a heavy loading area requiring the structure strength to withstand the condition of a half inch of radial ice, 100 km/h wind and -20°C temperature. The maximum sag conditions for calculating clearances is defined as when the bare conductor temperature is at 100°C, the neutral is at 50°C, and covered secondary is at 80°C. These are minimum design standards based on our geographic area that have not changed since the standard was created.

The CSA Standard was revised in 2015 to No. 1:15 from version No. 1:10, and for the first time the standard requires non-linear structural analysis. Non-linear analysis requires the use of computer modelling software that evaluates the structure using P-Delta effects (i.e., finite element analysis). Analysis is performed while the structure and components are in a deformed geometry state (i.e., the conductor swings, the insulator swings, and the pole deflects when exposed to external forces). Estimating the structure's deflection accurately is required to predict the structure and member stresses.

Maritime Electric uses Power Line Systems – Computer Aided Design and Draft ("PLS-CADD") software to model structures and attached wires with weather conditions applied to determine the design requirements. Historically, Prince Edward Island has experienced weather conditions that exceed the CSA design for structure strength as well as other weather conditions that negatively impact reliability.

A high wind condition impacts insulator swing and can cause clearance violations to structures creating faults on the transmission system. Heavy ice conditions and heavy system load conditions, combined with high ambient temperatures, impact clearances to ground and increase the risk of tree contacts. Extreme cold creates a cold uplift condition that puts additional stress on the structures and supports making them more susceptible to failure. PLS-CADD is used to evaluate a variety of weather conditions that match our current weather, and also, we must predict and design for the weather conditions our coverage area will experience over the lifetime of the wires and supporting structures.

The following storms are examples where weather forces exceeded components of the CSA design requirements.

Significant Storm Events ¹					
Year	Date	Storms	Weather		
2003	September 29	Hurricane Juan	139 km/h wind		
2004	February 19	Nor' Easter	104 km/h wind		
2004	December 26	Nor' Easter	118 km/h wind		
2007	August 9	Wind Storm	140 km/h wind		
2008	January 31	Ice Storm	Freezing rain exceeding 1/2"		
2010	December 21	Wind Storm	120 km/h wind		
2018	April 16	Ice Storm	Freezing rain exceeding 1/2"		
2019	September 7	Post-tropical Storm Dorian	122 km/h wind		

Environment Canada statistics document the hours of freezing rain for any given storm, the amount of freezing rain that sticks to a surface is variable and dependent on temperature, wind and surface properties. The following Maritime Electric photos show freezing rain accumulation on wires and structures that far exceed half an inch.



Ice accumulation on wires during the 2018 ice storm.

¹ Information obtained from Environment Canada publications.



Ice accumulation on conductor and structure during the 2008 ice storm



Ice accumulation on conductor and structure during the 2008 ice storm

Electricity Canada reports that Charlottetown has had more than 10 extreme weather days due to high winds each year since 2016 with as many as 20 in 2016, 2018 and 2019.

Over the past several years, hurricanes, tornadoes and general windstorms have been attributed to many outages across Canada. This has increased the public's concern around extreme weather events.

Wind-event data from the past 22 years (i.e., 2000 to 2021) for different cities demonstrates some interesting trends. Some communities, such as Charlottetown, have seen increasing wind events, whereas others, such as Ottawa, show continued fluctuations. The following diagram is a comparative example of annual high wind days for these two jurisdictions over this time period.



Black = Storm and Hurricane (88+ km/h) Pink = Strong Gale (76-87 km/h) Source: DataBytes Electricity Canada publication August, 2022

According to the Beaufort scale, 75 km/h is considered a threshold of destructive winds.² Wind speeds between 76 and 87 km/h are considered strong gales and can result in slight structural damage. Storms refer to wind speeds between 88 and 117 km/h which can uproot trees or cause widespread damage. Wind speeds of 118 km/h or higher are considered hurricanes. Governments and industry stakeholders will need to consider these trends not only as infrastructure is built for net zero but also to ensure a resilient grid.³

² The Beaufort scale is an empirical measure that related wind speed to observed conditions at sea or on land.

³ DataBytes Electricity Canada publication August, 2022.

IR-7 On page 31 of the General Rate Application, MECL provides Table 4-4 Energy Sales (actuals and forecasts).

Question(s):

a. Historically, how much variance has MECL observed in their energy sales' forecasts versus actual energy sales? Please provide underlying data/calculations.

Response:

a. The following table provides a variance analysis of actual sales compared to forecast sales for 2016 to 2021.

Maritime Electric Three-Year Sales Forecast Variance					
Year	Forecast Sales (GWh) A	Date of Sales Forecast	Actual Sales (GWh) B	Variance (GWh) C = B - A	Variance (%) D = C/A x 100
2016	1,193.8		1,188.4	(5.4)	(0.45)
2017	1,218.5	August 2015	1,208.1	(10.4)	(0.85)
2018	1,242.6		1,257.3	14.7	1.18
2019	1,267.0		1,286.9	19.9	1.57
2020	1,300.8	August 2018	1,292.7	(8.1)	(0.62)
2021	1,321.3		1,326.0	4.7	0.36

The August 2015 sales forecast was prepared for a one-year General Rate Application ("2016 GRA") filed with the Commission in October 2015. Subsequently, on February 5, 2016, the Company filed a three-year General Rate Agreement (the "Agreement") with the Commission.⁴ The Agreement was based on the same August 2015 sales forecast that was used in the 2016 GRA.

The August 2018 sales forecast was prepared for a three-year GRA filed in November 2018 for rates effective on March 1 in each of 2019, 2020 and 2021.

The variances in the above table demonstrate that the Company's sales forecast is reasonably accurate.

⁴ The General Rate Agreement was a negotiated settlement between the Province of PEI and Maritime Electric establishing customer rates, tolls and charges for the period March 1, 2016 to February 28, 2019.

IR-8 On pages 39 and 40 of the General Rate Application, MECL presents Tables 5-2 and 5-3.

Question(s):

a. Please provide the historical growth rates in PV adoption.

Response:

a. The Provincial Government announced a solar photovoltaic ("PV") rebate program in August 2019, where rebates of up to \$10,000 are available to customers to install solar panels.

Maritime Electric has received the following number and combined size of small-scale solar PV projects.

Year	Number of Applications	Total Amount of Solar (kW)
2008	1	10
2009	1	2
2011	1	12
2012	1	6
2013	5	25
2014	18	162
2015	21	168
2016	24	243
2017	32	422
2018	42	379
2019	74	707
2020	341	3,185
2021	954	9,470
2022	853	9,037

Currently, the time between Maritime Electric's approval of an application and the project being commissioned is estimated at six months.

IR-9 On page 41 of the General Rate Application, MECL states:

During the rate-setting period, a single 50-day outage is scheduled for April to May 2024 and replacement energy will be sourced via the EPA. In comparison, a 42-day outage occurred in 2019, a 61-day outage occurred in 2020, three outages occurred in 2021 totaling 100 days, and a 60-day outage is scheduled for April to June 2022.

Question(s):

- a. How does Point Lepreau's outage performance compare to other Candu reactors since its restart?
- b. Under what circumstances is NB Power responsible to pay the incremental cost of replacement power?

Response:

a. A search of various websites including the Canadian Nuclear Society and Canadian Nuclear Safety Commission was not able to locate a table showing Point Lepreau Nuclear Generation Station's ("Point Lepreau") outage performance versus other CANDU reactors for the specific period requested of 2013 till 2022. However, Table 1 provided on the following page shows the lifetime performance per cent (i.e., load factor) of all CANDU reactors from their in-service date until 2017.

The average load factor of a power system is determined by evaluating the load and the time the generator is operating at that load. Since loads are normally variable, the average load factor is determined by calculating multiple load levels and time periods, as per the sample calculation in Figure 1 below.



Table 1 CANDU Nuclear Reactor Lifetime Performance – In-Service to 2017						
Reactor	In Service	Capacity (MW)	Performance in 2017 (%)	Lifetime Performance (%)		
Point Lepreau	1983	705	89.1	70.5		
Wolseong 1*	1983	679	40.4	72.6		
Wolseong 2	1987	678	90.0	92.4		
Wolseong 3	1998	698	32.7	89.9		
Wolseong 4	1999	703	99.2	94.0		
Embalse	1983	648	0	74.0		
Cernavoda 1	1996	707	96.3	90.1		
Cernovoda 2	2007	705	89.5	94.0		
Qinshan 4	2002	700	76.6	89.8		
Qinshan 5	2003	700	94.4	91.5		
Pickering 1	1971	542	57.8	64.2		
Pickering 4	1973	542	87.8	66.9		
Pickering 5	1983	540	63.8	73.6		
Pickering 6	1984	540	98.1	78.5		
Pickering 7	1985	540	83.0	77.3		
Pickering 8	1986	540	85.6	75.5		
Bruce 1	1977	825	96.6	68.9		
Bruce 2	1978	825	97.4	65.3		
Bruce 3	1978	825	83.8	73.5		
Bruce 4	1979	825	94.2	73.3		
Bruce 5	1985	872	70.3	84.6		
Bruce 6	1984	872	80.2	81.9		
Bruce 7	1986	872	92.8	84.5		
Bruce 8	1987	872	97.7	83.2		
Darlington 1	1992	934	60.3	83.6		
Darlington 2	1990	934	0	76.0		
Darlington 3	1993	934	93.9	86.2		
Darlington 4	Darlington 4 1993 934 98.7 85.8					
https://www.iaea.org/PRIS/CountryStatistics/CountryDetails.aspx?current=CA Notes 1. Darlington 2 entered plant refurbishment, October 2016 2. Embalse undergoing plant refurbishment.						

3. All reactor performance now based on Load Factor, not Capacity Factor

As per Table 1, Point Lepreau had a lifetime performance of 70.5 per cent up to 2017. This statistic was negatively impacted by the life extension refurbishment outage that resulted in a load factor of zero for 4.5 years (from March 28, 2008 to October 2012). Prior to this outage, it's the lifetime performance was 82 per cent.⁵

⁵ https://www-pub.iaea.org/MTCD/Publications/PDF/P1500_CD_Web/htm/pdf/topic4/4S02_K.%20Stratton.pdf.

Table 1 also indicates that Point Lepreau operated in the bottom quartile for lifetime performance; however, it operated closer to the median when compared to reactors of a similar vintage.



Figure 2 above provides a comparison of CANDU reactors lifetime performance and shows that the lifetime performance deteriorates as the units age, with a noticeable reduction beyond 25 years of service.

⁶ https://cns-snc.ca/media/nuclear_info/candu_performance.html.

Table 2 Unit Capacity Factor					
FY2013 ⁷	51.9% ⁸				
FY2014	80.1%				
FY2015	78.6%				
FY2016	78.5%				
FY2017	78.1%				
FY2018	89.4%				
FY2019	84.5%				
FY2020	87.0%				
FY2021	71.7%				
FY2022	88.1%				

Table 2 provides Point Lepreau's capacity factor, as provided by NB Power, since the unit's refurbishment was completed in 2012. Since 2013, Point Lepreau operated at an average unit capacity factor of approximately 78.7 per cent, which is higher than its lifetime performance of 70.5 per cent. This reflects improvement made during the life extension refurbishment, which was completed from 2008 to 2012.

b. There are no circumstances where NB Power is required to pay for Maritime Electric's share of the incremental costs for replacement power.

⁷ FY refers to fiscal year. NB Power's fiscal year is April to March.

⁸ Point Lepreau re-started in October 2012.

IR-10 On page 42 of the General Rate Application, in footnote 62, MECL states:

On occasion, Maritime Electric is required to generate electricity to supply NB Power or Nova Scotia Power, in which case the full cost of generation is recovered

Question(s):

- a. Historically, how often has MECL been required to supply electricity to NB Power and NS Power?
- b. How is the full cost of generation defined?

Response:

a. As shown in table 1 below, Maritime Electric's combustion turbine generators operated 13 times in the last five years producing 856 MWh in order to provide emergency energy to either Nova Scotia Power or NB Power. These emergency energy operations are typically a short duration (i.e., one or two hours) during a peak period.

Emergency Energy Supply to Others					
Year Number of Times Energy Supplied (MWh)					
2017	-	-			
2018	2	196			
2019	1	220			
2020	-	-			
2021	10	440			
Total	13	856			

b. The full cost of generation for an operation of a combustion turbine consists of:

[(blended cost of fuel⁹ x litres of fuel consumed) + (# of operators x hours worked x hourly $cost^{10}$) + (maintenance charge¹¹) + (fixed cost charge¹² x hours of operation)] x 110%¹³

In addition to the full cost of generation, the requesting utility is subject to the applicable transmission charges to deliver the product under the Open Access Transmission Tariff.

⁹ Blended cost of fuel refers to the average cost of fuel in the storage tank.

¹⁰ Hourly cost includes salary, benefits and overhead costs.

¹¹ Maintenance charge refers to consumables (i.e., lube oil filters; fuel filters, etc.) and varies by combustion turbine.

¹² Fixed cost charge refers to non-fuel and non-labour fixed costs, such as depreciation; insurance, property tax, and financing, and varies by combustion turbine.

¹³ A 10 per cent surcharge is added to cover administrative expenses.

IR-11 On page 42-43 of the General Rate Application, MECL discusses company-owned generation.

Question(s):

a. Are there any prospects of development of district heating in PEI?

Response:

a. Maritime Electric is unaware of any other district heating system on Prince Edward Island that has advanced beyond a feasibility study.

Currently, there is one district heating system in Charlottetown, which is owned by Veresen (i.e., PEI Energy Systems). It is fueled by waste combined with some biomass and light fuel oil. This system supplies heat to several downtown Charlottetown buildings including the University of Prince Edward Island.

IR-12 On page 46 of the General Rate Application, MECL states:

The increase in substation costs from 2019 to 2021, beyond inflationary pressures, is a direct result of increasing customer load growth. To respond to load growth, the number of transmission substations have increased by 25 per cent over the last 10 years, from 24 substations in 2011 to 30 in 2021. As the number of substations increases so too does the related inspections, repairs and maintenance

Question(s):

a. Shouldn't new equipment be more reliable than existing equipment, thus moderating the increase in repairs and maintenance costs? If not, please explain.

Response:

a. New substation equipment is generally more reliable than aged equipment; however, equipment failure rates are highest at the beginning and near the end of life. As the number of substations increases, the overall related inspections, repairs and maintenance also moderately increase.

Associated with the 25 per cent increase in the number of substations, substation equipment increased by approximately 35 per cent. This equipment requires regular inspections. A substation may include power transformer(s), voltage transformer(s), high voltage breaker(s), recloser(s), voltage regulators(s), current transformer(s), reactor(s), circuit switcher(s), metering tank, station service transformer and standby generator(s). Related equipment in the substation yards consist of wood poles, steel structures and concrete foundations. All of this equipment requires regular inspection and maintenance cycles that are set according to safety, reliability requirements and the availability of the replacement equipment.

Each substation also has a control building with various pieces of equipment. Newer substations have more advanced data collection and circuit protection features. Generally, a control building contains a battery bank for control power, battery charger, communication and cybersecurity panels, line and equipment protection panels complete with electronic protection relays, automatic transfer switches for backup power and a heat pump to maintain seasonal temperatures and humidity. Maintenance is completed regularly on control building equipment according to safety and reliability requirements.

Finally, each substation property has typical operating and maintenance requirements throughout the year, regardless of age. These activities include communication costs, visual inspections, snow clearing, fence repairs, grounding repairs due to age, corrosion and thefts, vegetation control and pest management in all substation control buildings.

Addition details on the Company's substation maintenance activities can be found in the Distribution Asset Management Program (Responses to Interrogatories of Commission Staff, 2021 Capital Budget Application UE20731, submitted April 22, 2021).

IR-13 On page 53 of the General Rate Application, in footnote 70, MECL states:

In Order UE09-02 the Commission disallowed, for the purpose of determining the Company's regulated revenue requirement, all Fortis Inc. head office administrative costs charged to Maritime Electric. Therefore, all costs presented in this section do not contain any Fortis Inc. administrative costs.

Question(s):

a. Over the past 10 years, how many cost items have been disallowed? In each case, what was the dollar value, and the percent of the total annual revenue requirement?

Response:

a.	The following table provides the non-regulatory expenses for 2012 to 2021, which include
	Maritime Electric's pro rata share of the Fortis Inc. general operating costs.

Fortis Inc. Costs							
Year	Non- Regulatory Expenses	Тах	Non- Regulatory Expenses, net of tax	Part VI.1 Tax, Adjustments on Loss Carry Back	Total Annual Non- Regulatory Expenses	Total Annual Revenue Requirement	% of Annual Revenue Requirement
2021	617,000	(192,504)	424,496	149,877	574,373	225,256,805	0.25%
2020	638,000	(197,780)	440,220	(149,877)	290,343	219,432,156	0.13%
2019	592,000	(183,520)	408,480	-	408,480	210,720,774	0.19%
2018	534,000	(165,540)	368,460	-	368,460	203,265,498	0.18%
2017	612,000	(189,720)	422,280	-	422,280	192,535,281	0.22%
2016	661,000	(204,910)	456,090	-	456,090	186,337,404	0.24%
2015	485,000	(150,350)	334,650	-	334,650	185,227,031	0.18%
2014	523,000	(165,268)	357,732	-	357,732	189,152,441	0.19%
2013	382,000	(118,420)	263,580	-	263,580	186,093,521	0.14%
2012	474,010	(146,943)	327,067	-	327,067	170,278,571	0.19%

As part of the Fortis group of companies, Maritime Electric and its customers benefit from lower costs in such areas as insurance, financial services and group purchases of materials and equipment. In addition, the network of knowledge and expertise across the Fortis group yields further benefits to customers through best practices and efficient information sharing. As a result, Maritime Electric's view is that these benefits far outweigh the costs recovered by Fortis Inc. and, as a result, the Fortis Inc. costs should be recoverable from customers.

However, pursuant to Commission Order UE09-02, these costs are not recoverable and are excluded from revenue requirement for purposes of establishing electricity rates and in the determination of regulated earnings for the year. These costs amount to an average

of 0.19 per cent annually. While the costs are not significant when compared to total annual revenue requirement, the economies of scale achieved by the Fortis group of companies results in a cost-savings benefit to Maritime Electric customers.

IR-14 On page 66 of the General Rate Application, MECL states:

Historically, a comparison has been made between interest rates on government or corporate bonds and utility returns, suggesting that the risk and return on these investment opportunities should be comparable. Concentric's assessment of capital market conditions challenges this traditional comparison. Evidence presented by Concentric highlights that as investors expect stronger economic growth and higher inflation, which is generally expected during the rate- setting period, that higher returns will be required by investors for them to invest in long-term government bonds or similar risk investments, such as utilities.

Question(s):

a. Is MECL suggesting that utilities have similar risk as long term government bonds?

Response:

a. No, neither Maritime Electric nor Concentric is suggesting that utilities have similar risk as long-term government bonds. Interest rates are one factor that equity investors consider in determining their return requirements. Concentric's report provides a comparison of current interest rates on government and corporate bonds to those in 2019 when the Commission last established the authorized return on equity ("ROE") for Maritime Electric. Investors are reacting to tighter monetary policy from central banks in both Canada and the U.S. in response to the highest inflation rates in almost 40 years in both countries.

The cost of equity for utilities is correlated to interest rates, as shown in Concentric's risk premium analysis provided as Exhibit JMC-9 in Appendix F to the Application. However, there is not a one-to-one relationship. The risk premium analysis shows that there is an inverse relationship between government bond yields and the equity risk premium for electric utilities based on rate case decisions since 1992. That is, as interest rates increase, ROE also increases, but to a lesser degree (i.e., the equity risk premium decreases) and vice versa.

IR-15 On page 70 of the General Rate Application, MECL states:

In determining the appropriate cost of equity range for Maritime Electric, Concentric used both Canadian and US proxy groups to develop and estimate utility cost of equity using a variety of methodologies (Discounted Cash Flow ("DCF") method, Capital Asset Pricing Model ("CAPM"), and Risk Premium method), as is industry practice.

Question(s):

a. Is there empirical evidence that outside of regulatory proceedings (including FERC proceedings), investors in practice use the DCF (constant growth) method and Risk Premium method as a standard investment valuation tool?

Response:

a. Yes, there is evidence that equity investors use the Discounted Cash Flow ("DCF") model, also known as the Dividend Discount Model, to value stocks by assigning a valuation multiple (such as the price-to-earnings ratio) to projected earnings per share and cash flows to set price targets. For example, the equity analyst who covers NextEra Energy for Bank of America Merrill Lynch explained in his May 2019 report: "We move our PO [price outlook] to \$215 [from \$206] after reflecting our latest EPS [earning per share] assumptions and marking-to-market to the peer electric utility multiple of 18.9 [from 18.4]." Similarly, the equity analyst at UBS who covers NextEra Energy wrote: "We are updating our price target to \$290 from \$257. We use a SOTP [some of the parts] valuation incorporating a net 20 per cent premium to the normalized regulated utility multiple of 20.8x to our UBS estimate 2021 EPS of \$5.88 which yields \$147/share."

The Risk Premium method is also used by equity investors, although it may be less common outside the regulated utility industry. Under this model, investors assign an equity risk premium based on company-specific and industry risks to the risk-free rate to determine an equity cost rate. Mr. Coyne and Concentric use both the DCF and Risk Premium models in their work advising North American utility investors regarding utility valuations. In every instance, the DCF model underlies the investment valuation.

Academic research also supports the use of various models to estimate the cost of equity. For example, in Financial Management Theory and Practice, 4th edition, Dr. Eugene F. Brigham discusses three models in the chapter titled "Estimating the Cost of Equity in Practice." These are the CAPM [capital asset pricing model] approach, the DCF approach, and the Bond Yield plus Risk Premium approach.

IR-16 On page 79 of the General Rate Application, MECL states:

First, the Commission was concerned that current ratepayers are not paying the full cost of energy consumed by them, causing intergenerational inequity and inappropriate price signals for customers. With respect to intergenerational equity, recovering costs over a three-year period versus a one-year period should not be considered a significant delay. With respect to price signals, stable and predictable rate increases would allow customers time to respond to the increasing cost of electricity and make changes to manage their consumption.

Question(s):

a. What is the average life of a customer account by customer class?

Response:

a. The table below lists the average life of a customer account by customer class as of August 2, 2022.

Average Life of Customer by Customer Class				
Customer Class	Average Life (years) ¹⁴			
Residential - Urban	4.8			
Residential - Rural	11.6			
Residential - Seasonal	12.9			
General Service	10.8			
Small Industrial	12.7			
Large Industrial	23.2			
Street and Yard Lighting	11.8			
Unmetered	15.7			

¹⁴ The information provided is based on same location sales. The average life for the Residential – Urban class is therefore impacted by the higher prevalence of rental units in urban settings versus rural; i.e. urban customers are more transient and the same customer is being served at a higher number of different locations over their customer life than in a rural setting.

IR-17 The MECL GRA provides several charts and tables in their application.

Question(s):

- a. Please provide underlying data and calculations (in excel) associated with:
 - i. Chart 3-1
 - ii. Chart 4-4
 - iii. Chart 4-5
 - iv. Chart 4-7
 - v. Table 5-20
 - vi. Chart 5-1

Response:

a.

- i. The underlying data and calculations associated with Chart 3-1 is included in the attached Excel spreadsheet IR-17 (i) Chart 3-1 in electronic format only.
- ii. The underlying data and calculations associated with Chart 4-4 is provided in the response to IR-3.
- iii. The underlying data and calculations associated with Chart 4-5 is included in the Excel spreadsheet IR-17a (iii) Attachment 1. The title for Chart 4-5 in IR-17a (iii) Attachment 1 has been modified, as EC Region 2 data includes Canadian and international utilities.
- iv. The underlying data and calculations associated with Chart 4-7 is provided in the response to IR-5.
- v. Please see response to IR-18 Attachment 1, tab JMC-1 Summary.
- vi. The underlying data and calculations associated with Chart 5-1 is included in the attached Excel spreadsheet IR-17 (vi) Chart 5-1 in electronic format only.

INTERROGATORIES REGARDING THE REPORT OF CONCENTRIC ENERGY ADVISORS, INC.

IR-18 The Concentric Report provides several figures underlying their analysis.

Question(s):

a. Please provide underlying data and calculations (in excel) associated with Figures 1, 9, 10, 12, 13, 14, 15, 16, 22, 24, 26, 27, 28, 29, 30, 31, 32, 34, 35, 42, and 44.

Response:

a. Please see IR-18 - Attachments 1 to 11, of which attachments 9 and 10 are marked as confidential. The source data for attachments 9 and 10 is from Concentric's Standard and Poor's ("S&P") subscription, which does not permit public disclosure of this information under the terms of the agreement.

Figure	Figure Name	Attachment
1	Summary of Results (including flotation costs)	1 – see JMC-1
9	Canadian Government Bond Yields – 10 yr. and 30 yr.	2
10	Canadian Utility A Rated Bond vs 30-yr Canada Long Bond	2
12	10-yr Government Bond Yield minus 2-yr Government Bond	3
	Yield	
13	Canadian and US Volatility Indexes	4
14	Toronto Stock Exchange ("TSX") Utilities Index vs. 30-yr Canadian Government Bond Yield	5
15	S&P/TSX Utilities Index Dividend Yield vs. 10-Year	6
	Government of Canada Bond Yields	
16	State Street Investor Confidence Indices	2
22	Utility Earnings, Dividend and Gross Domestic Product	7
	Growth Comparisons	
24	90-day Average Discounted Cash Flow Results (including	1 – see JMC-4 and JMC-5
	flotation costs)	
26	Risk Free Rate	8
27	Value Line and Bloomberg Betas	1 – see JMC-8.1
28	Market Risk Premium Values	1 – see JMC-6, JMC-7, JMC-8.1
		and Attachment 12
29	Capital Asset Pricing Model Results (including flotation costs)	1 – see JMC-8.1 and JMC-8.2
30	Risk Premium Results	CONFIDENTIAL 9
		– see Risk Premium – VI Elec
31	Risk Premium Results	CONFIDENTIAL 9
		– see Risk Premium – Elec
32	Authorized Returns on Equity	CONFIDENTIAL 10
34	Small Size of Maritime Electric	11
35	Small Size of Maritime Electric	11
42	2021 S&P Credit Metrics Comparison	1 – see JMC-11 for Canadian
		and U.S. Electric data and IR-45
		- Attachment 2, 2021 Key
		Metrics.
44	Summary of Results (including flotation costs)	1 – see JMC-1

IR-19 On page 16 of the Concentric Report, Concentric states:

...the use of an interest rate forecast or normalization is appropriate and necessary in order to better reflect the level of expected government bond yields as central banks in both Canada and the U.S. normalize their monetary policies over the next several years to combat higher inflation.

Question(s):

- a. Does the forecast need to go beyond the 3 years relevant for this GRA? If yes, please explain.
- b. Given that the investors are able to hedge based on rates at the beginning of the regulatory period, is forecast or normalization truly necessary?

Response:

- a. No. Concentric has used a three-year projected interest rate as the risk free rate in the Capital Asset Pricing Model ("CAPM") analysis. In the Risk Premium analysis, Concentric has estimated the return on equity ("ROE") using current government bond yields (30-day average), near term projections (next five quarters), and a long-term (five-year) forecast to demonstrate the effects of longer forecast periods. Concentric notes that current bond yields have risen to the level of the forecasts used in our February 2022 analysis, demonstrating the reasonableness of the forecast that was relied upon.
- b. As a preliminary matter, not all investors, especially individuals, hedge interest rates. An interest rate hedge would not generally be an effective tool for hedging equity costs, and would come at an additional cost for the investor not factored into traditional ROE models.

The regulatory cost of capital is a forward-looking concept, and is ideally estimated using forward looking inputs on growth rates (in the Discounted Cash Flow model), the risk free rate (CAPM and Risk Premium models), and expected equity returns (Expected Earnings model). In addition, current bond yields have risen to the level of the forecasts that were used in Concentric's ROE analysis, which was performed using market data through February 28, 2022. For example, the 30-day average yield on 30-year Canadian government bonds as of July 29, 2022 was 3.09 per cent, and in the U.S. the 30-day average yield on 30-year Treasury bonds was 3.16 per cent, as compared to the projected risk free rates of 2.84 per cent in Canada and 3.18 per cent in the U.S., as shown in Figure 26 of Concentric's report.

IR-20 On page 23 of the Concentric Report, Concentric presents long-term forecast for 10-year government bond yields in Figure 11.

Question(s):

a. Is there a similar long-term forecast for 30 year government bond yields as well? If yes, please provide.

Response:

a. No. As stated in Concentric's report, they rely on Consensus Economics to forecast government bond yields. Consensus Economics does not publish a long-term forecast for 30-year government bonds, so Concentric typically takes the 10-year projected bond yield and adds the spread between 10- and 30-year bonds, as shown in Figure 26 of Concentric's report. Another source that provides forecast economic data is Blue Chip Financial Forecasts. While Blue Chip does provide a long-term 30-year government bond yield forecast for the U.S., they do not publish a similar long-term forecast for Canada.

IR-21 On page 31 of the Concentric Report, Concentric states:

In a world of increasingly linked economies and capital markets, investors seek returns from a global basket of investment options. Investors distinguish between risks on a country-to- country basis, factoring in the comparability of the economic, business and political environments.

Question(s):

a. Is there evidence to suggest that home country bias has diminished for Canadian investors over the past 10 years?

Response:

a. "Home country bias" refers to an investor's tendency to invest a majority of their portfolio in domestic equities or to have a concentrated exposure to their employer's stock rather than diversifying by investing in foreign equities. Systematic risk is reduced by investing in foreign equities because they are not fully impacted by changes in domestic markets.

As shown in the table below, there have been almost two dozen acquisitions of U.S. utilities by Canadian utility holding companies since 2000, with most of these transactions occurring since 2012. This track record suggests that home country bias, to the extent it existed, has diminished for Canadian utility investors over the past decade.

(UE20946) General Rate Application Responses to Interrogatories from Commission Expert – London Economics Int LLC

Maritime Electric

Buyer	Target	Deal Value (\$Millions)	Year
Algonquin Power & Utilities	Kentucky Power	\$1,625	Pending
ENMAX Corporation	Emera Maine	959	2019
Liberty Utilities Co.	St. Lawrence Gas Company, Inc.	55	2019
AltaGas	WGL Holdings Inc.	4,544	2018
Algonquin Power & Utilities	Empire District Electric Co	1,495	2017
Fortis Inc.	ITC Holdings Corp	6,952	2016
Emera Inc.	TECO Energy Inc.	6,509	2016
Caisse de dépôt et placement	IPALCO Enterprises Inc.	134	2016
Caisse de dépôt et placement	IPALCO Enterprises Inc.	244	2015
Algonquin Power & Utilities	New Hampshire Gas Corp	3	2015
Fortis Inc.	UNS Energy Corp	2,547	2014
Algonquin Power & Utilities	New England Gas Company	55	2013
Fortis Inc.	CH Energy Group Inc.	986	2013
Algonquin Power & Utilities	Natural Gas Distribution Operations	141	2013
Algonquin Power & Utilities	California Pacific Electric Co.	41	2012
AltaGas	SEMCO Holding Corp	780	2012
Algonquin Power & Utilities	Midwest Natural Gas Distribution	124	2012
Algonquin Power & Utilities	Granite State/EnergyNorth	270	2012
Gaz Metro LP	Central Vermont Public Service	478	2012
Emera Inc	Maine & Maritimes Corporation	76	2010
Gaz Métro LP	Green Mountain Power Corp	189	2007
NS Power Holdings Inc.	Bangor Hydro-Electric Co.	197	2001

Other evidence of the multinational flow of capital is found in the net flow of foreign investment in Canadian securities and Canadian investment in foreign securities. The net inflow/outflow varies considerably month to month, but according to Statistics Canada "Canadian investors acquired an unprecedented \$165.9 billion of foreign securities, up significantly from 2020 and well above the previous high of \$84.7 billion observed in 2017. The bulk of the activity in 2021 targeted US shares, with purchases of \$95.1 billion..."



Source: https://www150.statcan.gc.ca/n1/daily-quotidien/220217/dq220217a-eng.htm

These data indicate a strong flow of investment both into and out of Canada, which is increasing over time, and is reflective of an international perspective from Canadian investors.

IR-22 On page 31 of the Concentric Report, Concentric states:

Country-specific economic, business and political conditions that affect investment risk can be measured through a variety of qualitative and quantitative metrics. One such measure, produced by The Economist Intelligence Unit, rates Canada and the U.S. precisely the same from an overall country risk perspective (i.e., A) with AAA being the highest rating.

Question(s):

a. Just because two countries have the same country risk rating, does that in isolation prove integration between the two markets?

Response:

a. No. That is why Concentric also presents evidence on pages 32 to 33 of its report regarding the magnitude and significance of trade between Canada and the U.S. as further evidence of the economic integration between the two countries. As discussed therein, Canada and the U.S. are each other's largest export markets. Further, Exhibit JMC-2 compares various economic indicators such as interest rates, gross domestic product growth, unemployment rates, and inflation for the two countries and demonstrates the high degree of correlation over the past 30 years. The securities trading data provided in response to IR-21 further underscores the financial integration of Canada and the U.S.

IR-23 On page 35 of the Concentric Report, Concentric presents the Canadian Proxy Group in Figure 19.

Question(s):

- a. Other than for Hydro One, what percentage of assets for each of the companies in Figure 19 are in the US?
- b. If a large proportion of assets within the Canadian proxy group are in the US, is it appropriate to continue using this Canadian proxy group?

Response:

a. Several of the companies in the Canadian proxy group have a significant portion of their operations in the U.S. and derive a large percentage of operating income from the U.S. operations.

Figure 1 Canadian Proxy Group		
Company	Ticker	% US Assets
Algonquin Power and Utilities Corp. ¹⁵	AQN	85.7%
AltaGas Ltd. ¹⁶	ALA	67.6%
Canadian Utilities Limited ¹⁷	CU	0%
Emera, Inc. ¹⁸	EMA	71.7%
Enbridge, Inc. ¹⁹	ENB	31.0%
Hydro One Ltd.	Н	0%

b. Concentric continues to present market data for a Canadian proxy group in its return on equity ("ROE") analysis because it is informative, and because regulators and stakeholders expect to find it in a ROE analysis for a Canadian company. However, Concentric has also been presenting the results for a North American proxy group for the last decade, because that is how equity investors and rating agencies view the utility industry. Utilities are competing for capital in international financial markets. On pages 69 and 70 of Concentric's report, Concentric observes that several of the companies in the

¹⁵ Source: Algonquin Power and Utilities Corp. 2021 Annual Report, page 137. Percentage is based on property, plant and equipment rather than total assets as that is how Algonquin reports segment data.

¹⁶ Source: AltaGas Ltd. Fourth quarter 2021 Financial Statements and Management Discussion and Analysis, page 146. The Utilities segment operates in the U.S., while the Midstream segment operates primarily in Canada.

¹⁷ Source: Canadian Utilities Limited 2021 Financial Statements. Canadian Utilities has assets in Canada and Australia, but not in the U.S.

¹⁸ Source: Emera Inc. 2021 Annual Report, Segment Information, page 98. U.S. percentage includes Florida Electric Utility and Gas Utilities and Infrastructure segments. The Gas Utilities segment includes the Brunswick Pipeline, which is not broken out separately in the annual report. As such, the U.S. percentage of assets is somewhat overstated.

¹⁹ Source: TD Securities equity analyst report on Enbridge Inc. dated August 3, 2021. The reported percentage is based on earnings before income tax, depreciation and amortization (EBITDA) rather than total assets. Enbridge's annual report does not indicate what percentage of company assets are in the U.S. The calculated percentage includes the following segments: Mid-Continent and Gulf Coast, U.S. Gas Transmission, and U.S. Midstream.

Canadian proxy group are engaged in diverse businesses, including natural gas distribution, oil and natural gas transmission, merchant generation, development of renewable assets, commodity marketing, and various other unregulated activities, and tend to derive a higher percentage of their revenues and net operating income from unregulated activities. Concentric finds the U.S. Electric proxy group to be most comparable to Maritime Electric in terms of business and financial risk, as stated in its report.

- **IR-24** On page 35 of the Concentric Report, Concentric discusses its screening criteria for its second proxy group (US electricity utility companies). Two of the five criteria include:
 - b. Consistently pay quarterly cash dividends, with no recent reductions or omissions of the dividend payment
 - c. Positive earnings growth rate forecasts from at least two sources

Question(s):

- a. Don't these two criteria distort the risk profile of the industry? Please explain.
- b. Had neither of these criteria included, which companies would be added to this proxy group?
- c. Please provide the starting list of all 36 companies, to which the five criteria were applied.

Response:

- a. No. These screening criteria are commonly applied by return on equity witnesses and very similar criteria have been adopted by regulators such as the U.S. Federal Energy Regulatory Commission for purposes of selecting a risk comparable proxy group. In addition, it is not possible to perform the Discounted Cash Flow analysis without applying these two screens.
- b. No companies would be added to the group if the dividend payment screen were not included. Pinnacle West Capital Corporation would be added to the proxy group if we did not screen for positive earnings per share growth rate forecasts from at least two sources.
- c. Please see IR-24 Attachment 1 for the companies in the Value Line Electric Utilities industry group.
IR-25 On page 39 of the Concentric Report, Concentric states:

Although each model brings a different perspective and adds depth to the analysis, each model also has its own inherent weaknesses and should not be relied upon individually without corroboration from other approaches.

Question(s):

a. Please elaborate on the weaknesses of each of the models.

Response:

a. Both the Capital Assets Pricing Model ("CAPM") and Discounted Cash Flow ("DCF") model are based on simplifying assumptions that are not always met in practice. In addition, each model requires certain input parameters that must be selected by the analyst from available market data. For example, the DCF model can only be applied to companies that pay dividends and that have positive growth rates. In addition, there is debate as to which growth rate should be used to estimate projected growth in future cash flows (earnings, dividends, book value, sustainable growth, gross domestic product). Another weakness of the DCF model is that it is not possible to adjust the model for expected changes in interest rates, as can be done in the CAPM by using a projected risk free rate.

The return on equity analysis is intended to be forward-looking. In the CAPM model, the risk free and market risk premium ideally should reflect investor expectations, not historical data. There is disagreement as to which risk free rate should be used (historical or projected), as well as how to determine the market equity risk premium (historical, surveys, or projected risk premium based on estimate of total market return less risk free rate). In addition, beta is calculated based on historical stock prices and can be a source of controversy.

The Risk Premium analysis is based on a risk-free rate plus an equity risk premium to compensate shareholders for the additional risk of owning common equity instead of debt. The Risk Premium analysis for utilities is often based on the relationship between authorized returns and the corresponding yield on government or utility bonds. Some may question whether these returns reflect investor behavior or commission behavior, or whether there is an inverse relationship between interest rates and the equity risk premium.

None of the models adjusts for differences in capital structure, although the CAPM can be adjusted using the Hamada equation or a similar method to adjust Beta to reflect differences in financial leverage.

Despite the weaknesses of the models, each model also has strengths and, taken together, they can be effectively used by investors to estimate the cost of equity.

IR-26 On page 40 of the Concentric Report, Concentric states:

The Constant Growth DCF model requires the following assumptions: (1) a constant average growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant price- to-earnings multiple; and (4) a discount rate greater than the expected growth rate. The assumptions of the Constant Growth DCF model are generally reasonable for regulated utility companies, which operate in a stable and mature industry and are characterized by a relatively steady state of earnings and dividend growth.

Question(s):

- a. The assumption of a constant P/E multiple contradicts with Concentric's statement on page 29: "...according to industry analysts such as Value Line, these high valuations are not expected to continue, as Price-to-Earnings ("P/E") ratios are projected to decline from current levels in the period from 2023-2027." Please explain.
- b. Please provide historical evidence for: (i) earnings and dividends growing at a constant rate; and (ii) dividend payout ratios remaining stable.

Response:

- a. One of the assumptions of the Constant Growth Discounted Cash Flow ("DCF") model is that price-to-earnings ("P/E") ratios will remain constant. If current P/E ratios are much higher or lower than the long-term historical average, then this assumption does not hold, and raises concerns about the reliability of the DCF model results. Specifically, if current P/E ratios are considered unsustainably high, then the DCF model tends to understate forward-looking return requirements.
- b. Projected earnings per share ("EPS") growth rates for utilities have been relatively stable between 5 and 6 per cent for many years. Dividends tend to fluctuate more from year to year as companies manage the payout ratio within the overall needs of the business. Over time, the payout ratio has been fairly stable for the proxy group companies, but it can fluctuate from year to year as earnings performance varies and as a company's capital needs change. The median dividend payout ratio for the companies in Concentric's U.S. Electric proxy group from 2010 to 2021 is shown in the table below. Data for Evergy, Inc. is not available over the entire period because the company was formed in 2018 through the merger of Great Plains Energy and Westar, Inc.

Figure: U.S. Electric Proxy Gro	oup Median Payout Ratio	- 2010-2021
Company	Ticker	Payout Ratio
ALLETE, Inc.	ALE	68.27%
Alliant Energy Corp.	LNT	61.38%
Duke Energy Corporation	DUK	89.39%
Edison International	EIX	55.35%
Entergy Corp.	ETR	66.33%
Evergy, Inc.	EVRG	N/A
IDACORP, Inc.	IDA	51.14%
NextEra Energy Inc.	NEE	51.72%
OGE Energy Corporation	OGE	47.74%
Portland General Electric Company	POR	61.19%

Figure 22 in Concentric's report presents an analysis that compares EPS, dividends per share ("DPS") and gross domestic product ("GDP") growth rates. These data indicate that actual EPS and DPS growth rates have tracked closely for Concentric's U.S. Electric and North American Electric proxy groups from 2005 to 2019. For the U.S. Electric proxy group EPS growth was 4.77 per cent versus DPS growth of 4.82 per cent, and for the North American proxy group, EPS growth was 4.99 per cent and DPS growth was 5.13 per cent over this period.

IR-27 On page 40-41 of the Concentric Report, Concentric states:

The dividend yields were calculated for each company in the respective proxy groups by dividing the current annualized dividend by the average stock price for each company for the 90-trading days ended February 28, 2022.

Question(s):

- a. Was there a specific reason to choose the average stock price for 90-trading days? Please explain.
- b. Did Concentric perform a sensitivity analysis using the average stock price for a different term (e.g., 180 days or 365 days)?
- c. Please provide the backup excel files underlying the analysis, showing the formulae and source data.

Response:

- a. No, Concentric commonly considers 30, 90 and 180 day average stock prices in the Discounted Cash Flow ("DCF") model. Concentric selected 90 day average stock prices because it believes this strikes an appropriate balance between using current market data versus the need to use data over a longer time period so that short-term fluctuations in share prices do not influence the results of the analysis.
- b. No, Concentric did not perform a sensitivity analysis using different averaging periods for Maritime Electric. However, in recent cases for other utilities, the DCF results have not varied materially depending on the averaging period of the stock price, and is also mitigated by the use of alternative models (e.g., Capital Asset Pricing Model and Risk Premium).
- c. Please see the response to IR-18 Attachment 1, where Concentric's Constant Growth and Multi-Stage DCF analysis were provided.

IR-28 On page 50 of the Concentric Report, Concentric states:

Forward-looking MRPs currently are about 300 basis points higher than historical MRPs, reflecting the fact that the historical MRP is based on much higher government bond yields than are available in the current low interest rate environment.

Question(s):

a. Please cite examples where Commissions have accepted the use of Forward Looking MRPs in calculating cost of capital.

Response:

a. In the U.S., the Federal Energy Regulatory Commission ("FERC") has used a Constant Growth Discounted Cash Flow ("DCF") analysis of the dividend paying companies in the Standard and Poor's ("S&P") 500 to compute a forward looking market risk premium in decisions since Opinion No. 531, and most recently in Opinion No. 569-A. FERC relies exclusively on a forward-looking market risk premium ("MRP") and does not use a historical MRP in its Capital Asset Pricing Model ("CAPM") analysis. By comparison, Concentric has used an average of the forward looking MRP and the average historical MRP in both Canada and the U.S., which is a more conservative approach and results in lower return estimates in the CAPM.

In addition to FERC, Staff of the Minnesota Department of Commerce and the Maine Public Utilities Commission have also used a forward-looking MRP based on a constant growth DCF analysis, and the Minnesota and Maine commissions have adopted Staff's ROE recommendations using those approaches.

IR-29 On page 57 of the Concentric Report, Concentric states:

As shown in Figure 33, Maritime Electric has the lowest weighted equity return among these Canadian utilities on this basis

Question(s):

a. Please provide Figure 33 with two additional columns: (i) Lower Bound ROE; and (ii) Lower Bound Weighted ROE.

Response:

The requested information is provided in the following table. Concentric notes that some a. utilities listed in the table have asymmetric plans, so there is limited downside for earnings, and others have financial offramp provisions which are intended to safequard the interests of both the ratepayer and the utility. For example, in Alberta, ENMAX Corporation's performance-based rate (PBR") plan includes re-openers for: (i) failure to meet a specific performance standard for two consecutive years; (ii) material changes in accounting standards that have an annual impact greater than \$5 million; (iii) expansion of ENMAX's service area where more than 10,000 customers are included within the expanded area: (iv) actual return on equity ("ROE") of +/- 300 basis points above/below target ROE for two consecutive years; (v) actual ROE of +/- 500 basis points above/below target ROE for one year. The PBR plan would only re-open to the extent required to address the issue that triggered the re-opening. In Ontario, under Toronto Hydro's custom incentive-rate plan, a regulatory review may be initiated if the utility's annual reports show performance outside the +/- 300 basis points earnings deadband or if performance erodes to unacceptable levels.

Utility	Authorized ROE	Deadband	Upper Bound ROE	Lower Bound ROE	Equity Ratio	Upper Bound Weighted ROE	Lower Bound Weighted ROE
Maritime Electric	9.35%	None ²⁰	9.35%	9.35%	40.0%	3.74%	3.74%
Alberta Electric Utilities – one year	8.50%	5.00%	13.50%	3.50%	37.0%	5.00%	1.30%
Alberta Electric Utilities – two consecutive years	8.50%	3.00%	11.50%	5.50%	37.0%	4.26%	2.04%
Ontario Electric Utility Distributors ²¹	8.66%	3.00%	11.66%	5.66%	40.0%	4.66%	2.26%
FortisBC Energy Inc. (gas) ²²	8.75%	1.50%	10.25%	7.25%	38.5%	3.95%	2.79%
FortisBC Inc. (electric)	9.15%	1.50%	10.65%	7.65%	40.0%	4.26%	3.06%
Newfoundland Power	8.50%	0.50%	9.00%	8.00%	45.0%	4.05%	3.60%

²⁰ In the 2018 GRA (Docket UE20944), the Company applied for an earnings sharing mechanism for 2019 and future years with deadband Of ±50 basis points around the allowed ROE and all amounts outside the deadband returned to or recovered from the customer as directed by IRAC that was not approved by the Commission.

²¹ The authorized ROE was originally reported as 8.34 per cent and was updated to 8.66 per cent in this table.

²² British Columbia Utilities Commission, G-165-20 and G-166-20, FortisBC 2020-2024 MRP Decision, June 22, 2020, at 101.

IR-30 On page 59 of the Concentric Report, in relation to 'small size', Concentric states: "Nothing has changed in this regard since the Company's 2018 GRA filing."

Question(s):

a. If 'nothing has changed', does Concentric believe the 'small size' risk is relevant in assessing 'change in business risk' between current GRA term and upcoming GRA term? Please explain.

Response:

a. Concentric agrees that Maritime Electric's small size relative to other peer group companies is not new. It has been a very important factor in prior decisions by the Commission, as noted in Concentric's report on page 59 where it states: "The Commission has previously recognized that the small size of Maritime Electric makes the Company more risky than other electric utilities in Canada,²³ and this finding has been used to support an above average ROE [return on equity]." In addition, credit rating agencies consider small size and limited geographic diversification as risk factors for regulated utilities, as explained on pages 61 and 62 of Concentric's report. Consequently, Concentric concludes that the risk associated with Maritime Electric's small size has been recognized by the Commission and credit rating agencies, and causes investors to require a higher cost of equity to compensate for that risk, but has not changed.

²³ Island and Regulatory Appeals Commission, Docket UE 20934, Order UE06-03, at paragraph [28].

IR-31 On page 59 of the Concentric Report, Concentric states:

Further, effective January 1, 2017, the Electric Power Act requires Maritime Electric to maintain a common equity ratio of at least 35.0 percent but not to exceed 40.0 percent, which contributes to greater financial risk than its Canadian and U.S. peers.

Question(s):

a. On Pg 57 (Figure 33), Concentric shows the equity ratios of Maritime Electric and peers. Other than Newfoundland Power (which has a higher equity ratio of 45% and correspondingly lower ROE of 8.5%), no other entity has an equity ratio of more than 40%. In fact, the Authorized ROEs for these utilities also range between 8.34% and 9.15%, with Maritime Electric's Authorized ROE at the highest level of 9.35%. As such, please explain how this EPA requirement "contributes to greater financial risk" for MECL?

Response:

a. Concentric concludes on page 75 of its report that Maritime Electric has comparable business and financial risk as the U.S. Electric proxy group. The average U.S. electric utility had an authorized equity ratio of 49.3 per cent in 2021, as shown in Figure 41 of Concentric's report. This indicates Maritime Electric with an equity ratio of 40 per cent has greater financial risk. The Company's equity ratio is similar to other Canadian electric utilities, including those in Alberta and Ontario which are pure transmission and distribution utilities that do not own any generation assets. The *Electric Power Act* places a hard cap on the common equity ratio for Maritime Electric, while other Canadian and U.S. peers do not face such a constraint.

The authorized return on equity ("ROE") for Ontario as shown in Figure 33 is incorrect. Under the Ontario Energy Board's formula, the current authorized ROE is 8.66 per cent for the 2022 rate year, not 8.34 per cent. The formula return is expected to adjust upward for 2023 rate year based on the change in government bond yields and credit spreads that has occurred since September 2021. Concentric's analysis indicates that the Ontario Energy Board formula return for 2023 will be approximately 9.50 per cent. **IR-32** On page 64 of the Concentric Report, Figure 37 presents the sources of the Company's electricity supply in 2021.

Question(s):

a. Please provide the same for 2016-2020; and forecasts (if available) for 2022-2026.

Response:

a. The following table provides Maritime Electric's energy supply in megawatts ("MWh") for 2016 to 2021.

Historical	Historical Maritime Electric Energy Supply (MWh)								
	2016	2017	2018	2019	2020	2021 ²⁴			
On-Island oil-fired generation ²⁵	1,009	1,794	(920)	(3,735)	(3,366)	(4,308)			
On-Island wind and solar	299,321	292,713	303,468	304,632	306,666	286,344			
Point Lepreau participation	200,235	228,990	215,988	221,219	211,087	197,670			
System purchases from NB Power	773,245	774,991	837,545	867,903	883,019	966,490			

The following table provides Maritime Electric forecast energy supply for 2022 to 2025.

Forecast Maritime Electric Energy Supply (MWh)								
	2022	2023	2024	2025				
On-Island oil-fired generation	1,750	3,750	4,125	4,538				
On-Island wind and solar	291,072	311,524	433,138	586,192				
Point Lepreau participation	212,280	254,040	219,936	254,040				
System purchases from NB Power	999,096	929,401	860,224	692,871				

²⁴ In Figure 37 on page 64 of the Concentric Cost of Capital Report, on-Island oil-fired generation incorrectly included 5,753 MWh related to net metering generation which should have been classified as on-Island wind and solar. The table herein presents the amount correctly.

²⁵ On-Island oil-fired generation is the net of generation produced by the Company at the three generation plants less station service or energy consumed by those facilities for plant heating. The negative on-Island oil-fired generation from 2018 to 2021 is the result of having consumed more energy for station service for plant heating than produced.

IR-33 On page 65 of the Concentric Report, Concentric states:

The Company does not have enough generation if its electricity supply is cut off from New Brunswick. This risk materialized in November 2018, when an ice storm cut off power to PEI for 24 hours.

Question(s):

a. How often has this risk materialized in the last 10 years, in addition to November 2018? Please provide details.

Response:

a. An Island-wide blackout has occurred once in the last 10 years, on November 29, 2018 due to an ice storm that impacted New Brunswick, Nova Scotia and PEI.

However, in the past 20 years, there have been other Island-wide blackouts along with numerous events that nearly caused an Island-wide blackout or rolling blackouts. These events are described below.

Other Island-Wide Blackouts

April 28, 2004

A 69 kV transmission line in Moncton (L24) tripped instantaneously due to a fault when a phase of a 138 kV Salisbury-Memramcook/tap to Moncton (L1190/1124) sagged close enough to initiate an arc between the two lines. The trip of L24 extinguished the fault (because it isolated L24 from a ground reference via the 138/69 kV Moncton Tie Transformers) but it left L24 energized at higher than its normal voltage because of continued arcing from the 138 kV line. About a half-second later, it appears that this high voltage caused a 69 kV lightning arrester at Gavton substation on L24 to fail, resulting in a blown 69 kV fuse at the substation that cleared this fault. This second fault also triggered the Memramcook protection on L1190 to open that end of the 3-Terminal 138 kV line. Due to the breaker configuration at Memramcook, this action caused both Memramcook L1142 (to Murray Corner) and Memramcook L1160 (to Springhill, Nova Scotia) to open. With L1143 (to Murray Corner) already out of service due to the switching carried out on Monday, April 26, the opening of L1142 cut off supply to Prince Edward Island and triggered an automatic protection system that used teleprotection to immediately trip both 138 kV submarine cables that had been supplying PEI. With no generation on-line, an Island-wide outage occurred.

May 21, 2005

Failure with a tap changer on the X-6 autotransformer in the West Royalty substation resulted in an outage to 51,670 customers. While restoring power to the system, a low voltage condition on the system resulted in the low voltage protection scheme initiating and tripping the two 138 kV cables connecting PEI to the New Brunswick electrical grid, resulting in an Island-wide outage.

September 19, 2007

A potato sprayer, which was being operated in the Searletown Road area of PEI, caused

a severe flashover on the 138 kV transmission line (Y-101) due to the sprayer coming too close to the line. The fault occurred about 3.9 km away from the Bedeque substation. The neutral over-current relaying protection on transmission lines L1142 and L1143 in Memramcook, New Brunswick, operated and timed-out after two seconds. A direct trip tone was sent to Murray Corner and it tripped all the breakers resulting in an Island-wide outage.

Avoided Island-Wide Blackouts

Other events have triggered an overload condition on the submarine cables that required emergency operation of on-Island generation. In the absence of on-Island combustion turbine generation, which is able to start-up quickly, along with the quick curtailment of customer load, additional Island-wide blackouts would have occurred on the following dates.

May 6, 2008

Submarine cable 1 tripped due to a fault in reactor 1. Cable overload scheme was automatically initiated to ensure overloading of submarine cable 2 did not occur for a prolonged period of time. Combustion turbine generation was automatically started.

March 7, 2011

Submarine cable 2 tripped due to a fault in the circuit switcher for reactor 2. Cable overload scheme was automatically initiated to ensure overloading of submarine cable 1 did not occur for a prolonged period of time. Customer load on T-2, T-5 and T-11 transmission lines was shed automatically and combustion turbine generation was automatically started.

January 9, 2012

Transmission line Y-103 tripped due to a fault. Cable overload scheme was automatically initiated to ensure overloading of submarine cable 1 did not occur for a prolonged period of time. Customer load on T-2, T-5 and T-11 transmission lines was shed automatically and combustion turbine generation was automatically started.

May 8, 2013

A high voltage bushing on the 69 kV breaker 916 of X-7 transformer in the West Royalty substation failed, sending porcelain across the yard and causing oil to cover the other 69 kV breakers and framework within the substation. The fault tripped X-7 and X-5 transformers in West Royalty causing an outage for every customer from West Royalty to East Point including Scotchfort, Crossroads, Victoria Cross, Dover, Georgetown, Souris, and Dingwells Mills substations as well as the Charlottetown Plant Circuits (Riverside Drive, Euston, King, Prince, and Confederation). Maritime Electric's combustion turbine generation was run while the issue was repaired.

August 16, 2019

A termination on X-7 transformer catastrophically failed at 10:45 p.m. on August 15, which resulted in X-5, X-6 and X-7 transformers and transmission lines Y-104, Y-109 and Y-111 to trip due to a phase to ground fault. At midnight, X-7 transformer was isolated from the system. Lines Y-109 and Y-111 were then energized at midnight, and load restoration

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quickly followed. With X-7 out-of-service, by 11:48 am on August 16 the load grew to 43 MVA, the trip level for the protection relay, and X-5 tripped. This resulted in X-6 overloading to 73 MVA, the trip level for the protection relay, and X-6 tripped. The electrical load on the remaining autotransformer X-1 in Church Road went to 66 MVA, which has a 75 MVA capacity. This resulted in an under voltage of 47 kV in Lorne Valley and T-10/T-4 transmission lines tripped on under voltage. This resulted in the loss of load for the majority of customers on Prince Edward Island.

Avoided Rolling Blackouts

For Maritime Electric, a rolling blackout could be required when it does not have enough on-Island wind generation or import capability from New Brunswick to meet customers' demand.²⁶

Table 1 below, shows that from 2012 to 2021 on-Island combustion turbine generation operated on 630 occasions. All generation runs with the exception of unit testing and off-Island sales relate to energy shortfalls from on-Island wind generation or imports from New Brunswick, and aid in avoiding rolling blackouts.

Breakdown of Combu	Table 1 Breakdown of Combustion Turbine Operating Conditions and Occurrences 2012-2021							
	Total MWh	Total Count						
Off Load Cables	20,061	231						
NB Power Curtailment	5,867	98						
NB Power Hold to Schedule	3,860	107						
Lepreau Related	37	1						
On-Island Transmission	919	18						
Unit Testing	1,534	162						
Other – (Off-Island Sales)	856	13						
Total	33,134	630						

²⁶ A rolling blackout occurs when a utility turns off electricity to select areas, using computer programs, to conserve power, then the power is restored and another area is turned off. For Maritime Electric, a rolling blackout could be required when it does not have enough on-Island wind generation or import capability from New Brunswick to meet customers' demand.

IR-34 On page 65 of the Concentric Report, Concentric states:

Weather-related service disruptions represent another important operating risk for Maritime Electric. The Company's service territory is subject to severe ice and wind storms. The need to address supply disruptions caused by severe weather conditions involves unpredictable and potentially volatile capital and operating costs.

Question(s):

- a. Please provide details of historical 'unpredictable capital and operating costs' actually incurred over the last 10 years due to weather-related service disruptions.
- b. Have any of the costs described above not been recovered in MECL's revenue requirement? Please explain.

Response:

a. Significant weather-related service disruptions often result in customer outage hours above the threshold to qualify as a major event.²⁷ Maritime Electric has recorded 17 weather-related major events for the period 2012 to 2021, resulting in a total of approximately \$6.9 million in incremental capital, operating and retirement costs associated with Company overtime and contractor labour, as shown in the following table.²⁸

The weather-related service restoration costs presented are estimates based on a review of financial records around the time of each major event, as it has not been past practice to collectively track event-specific costs. The exception is the cost assigned to post-tropical storm Dorian, as the Company provided the Commission with a report specific to that event.

²⁷ The methodology for qualifying a major event was developed by the Institute of Electrical and Electronics Engineers ("IEEE") and involves comparing the total number of customer outage hours due to a disruption, against a utilityspecific target, based on that utility's past reliability performance.

Regular time and transportation costs for weather-related service disruptions were not included as an incremental cost, as they are mostly fixed in annual capital and operating budgets. Material costs were not included as the replacement of storm-damaged assets is accounted for as an early retirement cost.

	Table 1 Major Event Weather-Related Service Disruption Costs 2012 to 2021								
Year	Date	Description	Outage Hours	Cost (rounded)					
2012	February 12	Island-wide winter storm	78,364	\$ 64,000					
2013	December 4	Island-wide winter storm	94,291	111,000					
2014	March 26	Island-wide winter storm	34,148	202 000a					
2014	March 31	Island-wide winter storm	291,648	292,000*					
2014	July 5	Hurricane Arthur	102,833	211,000					
2015	December 3	Island-wide winter storm	450,300	432,000					
2016	November 27	Island-wide winter storm	477,724	728,000					
2016	December 30	Island-wide winter storm	74,685	60,000					
2017	March 23	Island-wide winter storm	31,285	_b					
2017	July 21	Lightning storm	35,151	4,000					
2017	November 23	Island-wide winter storm	33,363	33,000					
2018	January 5	Island-wide winter storm	29,881	9,000					
2018	October 16	Island-wide wind storm	52,976	34,000					
2018	November 3	Island-wide wind storm	164,409	213,000					
2018	November 29	Island-wide winter storm	1,203,018	934,000					
2019	September 7	Post-Tropical Storm Dorian	2,795,516	3,391,000					
2020	August 27	Tree on T-8 due to wind	34,287	25,000					
Total			5,983,879	\$ 6,541,000					

a. The amount shown is the total cost for both major events, as they occurred too close together to discern what cost applied to a specific event.

b. Costs specific to this event were not readily identifiable.

b. All of the costs shown in the above table were recovered by Maritime Electric through its revenue requirement; however, there is no provision to ensure this will always be the case in the future and as such, the Company must seek Commission approval for the process and the amount, whenever weather-related major events require expenditures that are significantly above budgeted amounts.

IR-35 On pages 65-66 of the Concentric Report, Concentric states:

Given the intermittent nature of wind and solar as sources of generation, there are additional operational and contractual complexities for Maritime Electric which distribution utilities in other provinces do not face to the same degree.

Question(s):

a. Which specific additional operational and contractual complexities is Concentric referring to here? Please explain.

Response:

a. Wind and solar are intermittent sources of power that cannot be relied on for baseload generation. As a result, Maritime Electric is required to adjust its energy supply sources if wind and solar are not providing sufficient energy to meet the Company's needs.

Specifically, Maritime Electric must provide a long-term energy forecast to NB Power, which includes the energy expected to be provide by on-Island wind and solar. NB Power determines how much of Maritime Electric's forecast energy it can provide from its own generation and then secures energy for any shortfall. The Energy Purchase Agreement between Maritime Electric and NB Power, via New Brunswick Energy Marketing, includes a price ratcheting clause that is triggered when the actual energy required by Maritime Electric is above or below the forecast amount by a predetermined percentage. This price ratcheting clause compensates NB Power for the risk associated with the variability of Maritime Electric's energy requirements. The variability of Maritime Electric's energy requirements is due primarily to the variability of on-Island wind and solar generation.

While Maritime Electric has a regulatory deferral account for any additional energy supply cost, the Company does not own or control the on-Island wind and solar generation assets, nor does it control the timing of when the planned additional wind generation will be in service. In addition, when existing wind farms are producing less power than expected, Maritime Electric cannot ensure that the sources continue to generate power at the expected levels.

According to the Canadian Energy Regulator's website, generation from wind farms and solar photovoltaic panels grew from a negligible amount in 2005 to approximately 5 per cent of total electricity generation in 2019 in Canada. In comparison, on-Island wind and solar was 19.9 per cent of Maritime Electric's energy supply mix in 2021.

IR-36 On pages 66 of the Concentric Report, Concentric states:

Maritime Electric has very limited protection against costs that tend to fluctuate significantly from year to year, are material in nature, and over which utility management has no control. While several utilities in Canada have deferral and variance accounts to mitigate the risk associated with operating and capital costs, Maritime Electric has relatively few. The only accounts that Maritime Electric has implemented are: 1) the Energy Cost Adjustment Mechanism ("ECAM"), which allows the Company to recover the actual cost of fuel and purchased power compared to the forecasted amount, 2) a weather normalization reserve account that represents the cumulative change in the contribution margin (average selling price less average cost of energy purchased) resulting from variations in heating degree days from normal; and 3) a variance account for OPEB costs.

Previously on pages 65 of the Concentric Report, Concentric states:

Maritime Electric does not have cost recovery mechanism or deferral account for stormrelated costs to mitigate this risk, although it was allowed to defer the costs associated with Hurricane Dorian for future recovery in rates.

Question(s):

a. Other than storm-related costs, please identify additional costs - that Maritime Electric has historically incurred that are not covered by these three accounts - which tend to fluctuate significantly from year to year, which are material in nature, and over which utility management has no control. Please provide detailed breakdown of such additional costs over the last 10 years.

Response:

a. Please see IR-36 - Attachment 1 for a 10-year history of accounting data by major category for the Company's revenue requirement. The data provided in the attachment represent cost variances over the budgeted/forecasted amount for each year from 2012 to 2021.

For example, Attachment 1 shows an amortization variance of \$2.36 million in 2020. The Commission initially approved an increase in amortization rates in 2020 in Order UE19-08 for recovery in the Company's revenue requirement. However, customer rates were not increased in 2020. After further discussion, the Commission ultimately approved a deferral account to allow Maritime Electric to recover the amortization costs over a specified time period.²⁹ Another example is the \$1.33 million cost variance in the 2021 right-of-way account. This balance was used to offset operating costs savings in other areas, with Maritime Electric using the funds to perform extra vegetation management in order to mitigate risk from storm damages to the distribution system.

²⁹ In Order UE20-06, the Commission approved a regulatory deferral of approximately \$2.8 million to recover a shortfall in collecting the Company's actual revenue requirement for 2020 from customers.

IR-37 On page 67 of the Concentric Report, Concentric states:

....the market data used to estimate the cost of equity reflects investors' expectation that all utility companies have a variance account for fuel and purchased power costs.

Question(s):

a. What evidence is there that investors have the expectation that "all" utilities have a variance account?

Response:

a. Fuel cost recovery clauses have been commonplace in the utility industry since the 1980s, and investors and rating agencies expect utility companies to have this regulatory protection. As explained on page 75 of Concentric's report, all of the electric utility operating companies in our U.S. Electric proxy group have fuel adjustment mechanisms that allow them to pass through fuel and purchased power costs to customers. As such, the U.S. electric utilities are not at risk for differences between the projected and actual cost of fuel and purchased power. Fuel and purchased power costs tend to fluctuate from year to year, and without fuel cost adjustment mechanisms, the utility's cash flows would be under pressure, because they would be recovering fuel costs through base rates, rather than through a mechanism that is adjusted regularly to true up differences between actual and forecast fuel costs. The importance of such fuel cost mechanisms has been highlighted in recent months, as fuel costs have spiked.

IR-38 On page 67 of the Concentric Report, Concentric states:

Maritime Electric no longer faces competition from alternative fuel sources such as fuel oil for space heating needs.

Question(s):

a. Is there any potential for biomass for space heating?

Response:

a. The referenced statement on page 67 of Concentric's report refers to new construction, where customers tend to prefer electricity over other fuel sources. According to Maritime Electric data, 80 per cent of new construction in its service territory installs electric space heating. However, a relatively large percentage of the existing customer base continues to use fuel oil for space heating, and Maritime Electric continues to face competition from alternative fuel sources among existing customers. As indicated in Concentric's report, approximately 40 per cent of Maritime Electric's customers are using electricity for space heating, up from 30 per cent in 2018.

Please refer to the Excel spreadsheet IR-38 - Attachment 1, which provides data from the Canadian Energy Regulator's website on August 9, 2022. The data shows that electricity accounted for approximately 18 per cent of end-user energy demand among residential customers on PEI in 2021.

The PEI Provincial Energy Strategy 2016/17 contains figures for the fuel source for residential space heating, as follows.

	2008	2014
Home Heating Oil	71%	52%
Wood	19%	20%
Electricity	8%	21%
Other (primarily propane)	2%	7%

Since 2014, residential electric space heating, from both baseboard and mini-split heat pumps, have become more popular and biomass, such as wood, has likely remained relatively static.

Some governmental institutions, such as schools, hospitals and government buildings, have transitioned from fuel oil to biomass. Overall, biomass has not been, and likely will not be, a significant source of space heating.

IR-39 On page 68 of the Concentric Report, Concentric states:

The government acted on the recommendation regarding ownership of Maritime Electric's future generation assets by announcing a policy which provides the government the option to own and finance future generation on PEI.

Question(s):

a. In Concentric's view, does the fact that the province is responsible for owning the future generating plant increase or decrease the risk to Maritime Electric?

Response:

a. The legislation under the Electric Power Act gives the Province the option to own future investments in generation plant assets. Should the Provincial Government choose to own and finance future generation on PEI, a portion of Maritime Electric's financial risk would be reduced as a result. However, such ownership does not eliminate Maritime Electric's risk as it still has an obligation to serve customers regardless of who owns the generation. Further, Standard and Poor's ("S&P") has expressed concern with the level of government intervention in energy policy. Specifically, S&P states in its June 2022 rating action:

Our assessment of MECL's business risk also reflects the Island Regulatory and Appeals Commission (IRAC) and the provincial government of Prince Edward Island (PEI) that both have a history of playing an active role in establishing energy policy and setting rates for the island's customers, which exposes the utility to potential political interference. We view this as generally less favorable than an independent regulator with a clear, consistent mandate and an established track record of credit-supportive policies. **IR-40** On page 69 of the Concentric Report, Concentric states:

Our assessment is that Maritime Electric continues to have many of the same business and operating risks as in prior GRA filings.

Question(s):

a. In Concentric's view, how have the business and operating risks changed for this upcoming GRA period to justify a change in the ROE?

Response:

a. The recommended change in the authorized return on equity ("ROE") for Maritime Electric is justified by the results of financial models using market data for a proxy group of comparable risk electric utility companies, not by a change in business and operating risk for Maritime Electric. Under the *Electric Power Act*, the Company's equity ratio is capped at 40 per cent, meaning that if Maritime Electric were found to have increased business risk, it would need to be accounted for through an adjustment to the authorized ROE rather than to the deemed equity ratio.

IR-41 On page 72 of the Concentric Report, Concentric presents Figure 39 showing 'Operating Recovery Mechanisms' for Maritime Electric and select Canadian utilities.

Question(s):

- a. Please provide MECL's historical costs (in \$ and as a % revenue requirement) associated with bad debts, change in interest rates, and energy efficiency and DSM.
- Please explain if these: (i) have tended to fluctuate substantially from year to year,
 (ii) are significant in magnitude, and (iii) are generally beyond the control of utility management.

Response:

a. Please refer to IR-36 – Attachment 1 for Maritime Electric's historical costs associated with bad debts (line 14 of the attachment) and changes in interest rates (line 26). The energy efficiency and demand-side management ("DSM") program on PEI is government controlled via efficiencyPEI.³⁰

Further, Maritime Electric does not have a deferral account, such as a Lost Revenue Account Mechanism, that allows utilities to recover any lost revenues attributable to reduced sales due to energy efficiency and DSM. To the extent that the Provincial Government's energy efficiency and DSM program impacts electricity sales, Maritime Electric is at risk for not being able to recover its revenue requirement through customer rates.

b. Maritime Electric's historical bad debt costs have fluctuated between \$150,400 in 2020 to \$443,800 in 2021. The Company has typically budgeted approximately \$200,000 to \$250,000 in bad debt costs each year. These costs tend to fluctuate materially from year to year, depending on economic conditions, are significant in magnitude, and are generally beyond the control of utility management.

Maritime Electric's historical costs associated with changes in interest rates also tend to fluctuate from year to year, especially interest on short-term debt and interest income. These amounts depend on short-term borrowing costs, which are closely tied to the stage of the business cycle and the monetary policy of central banks. The changes in interest rates are ultimately beyond the control of utility management.

³⁰ The Prince Edward Island Energy Corporation assumed responsibility for energy efficiency pursuant to the *Electric Power Act*, as amended on December 20, 2017. Maritime Electric's Community Outreach Program was a small five-year demand side management program approved by Commission Order UE15-02, and 2020 was the final year of the program.

IR-42 On page 72 of the Concentric Report, Concentric states:

Importantly, while Maritime Electric has protection against pension and OPEB expenses, the Company does not have the ability to recover extraordinary storm costs despite operating in a service territory characterized by severe ice and wind storms.

Question(s):

a. Please provide examples of extraordinary storm costs that have not been recovered by MECL historically.

Response:

a. Please refer to the response to IR-34.

Although Maritime Electric has been able to recover extraordinary storm costs over the past decade through individual approval of deferrals related to of specific weather related events, the Company does not have the certainty of an automatic deferral for storm costs. For example, the Company incurred storm costs of \$3 million in 2019 to restore power to customers after post-tropical storm Dorian without any assurance that the costs would be recovered from customers.

As noted on page 76 of Concentric's report, 49 per cent of the operating utilities in the U.S. Electric proxy group have a storm cost recovery account, while Maritime Electric has no deferral account related to storm costs. For example, Florida Power and Light ("FPL") has a storm cost account that allows the company to draw down the balance in the account whenever eligible costs are incurred. Although FPL's service territory covers an area that experiences severe and frequent storms, especially hurricanes, FPL has a regulatory mechanism to insulate the company from the risk of recovering capital and operating costs. Concentric characterizes FPL and its regulator, the Florida Public Service Commission, as an example of "best practices" in this regard.

While severe weather has not been as common on PEI, the likelihood and impact of storms are increasing. To that point, in its June 17, 2022 credit report for Maritime Electric, Standard and Poor's ("S&P") changed the Company's business risk ranking from "excellent" to "strong" due to increased climate change risk and the impact of severe weather. S&P explained the change in the business risk ranking for Maritime Electric as follows:

We revised downward our assessment of MECL's business risk profile to the higher end of the strong category from the lower end of the excellent category. Our revision reflects climate change and our view of the island's increasing susceptibility to physical risks even though the company is planning on hardening many portions of its system incrementally over time. Over many years, MECL is proactively invested in the hardening and replacement of portions of its electric system to minimize customer service outages. Despite these improvements, the region remains susceptible to physical risks from the increasing prevalence of storm systems and winter ice and sleet activity in the region. Also affecting the company's business risk profile is its very small customer base of only about 86,000 customers, its lack of geographic diversity, and that its service territory is limited to a single island. Should the company experience a severe storm, it would likely affect its entire service territory and recovering such costs would likely be more challenging than most other larger and more diversified utilities. [emphasis added]

IR-43 On page 74 of the Concentric Report, Concentric states:

Concentric contacted Moody's to check if the agency has updated its 2013 report, and the lead utilities rating analyst indicated that 2013 remained its most recent assessment, although it anticipated publishing an update in mid-2022.

Question(s):

a. Has an update been published by now? If yes, please provide.

Response:

a. An updated version of Moody's 2013 report has been requested but Moody's has not responded to this request.

IR-44 On page 75 of the Concentric Report, Concentric states:

UBS ranked PEI's regulatory environment in Tier 3 out of five in a December 2020 report. UBS also placed Ontario and Newfoundland and Labrador in Tier 3. British Columbia and Nova Scotia were rated more highly by UBS, falling in Tiers 1 and 2, respectively, while Alberta was rated in Tier 4. In the U.S., UBS ranks 18 state jurisdictions in Tier 3, 9 states in Tier 2, and 7 states in Tier 1.

Question(s):

a. Has PEI's ranking (actual and relative to other provinces) changed in UBS December 2020 report, relative to UBS' previous reports? Please explain.

Response:

a. Concentric does not have access to previous versions of the referenced UBS report, and therefore cannot provide the requested comparison to prior versions.

IR-45 On page 80 of the Concentric Report, Concentric states:

2021 estimated credit metrics for Maritime Electric indicate that FFO ratios were projected to decline compared to 2020.

Question(s):

a. Please provide underlying data and calculations (in excel) associated with this statement.

Response:

a. The 2021 credit metrics reported in Figure 42 were estimates provided prior to S&P issuing its 2022 Credit Report for Maritime Electric on June 17, 2022, which report is provided as IR-45 - Attachment 1 to this response.

In preparation of that report, S&P updated the credit metric ratios for 2021. The supporting calculations for the actual credit metrics for 2021 is provided as IR-45 – Attachment 2 to this response. The following table is a comparison of the previous credit metrics reported in Figure 42 of the Concentric report and the updated credit metrics provided by S&P:

Marit	ime Electric 2021 Credit Metri	cs
Credit Metric	Previously Estimated	Actual Results from S&P
Debt to Capital Ratio	61.9%	71.3%
EBITDA to Interest Coverage	4.65	4.04
FFO to Interest Coverage	2.80	3.02
FFO/Debt (%)	14.2%	17.3%
Debt/EBITDA	4.25	4.32

Both FFO metrics reported by S&P in their final report were higher than the estimates provided in Figure 42 but are notably lower than reported in 2017.

IR-46 On page 81 of the Concentric Report, Concentric states:

Maritime Electric has consistently maintained a long-term issuer rating from S&P of "BBB+" since January 2004

Question(s):

a. Does S&P's decision to keep Maritime Electric's credit rating the same for 17 years indicate that, for the ratings agency, Maritime Electric's combined business and financial risks have not meaningfully changed since 2004? If no, please explain.

Response:

a. That is a reasonable conclusion based on the stable rating from Standard and Poors ("S&P"). Concentric is not recommending a change in the Company's deemed equity ratio, which would be correlated with a change in the utility's business and financial risks. Concentric's return on equity ("ROE") analysis, which is based on market data for risk comparable companies, indicates that the cost of equity for Maritime Electric is higher than the currently authorized 9.35 per cent. Therefore, Concentric's evidence supports an authorized ROE of 9.95 per cent for Maritime Electric.

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IR-47 Appendix I provides 2021 actuals and 2022-2025 forecasts for MECL financial statements.

Question(s):

a. Please provide historical MECL financial statements for 2015-2020.

Response:

a. The Company has provided its annual reports for 2015 to 2020 as IR-47 - CONFIDENTIAL Attachment 1.



INTERROGATORIES

IR-24 – Attachment 1

Company	Ticker	Value Line Industry
ALLETE, Inc.	ALE	Central
Alliant Energy Corporation	LNT	Central
Ameren Corporation	AEE	Central
American Electric Power Company, Inc.	AEP	Central
Avangrid, Inc.	AGR	East
Avista Corporation	AVA	West
Black Hills Corporation	BKH	West
CenterPoint Energy, Inc.	CNP	Central
CMS Energy Corporation	CMS	Central
Consolidated Edison, Inc.	ED	East
Dominion Resources, Inc.	D	East
DTE Energy Company	DTE	Central
Duke Energy Corporation	DUK	East
Edison International	EIX	West
Entergy Corporation	ETR	Central
Eversource Energy	ES	East
Exelon Corporation	EXC	East
FirstEnergy Corporation	FE	East
Evergy, Inc.	EVRG	Central
Hawaiian Electric Industries, Inc.	HE	West
IDACORP, Inc.	IDA	West
MGE Energy, Inc.	MGEE	Central
NextEra Energy, Inc.	NEE	East
NorthWestern Corporation	NWE	West
OGE Energy Corporation	OGE	Central
Otter Tail Corporation	OTTR	Central
PG&E Corporation	PCG	West
Pinnacle West Capital Corporation	PNW	West
PNM Resources, Inc.	PNM	West
Portland General Electric Company	POR	West
PPL Corporation	PPL	East
Public Service Enterprise Group Inc.	PEG	East
Sempra Energy	SRE	West
Southern Company	SO	East
Wisconsin Energy Corporation	WEC	Central
Xcel Energy Inc.	XEL	West



INTERROGATORIES

IR-36 – Attachment 1

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average
Distribution											
Rights of Way	359,223	-	-	157,757	311,174	165,043	-	253,299	174,007	1,330,664	275,11
_ine Maintenance	-	-	238,394	-	-	-	-	-	230,474	-	46,88
Fransformers	-	-	-	-	-	-	-	198,066	46,589	113,735	35,83
Transmission											
Rights of Way	-	159,451	338,939	-	-	372,676	-	-	-	144,447	101,55
Fransmission and Distribution Other											
Property Tax	-	-	145,754	122,775	-	-	-	-	-	-	26,85
OATT Operations	-	-	-	-	-	-	90,012	-	-	-	9,00
General											
Customer Service	-	354,081	366,102	-	-	-	-	-	-	-	72,01
Jncollectable Accounts (Bad Debts)	-	-	93,016	-	59,892	-	-	-	-	193,786	34,66
Corporate Communications	-	-	-	-	-	-	-	-	-	157,577	15,75
T Services & Support	-	-	90,783	-	-	-	-	-	-	78,742	16,95
Software, Licensing and Equipment	-	-	-	-	-	-	144,300	-	-	-	14,43
Regulation	-	-	-	-	-	-	-	-	84,361	95,938	18,03
Directors' Fees	-	-	-	55,755	59,017	-	100,645	-	-	-	21,54
Employee Future Benefits	-	-	114,600	-	-	-	-	-	-	-	11,46
Insurance	67,065	-	-	-	-	-	-	-	-	-	6,70
_egal	127,425	-	-	-	-	-	-	-	-	-	12,74
Property Tax	127,425		-	-	-	-	-	-	-	-	14,15
Corporate Services	491,187	369,572	318,441	504,694	871,408	536,799	871,408	845,007	446,530	542,127	579,71
Amortization	-	-	-	-	-	-	-	-	2,363,828	141,661	250,54
Financing Costs	-	-	-	-	-	-	235,747	110,505	102,762	-	44,90
FOTAL	1,172,325	883,104	1,706,029	840,981	1,301,491	1,074,518	1,442,112	1,406,877	3,448,551	2,798,677	1,608,88
Annual Revenue Requirement	170,278,571	186,093,521	189,152,441	185,227,031	186,337,404	192,535,281	203,265,498	210,720,774	219,432,156	225,256,805	225,256,80
% of Annual Revenue Requirement	0.7%	0.5%	0.9%	0.5%	0.7%	0.6%	0.7%	0.7%	1.6%	1.2%	0.7
Annual Shareholder Return (Regulated)	12,905,891	12,757,895	12,603,976	13,035,429	12,941,456	13,350,423	13,792,864	14,262,630	14,672,696	15,328,593	13,565,18
% of Annual Shareholder Return	9.1%	6.9%	13.5%	6.5%	10,1%	8.0%	10.5%	9,9%	23.5%	18.3%	11.9



INTERROGATORIES

IR-45 – Attachment 1 and 2

RatingsDirect[®]

S&P Global Ratings

Research Update:

Maritime Electric Co. Ltd. 'BBB+' Rating Affirmed; Outlook Stable

June 17, 2022

Rating Action Overview

- We expect that Prince Edward Island based Maritime Electric Co. Ltd (MECL), will continue operating as a lower-risk integrated utility that is planning to proactively harden its electric system, and operates under a generally credit supportive regulatory framework, despite increasing physical risks across North America.
- Because of climate change, we modestly increased our assessment of the company's business risk to reflect our view of the company's increasing susceptibility to hurricanes or severe storms that have already increased and affected many areas across North America. As such, we revised downward our assessment of the company's business risk profile to the higher end of the strong category from the lower end of the excellent category. This modest downward revision does not affect the ratings on the company.
- We affirmed our ratings on Maritime Electric Co. Ltd., including our 'BBB+' issuer credit rating, and our 'A' issue-level rating on the company's secured bonds, with '1+' recovery rating.
- The stable outlook reflects our expectations that the company will maintain constructive relationship with its regulator, continue to harden its system over time, and generate stable and predictable financial measures. Over the next two years, we expect MECL's stand-alone funds from operations (FFO) to debt to reflect 16%-19%.

Rating Action Rationale

We affirmed our ratings on MECL and the outlook remains stable despite increasing risks from climate change. Despite increasing risks from climate change, we believe MECL will continue achieving generally constructive regulatory outcomes, while managing its susceptibility to physical risk, and maintaining stable stand-alone financial measures that support its credit quality. We expect MECL's stand-alone funds from operations (FFO) to debt to reflect 16%-19% over the next two years.

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We revised downward our assessment of MECL's business risk profile to the higher end of the strong category from the lower end of the excellent category. Our revision reflects climate

change and our view of the island's increasing susceptibility to physical risks even though the company is planning on hardening many portions of its system incrementally over time. Over many years, MECL is proactively invested in the hardening and replacement of portions of its electric system to minimize customer service outages. Despite these improvements, the region remains susceptible to physical risks from the increasing prevalence of storm systems and winter ice and sleet activity in the region. Also affecting the company's business risk profile is its very small customer base of only about 86,000 customers, its lack of geographic diversity, and that its service territory is limited to a single island. Should the company experience a severe storm, it would likely affect its entire service territory and recovering such costs would likely be more challenging than most other larger and more diversified utilities.

The utility has not experienced a devastating storm since 2003, but hurricane storm systems have come close over the past 24 months. As the pace of climate change intensifies, we believe the storm risk for MECL marginally increases. We also believe MECL's business risk profile is now more in line with its other island peers such as Caribbean Utilities Co. and Hawaiian Electric Co. Inc.

Our assessment of MECL's business risk also reflects the Island Regulatory and Appeals Commission (IRAC) and the provincial government of Prince Edward Island (PEI) that both have a history of playing an active role in establishing energy policy and setting rates for the island's customers, which exposes the utility to potential political interference. We view this as generally less favorable than an independent regulator with a clear, consistent mandate and an established track record of credit-supportive policies. As such, we expect the company to maintain constructive relationships with its regulator in a manner that continues to support its credit quality.

Additionally, we believe MECL has somewhat higher emission risks because the utility relies on diesel as its primary fuel for their on-island backup energy generators. Overall, MECL purchases most of its power supply, about 75%, from neighboring province New Brunswick, including about 15% from the Point LePreau nuclear generation station, and 25% from on-island wind assets.

Offsetting much of the aforementioned risks is our assessment of MECL that it is a monopolistic lower-risk, rate-regulated vertically integrated electric utility that has a track record of constructive regulatory outcomes and stable profit measures. MECL has generally managed regulatory risk effectively relying on credit supportive mechanisms allowed within its regulatory construct. These include energy cost adjustments and weather normalization in its rates, which provide stability to their cash flow, minimizing profit volatility. Overall, we assess the company at the higher end of its business risk profile. To account for this, we assess the comparable rating analysis modifier as positive.

We assess MECL's financial risk profile as significant using our medial-volatility financial benchmark table which reflects the company's lower-risk regulated utility operations and

effective management of regulatory risk. Our analysis also incorporates the most recent energy cost adjustment made in February 2022 to recover approximately \$5.6 million in energy supply costs due to unforeseen outages at Point LePreau, a nuclear generation station located in New Brunswick. MECL plans to file its next general rate application in the second quarter of this year proposing new rates effective March 1, 2023. Under our base-case assumptions that include the most recent rate case outcomes, capital spending of about C\$60 million-C\$70 million per year in 2022 and 2023, and dividends of about C\$8.5 million per year, we forecast the company will maintain FFO to debt of about 16%-19% during our two-year outlook period.

We assess MECL as a moderately strategic subsidiary of Fortis Inc. We believe MECL is unlikely to be sold in the near term, is important to Fortis' long-term strategy in regulated utilities, and would likely receive support from the parent should it fall into financial difficulty. Based on this assessment, we continue to rate MECL one notch below the group credit profile.

Outlook

The stable outlook reflects our expectations that the company will maintain constructive relationship with its regulator, continue to harden its system over time, and generate stable and predictable financial measures. Over the next two years, we expect MECL's stand-alone FFO to debt to reflect 16%-19%.

Downside scenario

We could downgrade MECL over the next 12 months if:

- MECL experiences adverse regulatory rulings, severe storms, volatile profit measures, or operational setbacks that results in a higher business risk; or
- Its financial measures weaken, including FFO to debt of consistently below 16%.

Upside scenario

We could raise our ratings on MECL over a similar period if its financial measures improve, including FFO to debt consistently above 25%, without a weakening of business risk.

Company Description

MECL is an integrated electricity generation, transmission, and distribution utility with operations throughout PEI. It provides services to more than 86,300 customers and is regulated by IRAC. MECL is an indirect wholly owned subsidiary of Fortis Inc.

Liquidity

We assess MECL's liquidity as adequate. We expect the company's liquidity sources to be more than 1.1x its uses over the next 12 months and anticipate that its net sources will remain positive even if its EBITDA declines by 10%. In our view, MECL has sound relationships with its banks and a generally satisfactory standing in the credit markets. In the unlikely event of liquidity distress, we expect that MECL would scale back its capital spending and dividend payments to preserve its liquidity.

Principal liquidity sources

- Available committed credit facilities of about C\$47 million as of Dec. 31, 2021; and
- Cash FFO of about C\$55 million over the next 12 months.

Principal liquidity uses

- Capital expenditure of about C\$65 million over the next 12 months; and
- Dividend payments of about C\$8.5 million over the next 12 months

Environmental, Social, And Governance

ESG credit indicators: E-3, S-2, G-2

Environmental factors are a moderately negative consideration in our credit rating analysis of Maritime Electric Co. Ltd. Maritime Electric serves Prince Edward Island, which is a region that's becoming increasingly prone to physical risks related to Atlantic hurricane and tropical storm systems. We view MECL's small customer base and lack of geographic diversity as factors that add to the susceptibility of physical risks associated with storm conditions.

Issue Ratings - Subordination Risk Analysis

Capital structure

As of Dec. 31, 2021, MECL's capital structure comprised about C\$3.7 million of short-term borrowings and C\$258 million of first-mortgage bonds (FMB).

Analytical conclusions

MECL's FMBs benefit from a first-priority lien on the majority of the utility's real property owned or subsequently acquired. In addition, the collateral coverage on these FMBs is more than 1.5x, which supports a recovery rating of '1+' and an issue-level rating of 'A' (two notches above our 'BBB+' issuer credit rating on MECL).

Ratings Score Snapshot

Issuer Credit Rating: BBB+/Stable/--

Business risk: Strong

- Country risk: Very low
- Industry risk: Very low
- Competitive position: Satisfactory

Financial risk: Significant

- Cash flow/leverage: Significant

Anchor: bbb

Modifiers

- Diversification/portfolio effect: Neutral (no impact)
- Capital structure: Neutral (no impact)
- Financial policy: Neutral (no impact)

- Liquidity: Adequate (no impact)
- Management and governance: Satisfactory (no impact)
- Comparable rating analysis: Positive (+1 notch)

Stand-alone credit profile : bbb+

- Group credit profile: a-
- Entity status within group: Moderately strategic (no impact)

Related Criteria

- General Criteria: Environmental, Social, And Governance Principles In Credit Ratings, Oct. 10, 2021
- General Criteria: Group Rating Methodology, July 1, 2019
- General Criteria: Hybrid Capital: Methodology And Assumptions, July 1, 2019
- Criteria | Corporates | General: Corporate Methodology: Ratios And Adjustments, April 1, 2019
- Criteria | Corporates | General: Reflecting Subordination Risk In Corporate Issue Ratings, March 28, 2018
- General Criteria: Methodology For Linking Long-Term And Short-Term Ratings, April 7, 2017
- Criteria | Corporates | General: Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers, Dec. 16, 2014
- Criteria | Corporates | Utilities: Key Credit Factors For The Regulated Utilities Industry, Nov. 19, 2013
- General Criteria: Methodology: Industry Risk, Nov. 19, 2013
- General Criteria: Country Risk Assessment Methodology And Assumptions, Nov. 19, 2013
- Criteria | Corporates | General: Corporate Methodology, Nov. 19, 2013
- Criteria | Corporates | Utilities: Collateral Coverage And Issue Notching Rules For '1+' And '1' Recovery Ratings On Senior Bonds Secured By Utility Real Property, Feb. 14, 2013
- General Criteria: Methodology: Management And Governance Credit Factors For Corporate Entities, Nov. 13, 2012
- General Criteria: Principles Of Credit Ratings, Feb. 16, 2011

Ratings List

Ratings Affirmed

Maritime Electric Co. Ltd.						
Issuer Credit Rating	BBB+/Stable/					
Senior Secured	А					
Recovery Rating	1+					

Research Update: Maritime Electric Co. Ltd. 'BBB+' Rating Affirmed; Outlook Stable

Certain terms used in this report, particularly certain adjectives used to express our view on rating relevant factors, have specific meanings ascribed to them in our criteria, and should therefore be read in conjunction with such criteria. Please see Ratings Criteria at www.standardandpoors.com for further information. Complete ratings information is available to subscribers of RatingsDirect at www.capitaliq.com. All ratings affected by this rating action can be found on S&P Global Ratings' public website at www.standardandpoors.com. Use the Ratings search box located in the left column.

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Table 3

Maritime Electric Co. Ltd.--Reconciliation Of Reported Amounts With S&P Global Ratings' Adjusted Amounts

--Fiscal year ended Dec. 31, 2021--

Maritime Electric Co. Ltd. reported amounts (mil. C\$)

	Orecesi		Operating	Interest	S&P Global Ratings'	Cash flow	Conital
			Operating	interest	adjusted	nom	Capital
	Debt	EBIIDA	income	expense	EBITDA	operations	expenditure
	262.3	60.8	34.2	12.5	97.0	45.1	49.6
S&P Global Ratings' adjustments							
Cash interest paid					(13.3)		
Operating leases	0.2	0.1	0.0	0.0	(0.0)	0.1	
Postretirement benefit obligations/deferred compensation	4.8	0.5	0.5	0.3			
Capitalized interest				0.5	(0.5)	(0.5)	(0.5)
Power purchase agreements	151.5	35.6	10.6	10.6	(10.6)	25.0	25.0
Nonoperating income (expense)			0.0				
Reclassification of interest and dividend cash flows						(0.3)	
Total adjustments	156.5	36.2	11.1	11.5	(24.5)	24.2	24.5
S&P Global Ratings' adjusted amounts							
• •						Cash flow	
				Interest	Funds from	from	Capital
	Debt	EBITDA	EBIT	expense	operations	operations	expenditure
	418.8	97.0	45.3	24.0	72.5	69.3	74.0