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The Island Regulatory  
and Appeals Commission

May 31, 2019

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

Dear Ms. Mosher:

**General Rate Application - Docket UE20944  
Prepared Rebuttal Testimony to Rate of Return Evidence  
Submitted by Dr. Lawrence Booth**

Please find enclosed the Rebuttal Testimony prepared by John P. Trogonoski of Concentric Energy Advisors on behalf of Maritime Electric in response to the evidence submitted at the request of counsel for the Commission by Dr. Lawrence D. Booth. This evidence pertains to the recommended return on equity and derived capital structure for the Company with respect to the General Rate Application filed on November 30, 2018.

Yours truly,

MARITIME ELECTRIC



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

GCC31  
Enclosure  
Cc: Nicole McKenna – Carr, Stevenson & MacKay

PREPARED REBUTTAL TESTIMONY:  
**JOHN P. TROGONOSKI**

PREPARED FOR:  
**MARITIME ELECTRIC COMPANY LIMITED**

BEFORE THE:  
**ISLAND REGULATORY AND APPEALS COMMISSION**

MAY 31, 2019



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## Table of Contents

<b>I. INTRODUCTION</b>	1
<b>II. OVERVIEW</b>	1
<b>III. CAPITAL MARKET CONDITIONS</b>	10
<b>IV. DR. BOOTH'S CAPM ANALYSIS</b>	22
A. Prevalence of the CAPM	22
B. The Risk Free Rate	29
C. The Market Risk Premium	30
D. Beta	35
<b>V. DR. BOOTH'S DCF ANALYSIS</b>	42
A. Earnings Growth Rates	44
B. Sustainable Growth Rates	49
<b>VI. RISK ANALYSIS AND CAPITAL STRUCTURE</b>	53



1           **I. INTRODUCTION**

2   **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3   A. My name is John P. Trogonoski, and I am employed by Concentric Energy Advisors,  
4       Inc. (“Concentric”) as a Senior Project Manager. My business address is 293 Boston  
5       Post Road West, Suite 500, Marlborough, MA 01752.

6   **Q. DID YOU ALSO SUBMIT A PRE-FILED EXPERT REPORT IN THIS PROCEEDING?**

7   A. Yes, I submitted evidence on behalf of Maritime Electric Company Limited.  
8       (“Maritime Electric” or the “Company”) with regard to a just and reasonable cost of  
9       equity and capital structure for the Company.

10   **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

11   A. The purpose of my Rebuttal Testimony is to respond to the evidence submitted at the  
12       request of counsel for the Island Regulatory and Appeals Commission (the  
13       “Commission”) by Dr. Laurence D. Booth as it pertains to the recommended return  
14       on equity (“ROE”) and deemed capital structure for Maritime Electric.

15           **II. OVERVIEW**

16   **Q. PLEASE PROVIDE A BRIEF OVERVIEW OF DR. BOOTH’S EVIDENCE.**

17   A. Dr. Booth recommends an ROE of 7.50 percent for Maritime Electric, which is 185  
18       basis points lower than the Company’s current authorized ROE of 9.35 percent. Dr.  
19       Booth considers the results of both a Capital Asset Pricing Model (“CAPM”) and a  
20       Discounted Cash Flow (“DCF”) analysis, to which he adds a financing and flexibility  
21       adjustment of 50 basis points.



1 **Q. ARE THERE AREAS IN WHICH YOU AND DR. BOOTH ARE IN AGREEMENT?**

2 A. Yes. Dr. Booth and I agree that:

3 • Canada's economy has returned to economic growth after the collapse in oil and  
4 resource prices that put Canada into a technical recession.

5 • Analysts project that Canada's economy will grow at approximately 2.00 percent  
6 over the next few years.

7 • Interest rates on government bonds in both Canada and the U.S. are abnormally  
8 low and have been influenced by global economic policy.

9 • Analyses that depend on the current level of government interest rates, such as the  
10 traditional CAPM analysis, are not providing reasonable results.

11 • A 50 bps adjustment for financing and flexibility is reasonable and appropriate.

12 **Q. WHAT ARE THE PRIMARY AREAS IN WHICH YOU AND DR. BOOTH DISAGREE?**

13 A. Dr. Booth's proposed reduction in the authorized ROE for Maritime Electric to 7.50  
14 percent, in combination with his proposed reduction in the Company's common  
15 equity ratio from 40.00 percent to 35.00 percent, are both individually and collectively  
16 lower than any reasonable estimate of Maritime Electric's cost of capital. Dr. Booth's  
17 ROE recommendation is not reflective of the proxy group results using commonly  
18 accepted inputs for the CAPM and DCF analyses, and does not adequately reflect the  
19 risk of Maritime Electric relative to the other investor-owned electric utilities in  
20 Canada or the U.S. On that basis, Dr. Booth's ROE recommendation does not satisfy



1 the Fair Return Standard. The following are my key areas of disagreement with Dr.  
2 Booth:

3 • Dr. Booth's recommended ROE of 7.50 percent is 185 basis points lower than  
4 Maritime Electric's currently authorized ROE of 9.35 percent, which was  
5 approved by the Commission in February 2016 as part of a settlement agreement.  
6 Dr. Booth has provided no evidence that the long-term cost of equity for regulated  
7 electric utilities has declined so substantially over the past three years. Rather, Dr.  
8 Booth's report notes that the Bank of Canada has been tightening monetary policy  
9 by raising the overnight lending rate, and that yields on long-term government  
10 bonds in Canada have increased to some extent since the settlement was approved  
11 in Maritime Electric's previous General Rate Application ("GRA"). Neither of  
12 these trends support a lower ROE for Maritime Electric.

13 • Dr. Booth's estimated market risk premium of between 5.00 and 6.00 percent is  
14 substantially lower than the market risk premium I have relied on of 8.59 percent  
15 for Canadian utilities and 8.61 percent for U.S. utilities. Dr. Booth's average  
16 market risk premium of 5.50 percent is lower than the historical market risk  
17 premium for either Canada (5.60 percent) or the U.S. (6.94 percent) and does not  
18 reflect the well-established inverse relationship between the market risk premium  
19 and interest rates. Simply put, when interest rates on government bonds are near  
20 historically low levels, the market risk premium should be higher than the long-  
21 term historical average. Further, Dr. Booth's market risk premium is significantly  
22 below any forward-looking market risk premium estimate based on current market  
23 data.



- 1           • Dr. Booth employs Beta estimates of 0.45 to 0.55 based on his judgment rather  
2           than on market data that is widely available to and commonly relied upon by  
3           investors. For example, Dr. Booth’s estimated Beta coefficients are well below the  
4           Value Line and Bloomberg Beta estimates used in my CAPM analyses for the  
5           Canadian, North American and U.S. proxy groups. His Beta coefficients do not  
6           account for the well-documented empirical evidence that Betas for lower risk  
7           companies (those with betas below 1.0) systematically understate returns and thus  
8           warrant an adjustment towards 1.0.<sup>1</sup> Dr. Booth recommends an adjustment  
9           towards the “grand mean” of utility Betas, which results in CAPM estimates that  
10          are unreasonably low.
- 11          • Dr. Booth also provides several DCF estimates for: 1) the broad equity market in  
12          both Canada and the U.S., 2) the electric utility companies in the S&P Utilities  
13          Index, and 3) a sample of U.S. electric utilities similar to my U.S. proxy group. He  
14          argues that these DCF analyses corroborate the reasonableness of his CAPM  
15          results. Dr. Booth’s DCF estimates, however, are understated because he has  
16          relied on “sustainable” growth rates which understate future utility growth  
17          prospects, and he has included the results of one company with a negative earnings  
18          per share growth rate, which distorts the average results for his U.S. proxy group.  
19          In addition, Dr. Booth has not provided a DCF analysis for Canadian utility  
20          companies. In my DCF analysis, the results for the Canadian proxy group were

---

<sup>1</sup> See Marshall E. Blume, On the Assessment of Risk, *The Journal of Finance*, Vol. XXVI, No. 1 (March 1971) and Marshall E. Blume, Betas And Their Regression Tendencies, *The Journal of Finance*, Vol. XXX, No. 3 (June 1975), where Blume found that there was strong evidence that Beta regressed toward the market mean, and that tendency was strongest in the case of the lowest risk portfolios.



1 higher than those of the U.S. or North American peer groups for both the  
2 Constant Growth and Multi-Stage DCF models. Finally, the results of the DCF  
3 model are being distorted by the low yields on government bonds, which has  
4 caused income-oriented investors to seek higher yields from dividend paying  
5 stocks such as public utilities. This has led to higher stock prices and lower  
6 dividend yields for these utility companies. Utility analysts have indicated that  
7 these high valuations and low dividend yields are not sustainable over the long-  
8 term.

- 9 • Dr. Booth argues that Maritime Electric's long-term business risk is low because  
10 the Company's electricity sales are not affected by technological changes or  
11 competition from alternative suppliers, and that Maritime Electric's short-term  
12 business risk is low as evidenced by the Company's ability to earn its allowed  
13 return. As explained in my Report, Maritime Electric has several important  
14 business risks that affect the Company's cost of equity including: the small size of  
15 the Company as compared to the operating companies held by the Canadian and  
16 U.S. proxy groups, recent technological developments as well as economic and  
17 demographic trends in the province that have created volatility in the Company's  
18 sales growth in recent years, relatively high operating and supply risks, limited  
19 protection against costs for which many other Canadian companies have deferral  
20 and variance accounts, competition from alternative fuels, and political and  
21 regulatory uncertainty. Further, the Company should not be penalized for efficient  
22 management allowing it to earn its authorized return.



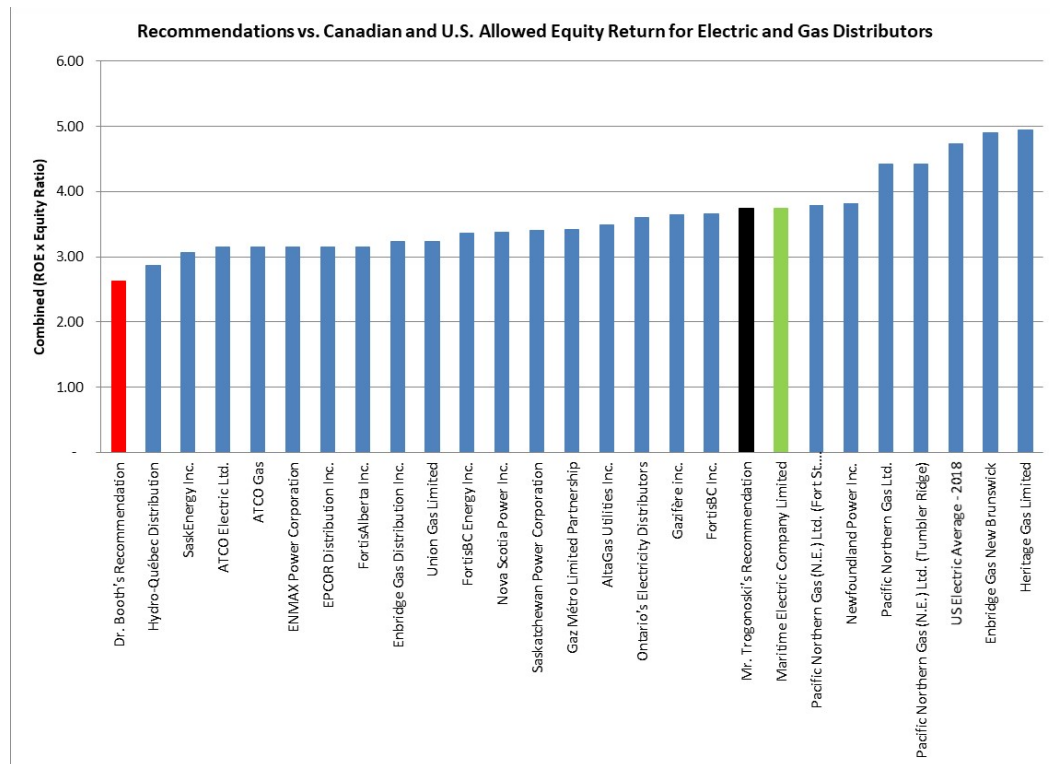


1 **Q. PLEASE PLACE DR. BOOTH'S ROE AND CAPITAL STRUCTURE**  
2 **RECOMMENDATIONS IN THE CONTEXT OF OTHER CANADIAN ELECTRIC AND GAS**  
3 **DISTRIBUTORS.**

4 A. Figure 1 illustrates where Maritime Electric's equity cost rate would fall compared to  
5 other Canadian electric and gas distributors, based on Dr. Booth's recommended ROE  
6 and capital structure. As the Figure shows, the combination of Dr. Booth's ROE  
7 recommendation of 7.50 percent and his recommended common equity ratio of 35.00  
8 percent produces a weighted equity cost rate of approximately 2.63 percent for  
9 Maritime Electric. This equity return falls below every other Canadian electric or gas  
10 distributor that sets rates through a litigated proceeding including Hydro-Québec  
11 Distribution, which is a government-owned electric distributor that has the full force  
12 of the provincial government supporting its operations and has a different risk profile  
13 than Maritime Electric. Dr. Booth's cost of capital recommendation, if adopted,  
14 would place Maritime Electric at a significant disadvantage relative to other Canadian  
15 investor-owned utilities when raising capital and would not satisfy the Fair Return  
16 Standard.



1 **Figure 1: Recommendation vs. Allowed for Canadian Distributors**  
2 **(ROE x equity ratio)**



3  
4 **Q. DO YOU HAVE ANY OTHER COMMENTS ON DR. BOOTH'S ROE**  
5 **RECOMMENDATION FOR MARITIME ELECTRIC?**

6 A. Yes. Despite changes in interest rates, credit spreads, business cycles, market volatility,  
7 differing utility risk profiles and growth prospects, Dr. Booth has consistently  
8 recommended an ROE of 7.50 percent for each of the regulated utilities in the cases  
9 in which he has testified (i.e., Nova Scotia Power Inc., FortisBC Energy Inc., ATCO  
10 Pipelines, Hydro-Québec Distribution, Hydro-Québec Transmission, Newfoundland  
11 Power, and now Maritime Electric) since August 2012. Although Dr. Booth asserts  
12 that the allowed ROE should be set in the context of conditions in the economy and  
13 capital markets, and although he states that risk and Beta are constantly changing for  
14 companies and industries, his ROE recommendation has not changed. All of the



1           above factors affect the cost of capital. No Canadian regulator that I am aware of has  
2           awarded any investor-owned Canadian electric or gas distributor an ROE as low as  
3           7.50 percent since at least 2000.

4   **Q.   HOW DOES DR. BOOTH SUPPORT HIS ROE AND CAPITAL STRUCTURE**  
5   **RECOMMENDATIONS AS REASONABLE?**

6   A.   According to Dr. Booth, an authorized ROE of 7.50 percent and a deemed equity  
7       ratio of 35.00 percent are reasonable for Maritime Electric because the Company  
8       essentially has no business risk and has consistently earned its authorized return. Dr.  
9       Booth contends that Maritime Electric would continue to maintain solid interest  
10      coverage ratios if the authorized return were reduced to 7.50 percent and the equity  
11      ratio were reduced to 35.00 percent.<sup>2</sup> Dr. Booth focuses solely on whether his  
12      recommendations meet the financial integrity standard, and disregards the other two  
13      components of the Fair Return Standard: the comparable return standard, and the  
14      capital attraction standard.

15   **Q.   DO YOU AGREE WITH DR. BOOTH'S ASSESSMENT OF MARITIME ELECTRIC'S**  
16   **BUSINESS AND REGULATORY RISK?**

17   A.   No, I do not. In my Report, I provided a detailed risk assessment of Maritime Electric  
18       and of Canadian and U.S. electric utilities that demonstrates that the Company's  
19       business and regulatory risk is somewhat higher than the proxy group companies that  
20       were used to develop my ROE recommendation. In contrast, Dr. Booth provided  
21       neither a risk assessment of other comparable Canadian and U.S. utilities, nor evidence

---

<sup>2</sup> *Id.*, at 36.



1           regarding the change in Maritime Electric’s business or financial risk to support his  
2           proposed reduction in the deemed common equity ratio.

3           In particular, Dr. Booth essentially dismisses the small size of Maritime Electric as a  
4           business risk factor in both his ROE and capital structure recommendation. The  
5           Commission has previously found that the risk associated with the Company’s small  
6           size, island location and lower S&P credit rating are factors that affect the authorized  
7           ROE for Maritime Electric. I have shown that the small size of Maritime Electric has  
8           a tangible effect on the Company’s ability to raise debt capital.

9           In addition, Dr. Booth finds that Maritime Electric would continue to have an interest  
10          coverage ratio greater than 2.0, which he argues would support the Company’s “A”  
11          rating from Standard and Poor’s (“S&P”) on its first mortgage bonds. He fails to  
12          consider, however, that Maritime Electric is only able to issue debt with an “A” rating  
13          because that debt is secured by the assets of the Company. The issuer rating for  
14          Maritime Electric is BBB+ based on the Company’s business and financial risk profile.  
15          The Company’s customers are already benefiting from the lower debt cost associated  
16          with the use of first mortgage bonds instead of senior unsecured debt. Now, Dr.  
17          Booth seeks to use that as a reason to lower the authorized ROE and equity thickness  
18          for Maritime Electric. As I will demonstrate in my rebuttal testimony, equity investors  
19          are concerned with more than just credit metrics and bond ratings. Under the Fair  
20          Return Standard, the rate of return must also satisfy the comparable return standard  
21          and the capital attraction standard. Dr. Booth’s recommendation fails to meet those  
22          tests.



1 **Q. HOW IS THE REMAINDER OF YOUR REBUTTAL TESTIMONY ORGANIZED?**

2 A. In Section III, I discuss areas of difference with Dr. Booth's observations on capital  
3 market conditions and the implications for the cost of equity; in Section IV, I discuss  
4 where Dr. Booth and I diverge with respect to the inputs to the CAPM analysis; in  
5 Section V, I discuss areas of difference with Dr. Booth in his application of the DCF  
6 model; in Section VI, I discuss differences with Dr. Booth regarding the relative risk  
7 of Maritime Electric as compared to other investor-owned electric utilities in Canada  
8 and the U.S., and with his recommendation to reduce the common equity component  
9 of Maritime Electric's capital structure.

10 **III. CAPITAL MARKET CONDITIONS**

11 **Q. PLEASE SUMMARIZE DR. BOOTH'S POSITION REGARDING CONDITIONS IN**  
12 **CAPITAL MARKETS.**

13 A. Dr. Booth observes on page 18 of his evidence that yields on 10-year Canada bonds  
14 were only 1.63 percent in August 2016. Since that time the U.S. has stopped its bond  
15 buying program, and other countries have scaled back monetary policy  
16 accommodation in the face of stronger economies. This, combined with rising short-  
17 term interest rates, caused 10-year yields in Canada to increase to 2.52 percent by  
18 October 2018. On page 19 of his evidence, Dr. Booth states that the long-term  
19 Canada ("LTC") yield dropped from 2.52 percent in October 2018 to 2.15 percent in  
20 December 2018 as buying pressure pushed up bond prices and pushed down yields.  
21 Dr. Booth concludes that LTC yields are currently 170 basis points lower than they  
22 were at the time of his May 2010 report on Maritime Electric.



1 With regard to monetary policy in Canada, Dr. Booth indicates on page 13-14 of his  
2 evidence that since 2016 the Canadian economy has strengthened, and the Bank of  
3 Canada has increased the overnight rate five times to its current level of 1.75 percent.  
4 Further, he notes that most economists believe that four to five more rate hikes are  
5 needed to bring the overnight rate to the 3.0 percent level that was considered neutral  
6 before the Great Recession. On page 20 of his evidence, Dr. Booth cites a January  
7 2019 RBC report that forecasts the current overnight rate in Canada will increase to  
8 2.50 percent by the end of 2020 and the LTC bond yield will increase from 2.18 percent  
9 at the end of 2018 to 2.65 percent by end the end of 2020.

10 On pages 15-16 of his evidence, Dr. Booth observes that the Canadian economy is  
11 operating at close to capacity with very low unemployment, so there are some  
12 underlying inflation pressures. On page 17, Dr. Booth comments that in early January  
13 the interest rate on the 30-year Government of Canada bond was at 2.12 percent, or  
14 47 basis points higher than the yield on 91-day Treasury bills. He observes that this  
15 yield spread is significantly smaller than the typical spread of about 125 basis points,  
16 and that the narrowing of the spread reflects the Bank of Canada's recent increases in  
17 the overnight rate and the reduction of monetary stimulus. On page 24 of his  
18 evidence, Dr. Booth comments that the yield spread between A-rated utility debt and  
19 long Canada bonds was between 1.60 and 1.80 percent at the time of his 2010 report  
20 as compared with 1.65 percent at the end of 2018. Lastly, on page 31, Dr. Booth  
21 concludes that, "we are in the relatively late stages of the business cycle and investors  
22 are nervous and sensitive to the actions of central banks. The implication is that  
23 interest rates could rebound as quickly as they weakened."



1 **Q. DO YOU HAVE ANY PRELIMINARY COMMENTS ON DR. BOOTH'S OBSERVATIONS**  
2 **RELATED TO CONDITIONS IN CAPITAL MARKETS AND THE ECONOMY?**

3 A. Yes. Dr. Booth devotes many pages of evidence to discussing the importance of  
4 setting the authorized return in the context of current condition in capital markets.  
5 Yet, his ROE and capital structure recommendations have not changed for many  
6 years. Regardless of economic growth rates, interest rates, inflation rates, stage of the  
7 business cycle, regional economic factors, external shocks to the Canadian economy,  
8 etc., Dr. Booth has consistently recommended an ROE of 7.50 percent since at least  
9 August 2012. This is primarily due to the fact that he relies primarily on the CAPM  
10 to estimate the cost of equity, and two of the three inputs to that model (beta and the  
11 market risk premium) are based on his judgment, while the third input (the risk free  
12 rate) is adjusted based on his judgment regarding external factors that are distorting  
13 the current yields on Canadian long-term bonds. When the first two inputs are  
14 essentially held constant, and the third input (the risk free rate) is adjusted to a desired  
15 level, it stands to reason that the outputs of the CAPM would not change. The  
16 fundamental question is – how does Dr. Booth's static approach take into  
17 consideration the dynamic conditions in capital markets, which he asserts are such an  
18 important consideration based on the *Northwestern* decision?

19 **Q. HOW HAVE INTEREST RATES ON GOVERNMENT AND CORPORATE BONDS IN**  
20 **CANADA CHANGED SINCE THE COMMISSION APPROVED THE SETTLEMENT**  
21 **AGREEMENT IN THE PREVIOUS GRA FILING BY MARITIME ELECTRIC?**

22 A. Although Dr. Booth's report focuses on interest rates and economic conditions in  
23 2010 when he last appeared before the Commission regarding Maritime Electric, the



1 Commission approved the settlement agreement in the last GRA filing by Maritime  
2 Electric in February 2016. Therefore, my analysis is based on comparisons with  
3 interest rates and economic conditions in 2016. Figure 2 compares the 30-day average  
4 yields on Canadian government and corporate bonds in February 2016 to those in  
5 March 2019. As shown in that Figure, yields have increased by more than 60 basis  
6 points on 10-year government bonds and by almost 10 basis points on 30-year  
7 government bonds in Canada. Yields on Canadian corporate bonds and utility bonds  
8 have decreased by 43 basis points, however, since February 2016. In my view, this is  
9 likely because government bond yields are so low in Canada that investors have  
10 decided to accept slightly more risk by buying A-rated corporate and utility bonds in  
11 order to get a higher yield during a period of economic expansion.

12 **Figure 2: Bond Yield Comparison<sup>3</sup>**

			<b>Canadian</b>	
	<b>Canadian</b>	<b>Canadian</b>	<b>Corporate</b>	<b>Canadian</b>
<b>30-Day Avg.</b>	<b>10 Year</b>	<b>30 Year</b>	<b>Utility</b>	<b>Corporate</b>
<b>As of</b>	<b>Govt</b>	<b>Govt</b>	<b>A Index</b>	<b>A Index</b>
February 2016	1.16%	1.96%	4.02%	4.03%
March 2019	1.77%	2.05%	3.59%	3.60%
Increase	0.61%	0.09%	-0.43%	-0.43%

13  
14 **Q. HOW HAVE FLUCTUATIONS IN LONG-TERM GOVERNMENT BOND YIELDS**  
15 **AFFECTED THE VALUATIONS OF UTILITY SHARES IN CANADA?**

16 A. As shown in Figure 3, utility valuations are sensitive to the level of government bond  
17 yields. In 2008, the 30-year Canadian government bond yielded more than 4.00

<sup>3</sup> Source: Bloomberg Professional.





1 percent for much of the year. Long Canada bond yields declined steadily through the  
2 middle of 2016 as central banks in both Canada and around the world pursued a policy  
3 of monetary policy accommodation. In response, the TSX Utilities Index increased  
4 substantially because dividend paying stocks became more valuable to investors due  
5 to their higher dividend yield as compared to yields on long Canada bonds. After  
6 reaching a trough in the summer of 2016, government bond yields in Canada started  
7 increasing and utility shares, as measured by the TSX Utilities Index, became less  
8 attractive relative to government bonds. More recently, the TSX Utilities Index  
9 declined in the last three months of 2018 as investors became more concerned with  
10 pressure from rising interest rates, but has since returned to near its all-time high level.

11 **Figure 3: TSX Utilities Index vs. 30-year Canadian Gov't Bond Yield**



12



1 **Q. IS DR. BOOTH'S ASSESSMENT OF THE INTEREST RATE ENVIRONMENT**  
2 **ADEQUATELY REFLECTED IN THE MODELS HE HAS USED TO ESTIMATE THE COST**  
3 **OF EQUITY FOR MARITIME ELECTRIC?**

4 A. No, I do not believe so. Dr. Booth starts with a risk-free rate of 2.65 percent, which  
5 he adjusts upward by 33 basis points for higher than average credit spreads between  
6 LTC bond yields and utility bond yields. Dr. Booth then makes a second adjustment  
7 of 80 basis points to account for bond buying by central banks. His risk-free rate in  
8 the "conditional CAPM" analysis is effectively 3.78 percent, or 23 basis points higher  
9 than the risk-free rate of 3.55 percent that I used in my CAPM analysis and 180 basis  
10 points higher than the current 30-day average risk free rate as of March 31, 2019, on  
11 the LTC bond of 2.05 percent.

12 Although Dr. Booth observes on page 6 of Appendix C to his evidence that "Betas  
13 vary inversely with their interest sensitivity" and that "as interest rates increase back to  
14 normal levels, I would expect their Betas to increase as they trade less on their bond  
15 values and more as regular equities," he has continued to use Beta coefficients of 0.45  
16 to 0.55 based on his judgment. Likewise, Dr. Booth relies on a market risk premium  
17 estimate between 5.00 and 6.00 percent, which does not reflect the inverse relationship  
18 between interest rates and the equity risk premium. Both of these issues are discussed  
19 in more detail later in my response to his CAPM analysis.

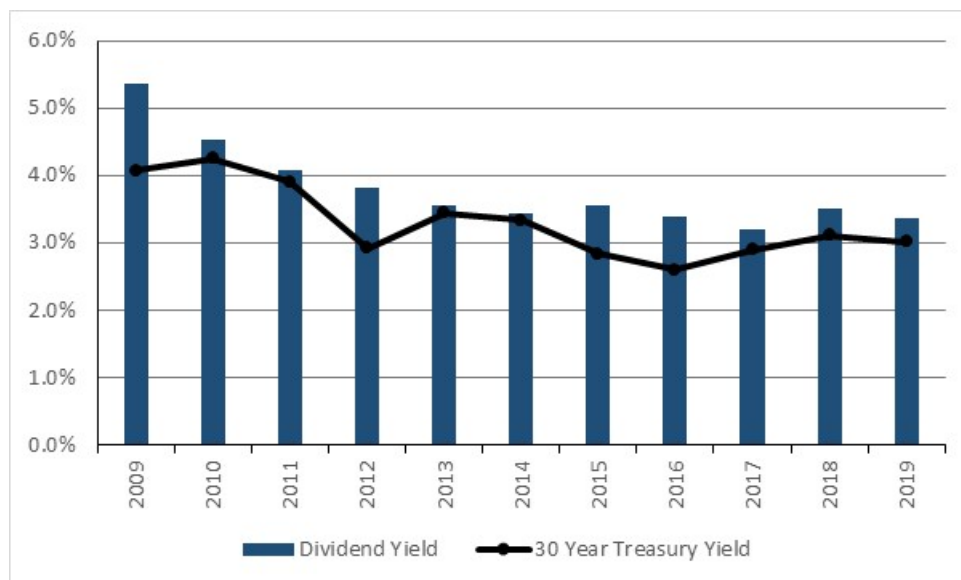
20 Further, Dr. Booth has not made any adjustment to his DCF model results to reflect  
21 the fact that his adjusted risk-free rate of 3.78 percent in the CAPM analysis is  
22 substantially higher than current yields on the LTC bond. One component of the  
23 DCF model is the dividend yield, which is calculated by dividing the annual dividend



1 payment by the average stock price. Due to the low interest rate environment,  
2 investors seeking an alternative to the low yields on government bonds have been  
3 purchasing the stocks of dividend-paying companies such as utilities. This has caused  
4 the valuations of utility stocks in both Canada and the U.S. to increase rather  
5 substantially since 2009, while the dividend yields for these companies have declined.  
6 As shown in Figure 4, the average dividend yield for the companies in my U.S. electric  
7 proxy group has declined by 200 basis points since 2009 (from 5.37 percent in 2009  
8 to 3.37 percent in 2019), while the average yield on U.S. Treasury bonds has declined  
9 by only 106 basis points (from 4.07 percent in 2009 to 3.01 percent in 2019).

10

**Figure 4: Dividend Yields of U.S. Electric Proxy Group<sup>4</sup>**



11

<sup>4</sup> Source: Bloomberg Professional.



1

2 **Q. WHAT IS THE ANTICIPATED EFFECT ON UTILITY DIVIDEND YIELDS AS INTEREST**  
3 **RATES MOVE HIGHER?**

4 A. The current high valuations and low dividend yields on utility stocks are not considered  
5 to be sustainable by industry analysts. Investment advisors have recently suggested  
6 that utility stocks may underperform as a result of market conditions. In the U.S.,  
7 Barron's recently published its seventh annual review of income-producing  
8 investments in which the publication ranked eleven different sectors based on  
9 projected performance in 2019. The utility sector ranked ninth out of the eleven  
10 sectors with Barron's noting that:

11 Utilities, however, aren't cheap; they are valued at an average of 17 times  
12 projected 2019 earnings, a premium to the S&P 500, at about 14. That  
13 may make it hard for utilities to best the index in 2019, barring a market  
14 collapse. Earnings growth is running at a mid-single-digits yearly pace.<sup>5</sup>

15 Similarly, a recent report on the market outlook for 2019 from J.P. Morgan Asset  
16 Management noted that due to higher volatility, the Federal Reserve may pause  
17 increasing the federal funds rate; however, they are not recommending rotation into  
18 the utility sector:

19 As prospects for slower economic growth become clearer in the middle  
20 of next year, the Fed may signal it will pause. Such a signal, or a trade  
21 agreement with China, could lead multiples to expand, pushing the stock  
22 market higher and potentially adding years to this already old bull market.  
23 However, even if the bull market does end in the next few years, it is  
24 important to remember that late-cycle returns have typically been quite  
25 strong.

---

<sup>5</sup> Bary, Andrew. "Best Income Investments for 2019." Barron's, Barron's, 4 Jan. 2019, [www.barrons.com/articles/the-best-income-ideas-for-2019-51546632171](http://www.barrons.com/articles/the-best-income-ideas-for-2019-51546632171).



1 This leaves investors in a tough spot – should they focus on a  
2 fundamental story that is softening, or invest with an expectation that  
3 multiples will expand as the bull market runs its course? The best answer  
4 is probably a little bit of each. We are comfortable holding stocks as long  
5 as earnings growth is positive, but do not want to be over-exposed given  
6 an expectation for higher volatility. As such, higher-income sectors like  
7 financials and energy look more attractive than technology and consumer  
8 discretionary, and we would lump the new communication services  
9 sector in with the latter names, rather than the former. **However, given**  
10 **our expectation of still some further interest rate increases, it does**  
11 **not yet seem appropriate to fully rotate into defensive sectors like**  
12 **utilities and consumer staples. Rather, a focus on cyclical value**  
13 **should allow investors to optimize their upside/downside capture**  
14 **as this bull market continues to age.<sup>6</sup>**

15 **Q. HOW DO LOW DIVIDEND YIELDS AND HIGH VALUATIONS ON UTILITY SHARES**  
16 **AFFECT THE CURRENT RESULTS OF THE DCF MODEL?**

17 A. Dividend yields calculated based on average historical stock prices at a time when  
18 interest rates were lower are likely to understate the forward-looking cost of equity  
19 using the DCF model. If Dr. Booth believes that a reasonable forward-looking risk-  
20 free rate is 3.78 percent in his CAPM analysis, he should also make an adjustment to  
21 his DCF analysis to reflect how this higher interest rate would affect the dividend  
22 yields of the utility companies.

23 **Q. WHAT IS YOUR RESPONSE TO DR. BOOTH’S POSITION REGARDING THE EFFECT**  
24 **OF ECONOMIC AND CAPITAL MARKET CONDITIONS ON THE COST OF EQUITY FOR**  
25 **MARITIME ELECTRIC.**

26 A. I agree with Dr. Booth that economic growth in Canada and the U.S. has improved  
27 and that monetary policy has become more neutral. However, his argument appears  
28 to be based primarily on a comparison of government bond yields in Canada in May

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<sup>6</sup> J.P. Morgan Asset Management, “The investment outlook for 2019: Late-cycle risks and opportunities”, November 30, 2018, at 5.



1           2010 being 170 basis points lower than in December 2018. In May 2010, those LTC  
2           bond yields were 3.85 percent. Dr. Booth uses a risk-free rate in his CAPM analysis  
3           of 3.78 percent, presumably because he believes that current bond yields do not reflect  
4           the inflationary pressures in the Canadian economy and because the RBC report  
5           indicates that the Bank of Canada will continue to tighten monetary policy through  
6           the end of 2020. When yields on LTC bonds were at 3.85 percent in May 2010, the  
7           Commission determined that a just and reasonable equity return for Maritime Electric  
8           was 9.75 percent. Now, in 2019, when Dr. Booth believes that a reasonable risk free  
9           rate is 3.78 percent, or only seven basis points lower than LTC bond yields in May  
10          2010, he is recommending an ROE of only 7.50 percent.

11          In addition, while interest rates and conditions in the bond market are an important  
12          consideration, they are not the sole determining factor from the perspective of equity  
13          investors. Rather, equity investors are also concerned with the level of overall  
14          economic growth, the relative strength of various sectors in the economy, and the  
15          expected earnings growth rates for individual companies as compared to the valuations  
16          of those companies.

17          The economies in Canada and the U.S. are stronger now than in February 2016. As  
18          the economy strengthens and as interest rates move higher, investors typically rotate  
19          out of interest sensitive sectors such as public utilities and into more cyclical sectors  
20          such as industrial, materials, and consumer discretionary companies because the  
21          relative earnings growth of those companies is expected to be stronger than for utilities  
22          during economic expansions and because rising interest rates make current valuations  
23          on utilities appear relatively high and likely unsustainable. For those reasons, the



1 current economic and capital market conditions lead me to conclude that the cost of  
2 capital has remained approximately the same for Maritime Electric since the  
3 Settlement Agreement was approved by the Commission in February 2016.

4 **Q. DOES DR. BOOTH COMMENT ON THE ECONOMY IN PRINCE EDWARD ISLAND AS**  
5 **COMPARED TO THE REMAINDER OF CANADA?**

6 A. Yes. On page 31 of his evidence, Dr. Booth explains that “PEI is still the smallest  
7 province in Canada with limited natural resources, but this has always been the case.”  
8 He goes on to note that the unemployment rate in PEI in October 2018 was the lowest  
9 on record at 7.2 percent with signs of shortages of rental units despite a 38 percent  
10 surge in construction of new housing units in the first eight months of 2018. He  
11 concludes that “overall PEI looks a lot like the other provinces in the Maritimes with  
12 nothing to signal any change from a generic recommendation.”

13 **Q. DOES DR. BOOTH ADJUST HIS ROE RECOMMENDATION OR HIS EQUITY RATIO**  
14 **RECOMMENDATION TO REFLECT THESE DIFFERENCES IN REGIONAL ECONOMIC**  
15 **CONDITIONS?**

16 A. No, he does not. In spite of recognizing that the province is very small and lacks the  
17 economic diversification of many other provinces in Canada, Dr. Booth has  
18 recommended a reduction in the authorized ROE from 9.35 percent to 7.50 percent  
19 for Maritime Electric and a reduction in the deemed common equity ratio from 40.0  
20 percent to 35.0 percent. However, the small size and lack of economic diversification  
21 affect the business risk of Maritime Electric and make the company riskier from the  
22 perspective of equity investors than companies that operate in larger, more  
23 economically diverse service territories. As discussed in my Report, Moody’s considers



1 the size and diversity of utility operations to be a distinguishing factor that makes some  
2 utilities riskier than others. In its rating methodology for regulated electric and gas  
3 utilities, Moody's explains:

4 We also consider the diversity of utility operations (e.g., regulated electric,  
5 gas, water, steam) when there are material operations in more than one  
6 area. Economic diversity is typically a function of the population, size  
7 and breadth of the territory and the businesses that drive its GDP and  
8 employment. For the size of the territory, we typically consider the  
9 number of customers and the volumes of generation and/or throughput.  
10 For breadth, we consider the number of sizeable metropolitan areas  
11 served, the economic diversity and vitality in those metropolitan areas,  
12 and any concentration in a particular area or industry.<sup>7</sup>

13 Maritime Electric's electric utility operations are characterized by the small size and  
14 lack of economic diversity described above. Moody's rating methodology confirms  
15 that utilities with these attributes have elevated business risk, which suggests that an  
16 allowed return and/or equity ratio above the proxy group average is appropriate.

17 **Q. WHAT ARE YOUR CONCLUSIONS REGARDING CURRENT AND PROSPECTIVE**  
18 **ECONOMIC AND CAPITAL MARKET CONDITIONS AND THE EFFECT OF THOSE**  
19 **CONDITIONS ON THE COST OF EQUITY FOR MARITIME ELECTRIC IN THIS**  
20 **PROCEEDING?**

21 A. My primary conclusion is that conditions in capital markets have affected the financial  
22 models used to estimate the cost of equity. It is necessary to consider the results of  
23 these models with caution and to make reasonable adjustments to the inputs and  
24 assumptions of the models to ensure that the ROE recommendation reflects the  
25 forward-looking return requirements of investors in today's capital markets. The use

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<sup>7</sup> Moody's Investors Service, "Rating Methodology: Regulated Electric and Gas Utilities," December 23, 2013, at 19.





1 of historical data is not appropriate, especially when Dr. Booth and I agree that interest  
2 rates are expected to continue increasing over the next few years as the economies in  
3 Canada and the U.S. strengthen. The authorized ROE for Maritime Electric should  
4 take into account all of these factors so that it meets all three requirements of the Fair  
5 Return Standard.

6 **IV. DR. BOOTH'S CAPM ANALYSIS**

7 **Q. PLEASE SUMMARIZE DR. BOOTH'S CAPM ANALYSIS AND RESULTS.**

8 A. Dr. Booth's "simple" CAPM is based on a forecasted risk-free rate for 2019 of 2.65  
9 percent, an equity risk premium between 5.00 percent and 6.00 percent, and Beta  
10 coefficients from 0.45 to 0.55. Dr. Booth then adjusts the risk-free rate of 2.65 percent  
11 for higher credit spreads (33 basis points) and for bond buying by central banks (80  
12 basis points). Finally, he adds 50 basis points to his CAPM estimate for flotation costs  
13 and financial flexibility. Dr. Booth's "Conditional CAPM" estimate ranges from 6.53  
14 percent to 7.58 percent, with an average of 7.06 percent.<sup>8</sup>

15 **A. Prevalence of the CAPM**

16 **Q. DR. BOOTH STATES ON PAGE 33, THAT THE CAPM REMAINS THE "MOST**  
17 **COMMON" WAY OF ESTIMATING THE FAIR RATE OF RETURN. WHAT IS YOUR**  
18 **RESPONSE?**

19 A. Dr. Booth provides no evidence that the CAPM is the "most common" way of  
20 estimating the fair rate of return in regulatory proceedings for public utilities. Rather,  
21 Dr. Booth cites several academic articles as the basis for this statement, including a

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<sup>8</sup> Evidence of Dr. Laurence D. Booth, at 47.



1 paper published in 2001 by Graham and Harvey and a 2011 article published by Baker,  
2 et. al. that surveyed small and large firms in Canada on this same question. The  
3 Graham and Harvey paper (2001) preceded the financial crisis and the prolonged  
4 period of unusually low interest rates that has occurred. I question whether the  
5 conclusions of this paper can reasonably be extrapolated to the present. Nonetheless,  
6 based on my review of the paper, it was written from the perspective of capital  
7 budgeting and for establishing discount rates for target investments. While I agree  
8 that the CAPM is used for this purpose because it is simple to use for corporate  
9 analysts, I see little parallel between establishing a discount rate for capital budgeting  
10 purposes and determining the investor required return for purposes of utility  
11 regulation. Neither article sheds any light on the extent to which the CAPM is used  
12 to set the regulatory rate of return in utility rate proceedings.

13 **Q. DR. BOOTH ALSO STATES ON PAGE 33 THAT THE REASON WHY THE CAPM IS SO**  
14 **WIDELY USED IS BECAUSE THE MODEL IS “INTUITIVELY CORRECT.” IN**  
15 **PARTICULAR, DR. BOOTH STATES THAT “[A]S LONG AS THE MARKET RISK**  
16 **PREMIUM IS APPROXIMATELY CORRECT THE ESTIMATE WILL BE IN THE RIGHT**  
17 **‘BALL-PARK.’ DO YOU AGREE?**

18 A. No. As Dr. Booth acknowledges, it is often necessary to make significant adjustments  
19 to CAPM inputs and assumptions to arrive at reasonable results. The problems with  
20 the CAPM are illustrated by Dr. Booth’s subjective adjustments of 33 basis points for  
21 higher than normal credit spreads and 80 basis points for central banks bond buying  
22 programs. Even with these adjustments, Dr. Booth’s “conditional” CAPM analysis  
23 still produces a mean return estimate of only 7.06 percent, or more than 140 basis



1 points lower than the authorized ROE of any investor-owned utility in Canada and  
2 more than 250 basis points lower than the average authorized ROE of 9.60 percent  
3 for electric utilities in the U.S. in 2018.<sup>9</sup> This demonstrates that the CAPM analysis,  
4 even when the risk-free rate is adjusted for anomalous conditions in the bond market,  
5 can and often does produce unreasonable results, contrary to Dr. Booth's suggestion  
6 that it is "intuitively correct."

7 **Q. HAS THE COMMISSION PREVIOUSLY RECOGNIZED THE SHORTCOMINGS**  
8 **ASSOCIATED WITH THE CAPM?**

9 A. Yes, in its July 2010 Order for Maritime Electric, the Commission cited evidence from  
10 the Company's witness regarding how the CAPM was viewed by the British Columbia  
11 Utilities Commission ("BCUC"). In particular, the Commission cited the following  
12 passage from the BCUC decision and indicated that these concerns are relevant:

13 "The Commission Panel notes that CAPM is based on a theory that can  
14 neither be proved nor disproved, relies on a market risk premium which  
15 looks back over nine decades and depends on a relative risk factor of  
16 beta. The fact that the calculated beta for PNG (considered by Dr. Booth  
17 to be the most risky utility in Canada) was 0.26 in 2008 causes the  
18 Commission Panel to consider that betas conventionally calculated with  
19 reference to the S&P/TSX are distorted and require adjustment. The  
20 Commission Panel will give weight to the CAPM approach, but  
21 considers that the relative risk factor should be adjusted in a manner  
22 consistent with the practice generally followed by analysts so that it yields  
23 a result that accords with common sense and is not patently adsorb  
24 [sic]."<sup>10</sup>

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<sup>9</sup> Source: Regulatory Research Associates.

<sup>10</sup> Island Regulatory and Appeals Commission, Docket UE 20940, Order UE10-03, issued July 12, 2010, at para. 102.



1    **Q.    HAVE OTHER EXPERTS ALSO EXPRESSED CONCERN WITH THE ABILITY OF THE**  
2           **CAPM TO PRODUCE RELIABLE COST OF EQUITY ESTIMATES FOR LOW-RISK**  
3           **COMPANIES, SUCH AS UTILITIES?**

4    A.    Yes. In 2012, the BCUC retained a consultant to evaluate the various cost of capital  
5           methodologies. The report issued by the consultant listed a number of weaknesses  
6           with the CAPM when applied to utility regulation, including:

- 7           • “the CAPM will provide regulated entities with a reasonable return only if it is  
8           implemented accurately, and the analyst must take into account any unique  
9           circumstances that may bias the estimates”;
- 10          • “the model is very sensitive to the estimates of the risk-free rate, Beta and MRP”;  
11          and
- 12          • “because the model was developed as a generic approach to determine the cost of  
13          capital for companies, it does not specifically take the regulatory context into  
14          account.”<sup>11</sup>

15          The CAPM is known to be unreliable, particularly for low Beta firms such as utilities.

16          The BCUC consultant discussed this in its report where it stated:

17                   Perhaps the most fundamental challenge to the CAPM has been the  
18                   consistent empirical observation that the model does not explain stock  
19                   performance well in a statistical sense. For example, low Beta stocks tend  
20                   to have higher average returns than predicted by the CAPM, and high  
21                   Beta stocks have lower average returns – that is, the empirical estimates  
22                   seem to require a pivot of the SML around Beta = 1.0 from the traditional  
23                   version of the CAPM.<sup>12</sup>

24          I agree with the BCUC’s consultant that this is a fundamental challenge to the CAPM.

25          Dr. Booth appears to have concerns with both the CAPM and DCF models, stating  
26          that, “...while the DCF and CAPM estimates are consistent over long periods of time,

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<sup>11</sup> The Brattle Group, Survey of Cost of Capital Practices in Canada (May 31, 2012), at pp. 20-27.

<sup>12</sup> *Id.*, at 25.



1           they both have problems when used *mechanically* during periods of very high or low real  
2           Canada bond yields. The analysis also helps explain why DCF estimates fell out of  
3           favour in the 1990s, while the validity of CAPM estimates has recently been questioned  
4           due to the low level of bond yields.”<sup>13</sup>

5   **Q.   HAS DR. BOOTH COMMENTED ELSEWHERE ON WHEN THE CAPM IS BEST**  
6   **SUITED FOR ESTIMATING THE COST OF EQUITY?**

7   A.   Yes. The Introduction to Corporate Finance textbook co-authored by Dr. Booth  
8       explains that the CAPM is best suited for estimating the equity cost for companies  
9       with high growth rates and/or low dividends, such as technology companies. The  
10      textbook states:

11                   The previous section showed that the DCF model can be rearranged to  
12                   estimate the investors’ required return on a firm’s common shares.  
13                   However, we also discussed how the [DCF] model performs poorly  
14                   when applied to growth stocks, which pay low dividends and/or display  
15                   high growth rates. In these situations, it makes sense to rely more heavily  
16                   on risk-based models. The most important risk-based model is the  
17                   capital asset pricing model...<sup>14</sup>

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<sup>13</sup> Evidence of Dr. Laurence D. Booth, at 52.

<sup>14</sup> Laurence D. Booth and W. Sean Cleary, Introduction to Corporate Finance, 1<sup>st</sup> Edition (2008), at 793.



1 Q. DO YOU AGREE WITH DR. BOOTH'S STATEMENT ON PAGE 52 OF HIS EVIDENCE  
2 THAT THE DCF MODEL FELL OUT OF FAVOR WITH UTILITY REGULATORS IN THE  
3 1990s?

4 A. From my experience, the Gordon Growth form of the DCF model has been and  
5 remains the primary model relied upon by U.S. regulators.<sup>15</sup> In the U.S., the CAPM is  
6 usually used to corroborate the results of other analyses. The Corporate Finance  
7 textbook by Dr. Booth indicates that the Gordon Growth form of the DCF was  
8 specifically designed for use in public utility regulation and is well suited for that  
9 purpose. The textbook states:

10 What has to be remembered is that Professor Gordon developed this  
11 model (the DDM) for use in public utility regulation where the allowed  
12 ROEs should be reasonable and we do not get the problem of rapid  
13 growth rates.<sup>16</sup>

14 and

15 Although the DDM provides a great deal of insight into factors that  
16 affect the valuation of common shares, it is based on several assumptions  
17 that are not met by a large number of firms, especially in Canada. **In  
18 particular, it is best suited for companies that (1) pay dividends  
19 based on a stable dividend payout history that they want to  
20 maintain in the future; and (2) are growing at steady and  
21 sustainable rates. As such, the DDM works reasonably well for  
22 large corporations in mature industries with stable profits and an  
23 established dividend policy. In Canada, the banks and utility  
24 companies fit this profile, while in the United States, there are  
25 numerous NYSE-listed companies of this nature.**<sup>17</sup>

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<sup>15</sup> This is supported by the Gordon and Makhholm (NERA) paper, *Allowed Return on Equity in Canada and the United States, An Economic, Financial and Institutional Analysis* (February 2008), p. 20, where the authors state: "The most popular method used to determine the ROE among US regulatory commissions is to determine what future stream of common dividends investors expect on a case-by-case basis using discounted cash-flow (DCF) analysis."

<sup>16</sup> Laurence D. Booth and W. Sean Cleary, *Introduction to Corporate Finance*, 1<sup>st</sup> Edition (2008), at 785.

<sup>17</sup> *Id.*, at 269. [Emphasis added.]



1 And finally, as Dr. Booth states on page 4 of Appendix D to his evidence:

2 The third implication of Schedule 1 is that the DCF estimate using the  
3 historic growth rate is appropriate only when the assumptions of the  
4 model hold. This means that non-dividend paying firms, firms with  
5 highly fluctuating earnings and dividends, and firms with non-constant  
6 expected growth cannot be valued accurately using the formula. **Usually**  
7 **these assumptions hold for regulated utilities since the allowed rate**  
8 **of return applies to the book value of equity both old as well as on**  
9 **new investments.**<sup>18</sup>

10 My conclusion is that the DCF model remains an important model for utility cost of  
11 capital determinations, although both the CAPM and DCF models have their own  
12 inherent strengths and weaknesses, which is why I support the use of multiple  
13 methodologies to estimate the cost of equity.

14 **Q. DO OTHERS ALSO SUPPORT THE USE OF MULTIPLE METHODOLOGIES TO PROVIDE**  
15 **A FAIR RETURN ESTIMATE?**

16 A. Yes. It is generally well-accepted among cost of capital practitioners and regulatory  
17 commissions that using multiple methods for estimating the fair rate of return provides  
18 the best basis upon which to make a fair determination. Specifically, the OEB, when  
19 confronted with this issue in its Consultative Cost of Capital Process, stated:

20 The Board agrees that the use of multiple tests to directly and indirectly  
21 estimate the ERP is a superior approach to informing its judgment than  
22 reliance on a single methodology. In particular, the Board is concerned  
23 that CAPM, as applied by Dr. Booth, does not adequately capture the  
24 inverse relationship between the ERP and the long Canada bond yield.  
25 As such, the Board does not accept the recommendation that it place  
26 overwhelming weight on a CAPM estimate in the determination of the  
27 initial ERP.<sup>19</sup>

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<sup>18</sup> Evidence of Dr. Laurence D. Booth, Appendix D, at 4. [Emphasis added.]

<sup>19</sup> Ontario Energy Board, EB-2009-0084, Report of the Board on the Cost of Capital for Ontario's Regulated Utilities (December 11, 2009), pp. 36-37.



1 Similarly, the U.S. Federal Energy Regulatory Commission (“FERC”) recently issued  
2 an order expressing its intention to establish the cost of equity for electric transmission  
3 companies in the U.S. based on the average results of four approaches: the DCF, the  
4 CAPM, the Risk Premium, and an Expected Earnings approach.<sup>20</sup>

5 Although Dr. Booth does provide DCF estimates for the broader market “as a whole”  
6 for Canada and the U.S., as well as the S&P 500 electric utilities and selected U.S.  
7 electric utilities, he does not perform a traditional DCF analysis for a proxy group of  
8 companies that were chosen based on their comparability to Maritime Electric.  
9 Further, it is not evident that Dr. Booth places any weight on his DCF results other  
10 than to corroborate the reasonableness of his “Conditional CAPM”.

11 **B. The Risk Free Rate**

12 **Q. IS IT APPROPRIATE TO USE A FORECAST BOND YIELD FOR THE RISK FREE RATE IN**  
13 **THE CAPM ANALYSIS?**

14 A. Yes. Dr. Booth and I both base our risk-free rate on forecasted bond yields. The  
15 difference is that I have used the three-year forecast from Consensus Economics,  
16 while Dr. Booth has used the 2019 forecast from RBC and then adjusted it for higher  
17 than average credit spreads and the bond buying programs of central banks. I have  
18 used a three-year forecast primarily to establish a forward-looking bond yield that  
19 anticipates changes in the long Canada bond over the next few years, while reflecting  
20 the long-term perspective of the utility shareholder. My forecast interest rate of 3.55  
21 percent, based on 2019-2021 forecast data from the Consensus Economics survey, is

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<sup>20</sup> Federal Energy Regulatory Commission, Docket No. EL 11-66-001, et al., Order Directing Briefs, issued October 16, 2018, at para. 40.





1 lower than the risk-free Dr. Booth has used of 3.78 percent, which includes a base risk  
2 free rate of 2.65 percent plus his adjustment of 33 basis points for higher than average  
3 credit spreads and 80 basis points for the bond buying programs of central banks. In  
4 summary, my estimate of the risk-free rate of 3.55 percent is actually 23 basis points  
5 lower than the risk-free rate of 3.78 percent that Dr. Booth has used in his  
6 “Conditional CAPM.”

7 **C. The Market Risk Premium**

8 **Q. AS EXPLAINED IN APPENDIX B OF HIS EVIDENCE, DR. BOOTH’S MARKET RISK**  
9 **PREMIUM ESTIMATE OF 5.00 PERCENT TO 6.00 PERCENT IS BASED ON CANADIAN**  
10 **CAPITAL MARKET HISTORY DATING BACK TO 1924 AND THE FERNANDEZ SURVEY**  
11 **OF MARKET RISK PREMIUMS. DO YOU AGREE WITH DR. BOOTH’S APPROACH TO**  
12 **ESTIMATING THE MARKET RISK PREMIUM?**

13 A. No. As explained in my Report, I do not agree that it is appropriate to place primary  
14 reliance on historical data to estimate the market risk premium under current market  
15 conditions, when current interest rates are substantially lower than the Canadian  
16 government bond yields that were used to calculate the historical market risk premium.  
17 In response to Data Request No. 2, Dr. Booth indicates that for the period from 1926-  
18 2017, the average yield on the LTC bond was 6.40 percent. Figure 2 of my rebuttal  
19 testimony shows that the 30-day average yield on LTC bonds as of March 31, 2019,  
20 was 2.05 percent. As discussed in my Report, there is a well-established inverse  
21 relationship between interest rates and the market risk premium. That is, as interest  
22 rates increase (decrease), the market risk premium decreases (increases). Under such  
23 circumstances, the forward-looking market risk premium should be substantially



1 higher than the long-term historical average in order to better reflect the low interest  
2 rate environment.

3 Regarding the 2018 Fernandez survey cited by Dr. Booth, this is an email survey sent  
4 to more than 20,000 email addresses of finance and economics professors, analysts  
5 and managers of companies obtained from correspondence, papers and webs of  
6 companies and universities. Respondents to the Fernandez survey were asked about  
7 the risk-free rate and the market risk premium used to calculate the required return on  
8 equity in different countries. Although the Fernandez survey provides information on  
9 the number and range of responses concerning the level of the market risk premium  
10 for each country, it is not clear from the survey how the respondents derive the market  
11 risk premium in their response (e.g., the source for their information), nor does the  
12 survey establish for what use the respondents apply the market risk premium estimate.  
13 In Canada, the 2018 Fernandez survey received 77 responses with a mean response of  
14 5.80 percent, a median response of 6.00 percent, a maximum of 7.20 percent and a  
15 minimum of 4.10 percent. The standard deviation of the responses was 0.70 percent,  
16 indicating that approximately two-thirds of responses were between 5.10 percent and  
17 6.50 percent. In my view, the wide range of responses illustrates both the general level  
18 of uncertainty regarding future returns and the importance of alternate measures of  
19 the market risk premium.



1 **Q. ACCORDING TO DR. BOOTH, ANY MARKET RISK PREMIUM FOR CANADA GREATER**  
2 **THAN 7.20 PERCENT SHOULD BE CONSIDERED AN EXTREME OUTLIER. DO YOU**  
3 **AGREE?**

4 A. No, I do not agree. It is important to consider the current market context, especially  
5 the low interest rate environment. As explained in my Report, I have given weight to  
6 a forward-looking analysis that reflects the inverse relationship between the market  
7 risk premium and the current level of interest rates weighted equally with a historical  
8 derivation. My analysis shows that the forward-looking market risk premiums in the  
9 U.S. and Canada are well above my average estimate of 8.61 percent in Canada and  
10 8.59 percent in the U.S., which are based on an equal weighting of the historical data  
11 and the forward-looking calculation of the market risk premium.

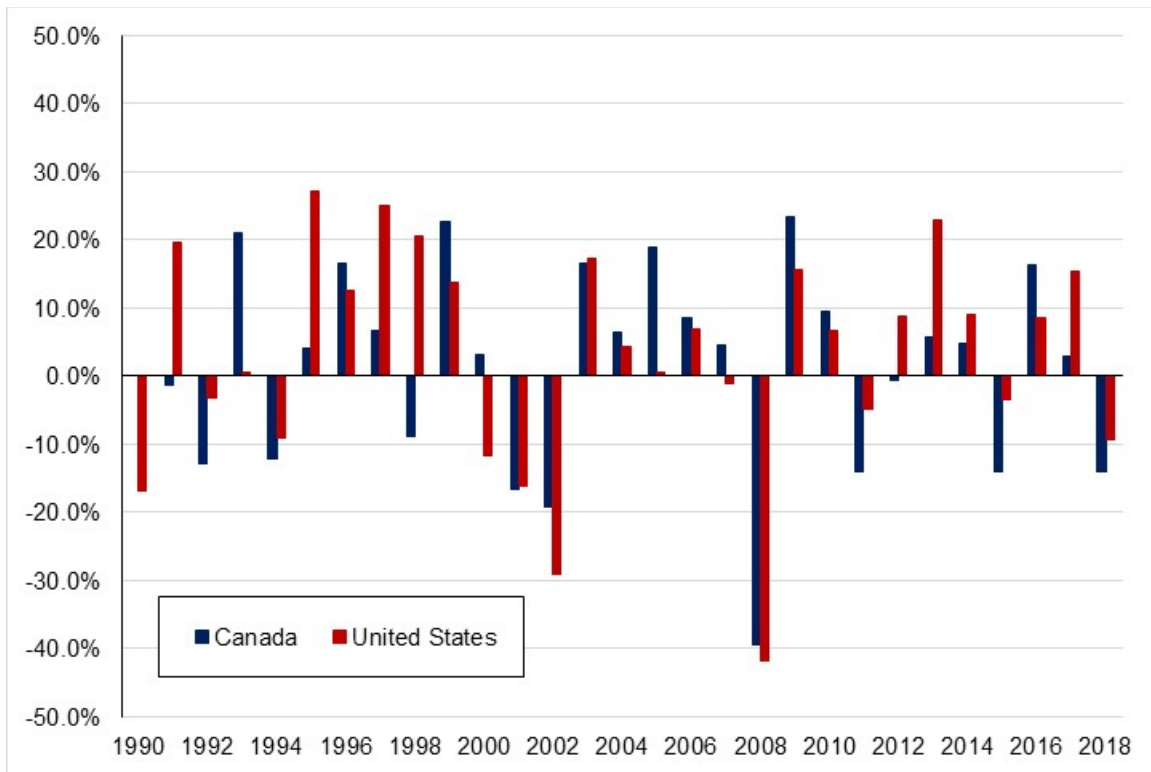
12 **Q. WHAT EVIDENCE IS THERE THAT THE AVERAGE HISTORICAL MARKET RISK**  
13 **PREMIUM IS NOT REPRESENTATIVE OF THE RISK ASSOCIATED WITH COMMON**  
14 **EQUITY OWNERSHIP?**

15 A. Actual total returns for the TSX Index and the S&P 500 Index have varied significantly  
16 from year to year. This calls into question whether using average return data to  
17 calculate the market risk premium reflects the volatility in returns that equity investors  
18 must take into consideration from year to year. Figure 5 shows the differential  
19 between the total return for each of these stock indexes over the period from 1990-  
20 2018 less the corresponding 30-year bond yield in each country.



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Figure 5: Annual Market Risk Premium – 1990 -2018



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As shown in this Figure, the annual market risk premiums have fluctuated from -39.5 percent to +23.4 percent in Canada and from -41.9 percent to +27.3 percent in the U.S. These data demonstrate that equity investors are accepting a significant level of risk every time they decide whether or not to purchase shares. This risk is not entirely reflected in the long-term average arithmetic market risk premium of approximately 5.60 percent in Canada and 7.0 percent in the U.S.



1 **Q. HAVE OTHERS EXPRESSED CONCERNS WITH THE USE OF INVESTOR SURVEYS TO**  
2 **ESTIMATE THE EQUITY RISK PREMIUM?**

3 A. Yes. Finance Professor Aswath Damodoran, who has published extensively on the  
4 question of how to estimate the equity risk premium, wrote in March 2013<sup>21</sup> about his  
5 concerns with using investor surveys to estimate the equity risk premium as follows:

6 While survey premiums have become more accessible, very few  
7 practitioners seem to be inclined to use the numbers from these surveys  
8 in computations and there are several reasons for this reluctance:

- 9 1. Survey risk premiums are responsive to recent stock price  
10 movements, with survey numbers generally increasing after  
11 bullish periods and decreasing after market declines...;
- 12 2. Surveys premiums are sensitive not only to whom the question  
13 is directed at but how the question is asked. For example, asking  
14 the question, “What do you think stocks will do next year?”  
15 generates different numbers than asking, “What should the risk  
16 premium be for investing in stocks?”;
- 17 3. In keeping with other surveys that show differences across sub-  
18 groups, the premium seems to vary depending on who gets  
19 surveyed...; and
- 20 4. Studies that have looked at the efficacy of survey premiums  
21 indicate that if they have any predictive power, it is in the wrong  
22 direction...  
23

24 In summary, Dr. Damodoran finds that few investors are inclined to use surveys of  
25 the market risk premium in their analysis or investment decisions. He ultimately  
26 concludes that “it is also likely that these survey premiums will be more reflections of  
27 the recent past than good forecasts of the future.”<sup>22</sup>

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<sup>21</sup> Aswath Damodoran, *Equity Risk Premiums (ERP): Determinants, Estimation, and Implications*  
– The 2013 Edition, Updated March 2013, at 19-20.

<sup>22</sup> *Id.*, at 20.



1                   **D. Beta**

2   **Q.    TO WHAT DO YOU ATTRIBUTE THE DIFFERENCES BETWEEN YOUR BETA**  
3           **ESTIMATES FOR THE CANADIAN, U.S. AND NORTH AMERICAN PROXY GROUPS,**  
4           **AND DR. BOOTH’S RANGE OF BETA ESTIMATES?**

5    A.    Dr. Booth’s Beta estimates for Canadian utilities range from 0.45 to 0.55, while my  
6           Beta estimates are 0.63 for the U.S. Electric proxy group, 0.76 for the Canadian proxy  
7           group and 0.65 for the North American Electric proxy group. The primary difference  
8           in these measures is attributable to Dr. Booth’s rejection of the widely-accepted  
9           adjustment methodology used by most providers of Beta coefficients for financial  
10          analysis, which is to adjust Betas toward the market average of 1.0.<sup>23</sup> Dr. Booth argues  
11          that utility Betas regress toward their industry average, which he estimates to be 0.50,  
12          rather than the market average of 1.0. In Appendix C, he cites the work of Gombola  
13          and Kahl (published in 1990) and Michelfelder and Theodossiou (published in 2013)  
14          as support for his conclusions. Gombola and Kahl found that utility Betas required  
15          adjustment, such as is performed by Value Line, Merrill Lynch, Bloomberg and others,  
16          but that the adjustment should not be toward the market mean of 1.0, but instead to  
17          the grand mean of the utility industry Beta. Michelfelder and Theodossiou reached  
18          similar conclusions about utility betas reverting to an industry average rather than a  
19          market average based on data from 1962-2007. Rather than a mechanical weighting,

---

<sup>23</sup> Commonly referred to as the “Blume Adjustment” for papers written by Marshall Blume documenting evidence of autoregressive properties of Beta towards the market average of 1.0. *See* Marshall E. Blume, On the Assessment of Risk, *The Journal of Finance*, Vol. XXVI, No. 1 (March 1971) and Marshall E. Blume, Betas And Their Regression Tendencies, *The Journal of Finance*, Vol. XXX, No. 3 (June 1975), where Blume found that there was strong evidence that Beta regressed toward the market mean, and that tendency was strongest in the case of the lowest risk portfolios.



1 Dr. Booth indicates on page 9 of Appendix C that he prefers to use his judgment to  
2 estimate Beta, constrained by the actual historic evidence of the low risk nature of  
3 utility holding companies.

4 **Q. DO YOU AGREE THAT REGULATED ELECTRIC AND GAS UTILITIES HAVE LOWER**  
5 **RISK THAN THE BROAD MARKET, AND THEREFORE IT IS REASONABLE TO EXPECT**  
6 **THE BETAS FOR THESE COMPANIES TO BE BELOW THE MARKET AVERAGE OF 1.0?**

7 A. Yes, I recognize that regulated electric and gas utilities have lower risk than the broad  
8 market. The issue in dispute is the extent of that risk differential.

9 **Q. DOES DR. BLUME'S BETA ADJUSTMENT METHODOLOGY SUPPORT ADJUSTING**  
10 **BETA TO THE LONG-TERM AVERAGE BETA OF THE INDUSTRY SECTOR BEING**  
11 **STUDIED?**

12 A. No. In Dr. Blume's study, he found that all Betas, both low and high, revert towards  
13 the market mean of 1.0 over time.

14 **Q. DOES DR. BLUME'S STUDY DISPROVE THE ARGUMENT THAT BETA SHOULD BE**  
15 **ADJUSTED TOWARD THE LONG-TERM UTILITY AVERAGE BETA?**

16 A. Absolutely, yes. Dr. Blume specifically studied four groups of Betas, ranging from a  
17 very low Beta group (averaging 0.50, similar to the utility industry) to a very high Beta  
18 group. Dr. Blume found that his adjustment best predicted future Betas for each of  
19 the four risk groups over the next seven years. Dr. Blume found that a low Beta  
20 portfolio that averaged 0.50 migrated towards the grand mean of all Betas of 1.0  
21 approximately in accordance with the Blume formula. The study makes it obvious that  
22 Betas migrate towards 1.0 and do indeed exceed their long-term unadjusted averages.  
23 Given that the purpose of estimating the CAPM relying on these Beta estimates is to



1 estimate the forward-looking cost of capital, it is important to reflect a forward view  
2 of Beta and its tendency to migrate towards the market mean over time, which is not  
3 limited to the long-term historic average of the industry Beta.

4 **Q. HAVE ACADEMIC THEORISTS CITED ADDITIONAL INTUITIVE SUPPORT FOR**  
5 **ADJUSTING UTILITY BETAS TOWARDS THE MARKET MEAN OF 1.0?**

6 A. Yes. In addition to compensating for the negatively biased error terms for low Betas,  
7 it has also been found that “raw” Beta tends to underestimate the risk of utilities due  
8 to the inability to recognize interest rate risk in the calculation of Beta for interest-rate  
9 sensitive firms.<sup>24</sup> As indicated on page 6 of Appendix C to his evidence, Dr. Booth  
10 agrees that “Betas vary inversely with their interest sensitivity” and that “as interest  
11 rates increase back to normal levels, I would expect their Betas to increase as they trade  
12 less on their bond values and more as regular equities.” This limitation and the  
13 negatively biased error terms for low Beta firms are two factors that are not reflected  
14 in a Beta adjustment toward the long-term average of utility Betas. As a result, Dr.  
15 Booth’s suggested method understates the Beta estimate.

16 **Q. DO YOU HAVE ANY OBSERVATIONS ON THE ARTICLE BY MICHELFELDER AND**  
17 **THEODOSSIOU?**

18 A. Yes. The conclusions reached by the authors regarding how to adjust beta should be  
19 placed in the appropriate context. First, they acknowledge that the major vendors of  
20 Beta, such as Merrill Lynch, Value Line and Bloomberg, all use the Blume adjustment  
21 to adjust Beta. This suggests that investors are relying on Blume adjusted betas as they

---

<sup>24</sup> Roger A. Morin, Ph. D., *New Regulatory Finance*, Public Utilities Reports, Inc., (2006), at 74.





1 determine their return requirements for public utilities. Second, the authors state that,  
2 “the perceived systematic risk associated with the common stock of a public utility  
3 may be lower than that of a non-public utility. Therefore, forcing the Beta of a utility  
4 stock toward one may not be appropriate, at least on a conceptual level.” But, the  
5 determination of a just and reasonable return for Maritime Electric is not a conceptual  
6 exercise, but rather should be based on available market data that are widely used by  
7 investors.

8 **Q. WHAT DO YOU CONCLUDE REGARDING THE APPROPRIATENESS OF ADJUSTING**  
9 **UTILITY BETAS TOWARD THE MARKET MEAN OF 1.0?**

10 A. I agree with the adjustment methodology employed by the major Beta providers (i.e.,  
11 Value Line, Bloomberg, Merrill Lynch) that the appropriate Beta adjustment is toward  
12 the market mean of 1.0. Further, I am not aware of a single U.S. state or federal  
13 regulatory jurisdiction that takes exception to the use of this adjustment methodology.  
14 In my experience, the Value Line and Bloomberg methodologies are widely accepted  
15 and utilized by financial analysts, investors, corporations, and broadly accepted by U.S.  
16 regulatory commissions. In my experience, this discussion around the appropriate  
17 Beta adjustment methodology only occurs in Canadian regulatory proceedings where  
18 intervenors, such as Dr. Booth, have challenged the widely-accepted findings of the  
19 Blume study.

20 **Q. WHAT IS YOUR EXPERIENCE IN CANADA?**

21 A. I am aware that Canadian regulators have considered the issue of Beta adjustments in  
22 a number of cases where CAPM evidence has been presented. Commissions do not  
23 always articulate their determinations regarding the specific adjustments they have



1           accepted, but I am not aware of any Commission that has relied upon “raw” Betas.  
2           The Brattle Group summarizes this widely-adopted adjustment methodology in its  
3           report for the BCUC:

4                   Beta estimates are provided by many data services for Canadian,  
5                   American and other traded companies. The most common  
6                   methodology to estimate Betas is to use the most recent five years of  
7                   weekly or monthly return data. These Betas may then be adjusted  
8                   towards one as adjustment for sampling reversion that was first identified  
9                   by Professor Marshall Blume (1971, 1975).<sup>25</sup>

10   **Q.    HAVE THERE BEEN RECENT STUDIES ON THE USE OF BETAS BY ACADEMICS AND**  
11   **PRACTITIONERS?**

12   A.    Yes. In addition to his market risk premium survey, Dr. Fernandez also has conducted  
13           a series of surveys on the use of Betas by finance professors. His original 2009 survey  
14           was sent via email to approximately 8,000 finance and economics professors with email  
15           addresses “obtained from previous correspondence, papers, and webs of the  
16           universities.” The survey sought to understand whether professors use Beta to  
17           calculate the required return to equity, and “how the number was justified.” Dr.  
18           Fernandez published the most recent update to his series of Beta surveys in October  
19           2017.<sup>26</sup>

20           In that updated survey, Dr. Fernandez noted a variety of problems with measuring  
21           Beta, and summarized them as follows:

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<sup>25</sup> The Brattle Group, Survey of Cost of Capital Practices in Canada, Prepared for the British Columbia Utilities Commission, May 31, 2012, at 15-28.

<sup>26</sup> “*Betas used by Professors: a survey with 2,500 answers*”, October 16, 2017. Dr. Fernandez’s original survey was conducted in 2009, when he received 2,510 responses from professors in 65 countries, of which 1,791 used Betas. Fernandez has since reported updates in 2010, 2013, 2014, 2015 and the latest in 2017.



- 1 The problems of the Betas calculated with historical data are well known:
- 2 1. They change considerably from one day to the next.
  - 3 2. They depend very much on which stock index is used as the  
4 market reference.
  - 5 3. They depend very much on the historical period (5 years, 3  
6 years...) used.
  - 7 4. They depend on what returns (monthly, yearly...) are used to  
8 calculate them.
  - 9 5. Very often we do not know if the Beta of one company is  
10 lower or higher than the Beta of another.
  - 11 6. Calculated Betas have little correlation with stock returns.
  - 12 7. Beta = 1 has a higher correlation with stock returns than  
13 calculated Betas for many companies.
  - 14 8. The correlation coefficients of the regressions used to  
15 calculate the Betas are very small.
  - 16 9. The relative magnitude of Betas often makes very little sense:  
17 companies with high risk often have lower calculated Betas  
18 than companies with lower risk.

19  
20 Based on Dr. Fernandez's conclusions, I summarize a few key points that might assist  
21 the Commission in addressing the issue of adjusted Beta:

- 22 • Betas calculated based on historical data alone are poor measures of a  
23 stock's future volatility.
- 24 • Based on correlations of the annual stock returns (1989-2008) of the Dow  
25 Jones companies measured against the S&P 500, Fernandez finds: "Beta =  
26 1.0 works better than calculated Betas. But adjusted Betas (0.67 calculated  
27 Beta + 0.33) have higher correlation than calculated Betas. But adjusted  
28 Betas have lower correlation than Beta = 1."<sup>27</sup>

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<sup>27</sup> Ibid, at 8.



- 1                   • Low Beta is an indicator of “low portfolio risk,” but not an indicator of  
2                   “low business risk” and indeed it is often the companies with high risk that  
3                   have the lower calculated Betas.

4           The Fernandez survey indicates that at a minimum, calculated Betas based on historical  
5           stock prices should be adjusted to the market mean of 1.0 to better reflect actual  
6           returns, because Dr. Fernandez found that the market return Beta of 1.0 provided the  
7           highest correlation to actual returns. This suggests the appropriate calculation of Beta  
8           is between my adjusted Beta at the low end and the market mean of 1.0 at the high  
9           end. While I have not relied on either Fernandez survey (market risk premium or  
10          Beta) for my recommendations, these conclusions certainly suggest that care must be  
11          exercised in the use of the CAPM.

12   **Q.   HAS DR. BOOTH ADEQUATELY ADJUSTED HIS CAPM ANALYSIS TO REFLECT**  
13   **CURRENT MARKET CONDITIONS?**

14   A.   No. While Dr. Booth has adjusted the risk-free rate used in his “Conditional CAPM”  
15          analysis to reflect wider than normal credit spreads and bond buying by central banks  
16          around the world, his CAPM analysis is based primarily on a historical market risk  
17          premium (which he then compares to the results of the Fernandez survey) and a  
18          judgment-based estimate of Beta for Canadian regulated utilities generally. Although  
19          Dr. Booth appears to recognize that the low interest rate environment of recent years  
20          is also affecting the calculation of Beta coefficients and the equity risk premium, he  
21          has not made any adjustment to either input in his CAPM analysis. By continuing to  
22          use the same inputs and assumptions in his CAPM analysis, regardless of the  
23          conditions in the economy or capital markets, it is not surprising that Dr. Booth’s  
24          CAPM results are consistently within a range from 7.00 percent to 8.00 percent. Given



1           that there has not been an authorized ROE for a Canadian investor-owned electric  
2           utility below 8.30 percent since 2009, when the OEB's formula produced an 8.01  
3           percent authorized ROE for Ontario's electricity distributors, it would be reasonable  
4           for Dr. Booth to question the results produced by his CAPM analysis and to place  
5           more weight on alternative methodologies to estimate the cost of equity for regulated  
6           utilities.

7           **V. DR. BOOTH'S DCF ANALYSIS**

8           **Q. PLEASE DESCRIBE DR. BOOTH'S DCF ANALYSES.**

9           A.    On pages 7-8 of Appendix D to his evidence, Dr. Booth performs two DCF  
10           calculations for the broad Canadian market. The first is based on historic GDP growth  
11           from 1961-2017 of 3.17 percent and the Bank of Canada's operating band for inflation  
12           of 2.00 percent, which he suggests implies an average long-term growth rate in  
13           earnings and dividends of about 5.20 percent. He then multiplies this growth rate by  
14           the current dividend yield on the TSX Index of 2.83 percent to arrive at a DCF  
15           estimate of 8.21 percent. Dr. Booth provides a second DCF analysis for the Canadian  
16           market using the median dividend payout ratio of corporate Canada of 42.00 percent,  
17           which produces a sustainable growth rate of 5.77 percent and a DCF return estimate  
18           of 8.76 percent. On page 9 of Appendix D, Dr. Booth performs similar analyses on  
19           the S&P 500 in the U.S. and arrives at equity cost estimates of 9.17 percent and 9.89  
20           percent. Dr. Booth also performs a DCF analysis on the electric utilities in the S&P  
21           500 Utilities Index (Schedule 15) based on historical growth rates and dividend yields  
22           from 1993-2017 and for a proxy group of U.S. electric utilities based on forecast  
23           earnings growth rates and sustainable growth rates (Schedule 17). Dr. Booth's DCF



1 analysis of the S&P Utilities Index produces ROE estimates of 7.62 percent (mean)  
2 and 8.07 percent (median), and his DCF analysis of an U.S. electric proxy group  
3 produces mean ROE estimates of 8.25 percent using forecast EPS growth and 6.41  
4 percent using sustainable growth.

5 **Q. PLEASE COMMENT ON THE RESULTS OF DR. BOOTH'S VARIOUS DCF ANALYSES.**

6 A. As shown in Schedule 17 of Appendix D, the mean and median results produced by  
7 Dr. Booth's DCF analysis using forecast EPS growth rates for a proxy group of U.S.  
8 electric utilities are 8.25 percent and 8.90 percent, respectively. The mean DCF results  
9 are incorrectly reduced due to the inclusion of a projected growth rate of negative 2.25  
10 percent for OGE Energy. It is not reasonable to include negative growth rates in a  
11 Constant Growth DCF analysis because investors would not purchase shares in a  
12 company that they believed would have negative earnings growth in perpetuity.  
13 Excluding that negative growth rate for OGE Energy brings the mean and median  
14 DCF results for Dr. Booth's U.S. proxy group up to 8.97 percent. While this return  
15 estimate still does not provide adequate compensation for equity investors, in my view,  
16 it shows the sensitivity of the DCF model results to the inclusion of unreasonable  
17 growth rates.

18 The other DCF analyses provided by Dr. Booth are based on historical economic and  
19 market data and do not provide a forward-looking estimate of the cost of equity for  
20 electric utilities generally or Maritime Electric in particular. For example, it is not  
21 reasonable to estimate the forward-looking cost of equity for Maritime Electric based  
22 on the average growth rates and average dividend yields for the electric utilities in the  
23 S&P 500 Utilities Index going back to 1993. Likewise, it is not reasonable to estimate



1 the forward-looking cost of equity for Maritime Electric based on historical GDP  
2 growth in Canada since 1961 plus a projected inflation rate because this does not  
3 reflect the specific business and financial risk that Maritime Electric faces in raising  
4 equity capital.

5 If Dr. Booth had used projected EPS growth rates for the broader market in Canada  
6 and the U.S., his DCF estimates would be substantially higher, as shown in Exhibits  
7 JPT-5 and JPT-6 to my Report. In that context, a DCF estimate for regulated utilities  
8 of 9.00 percent to 10.00 percent is reasonable, if not somewhat conservative, as shown  
9 in Exhibit JPT-3 to my Report where the mean DCF estimate for the U.S. electric  
10 proxy group is 9.26 percent and the mean high is 9.69 percent. For the North  
11 American proxy group, these estimates range from 9.26 percent (mean) to 9.70 percent  
12 (mean high), and for the Canadian proxy group from 9.41 percent (mean) to 10.84  
13 percent (mean high). In summary, Dr. Booth's use of historical growth rates and  
14 economic data in his DCF analysis shed little light on the forward-looking cost of  
15 equity for Maritime Electric.

16 **A. Earnings Growth Rates**

17 **Q. PLEASE SUMMARIZE DR. BOOTH'S TESTIMONY REGARDING EARNINGS GROWTH**  
18 **RATES IN THE DCF MODEL.**

19 A. On pages 12-15 of Appendix D, Dr. Booth suggests that DCF estimates for individual  
20 companies are not as reliable as for the broad market, and that analyst's earnings  
21 growth rates suffer from persistent "optimism bias". According to Dr. Booth, based  
22 on analysts' five-year forecast earnings per share growth rates from Yahoo! Finance,  
23 the DCF estimates for the utilities in his selected group of 11 electric utilities are 8.25



1 percent (mean) and 8.90 percent (median). Dr. Booth expresses concern that these  
2 DCF estimates are very similar to his estimated total return for the overall market even  
3 though utilities are “clearly lower risk.”<sup>28</sup>

4 **Q. DO YOU SHARE DR. BOOTH’S CONCERN THAT ANALYSTS’ EPS GROWTH RATES**  
5 **ARE BIASED UPWARD AND THAT GDP GROWTH PLACES A CAP ON EARNINGS**  
6 **GROWTH?**

7 A. No, I do not share Dr. Booth’s concern with “optimism bias” for several reasons. As  
8 shown in Figure 6, the projected EPS growth rates for the companies in my Canadian  
9 proxy group, U.S. electric proxy group and North American proxy group are lower  
10 than the actual historic EPS and dividend per share growth rates for these same  
11 companies over the past ten years.

12 **Figure 6: Projected vs Historical Growth in EPS and DPS**

	[1]	[2]	[3]	[4]	[5]
	Avg. EPS Growth	Avg. DPS Growth	10-year Avg.	Avg. EPS Growth	GDP Growth
	Historical	Historical	GDP Growth	Forecast	Forecast
	2009-2018	2009-2018	2008-2017	2019-2023	2025-2029
U.S. Proxy Group	6.58%	6.00%	3.11%	5.52%	4.24%
Canadian Proxy Group	8.00%	12.30%	3.23%	4.51%	3.73%
Combined Proxy Group	6.58%	6.32%	3.13%	5.13%	4.15%
Average	7.05%	8.21%	3.16%	5.05%	4.04%

13  
14  
15 This analysis highlights important relationships based on the most recent ten years of  
16 history, which is a sufficient time-period to draw meaningful conclusions and to frame  
17 reasonable expectations for the future.

- 18 • Dividends track reasonably well with earnings growth, as would be expected,  
19 because earnings drive dividend growth. The exception is the Canadian proxy

<sup>28</sup> Evidence of Laurence D. Booth, Appendix D, at 13.





1 group, where dividends outpaced earnings growth over this period. This is solely  
2 due to Enbridge, which had a significant increase in its payout ratio. I conclude  
3 that earnings growth is a reasonable proxy for dividend growth, especially with a  
4 broad enough company sample.

- 5 • Both earnings and dividend growth exceeded GDP growth by a wide margin. This  
6 should not be a surprise, as earnings for a healthy and well-managed utility can  
7 exceed the growth of the overall economy. There is no fundamental basis to  
8 assume that economy-wide GDP growth with a mix of macroeconomic, social and  
9 business drivers serves as a limit on utility earnings growth.
- 10 • Looking to the future, it is not unreasonable to rely on analyst projections, as I and  
11 other experts commonly do, just because they exceed GDP growth. In fact, over  
12 the historical period, average dividend growth for the three utility groups exceeded  
13 historical GDP growth by 5.05 percent. Further, the average analyst earnings  
14 growth projection of 5.05 percent is 200 basis points lower than the historical  
15 earnings growth of 7.05 percent, and this relationship holds for each of the proxy  
16 groups: the analyst projections are substantially lower than historical growth rates.  
17 These relationships indicate the projected analyst growth rates are entirely  
18 reasonable by historic standards.

19 Second, industry analysts are experts on the companies they cover; they understand  
20 the risks attendant to investing in the various utilities within their coverage universe;  
21 they receive earnings guidance from the utilities themselves; and they have the  
22 opportunity to speak with utility management. Further, given the consensus that utility  
23 operating income is generally stable, and the fact that their business models are well  
24 understood with high quality financial reporting, it is reasonable to expect that forecast  
25 EPS growth rates for utilities are more reliable than for companies in many other  
26 sectors.



1           Lastly, equity analysts do not have a financial incentive to provide overly-optimistic  
2           research reports because much of this reporting is utilized by institutional clients such  
3           as pension funds or mutual funds, and credibility is very important in maintaining that  
4           business relationship. Clients expect forecasting accuracy in the reports of equity  
5           analysts. *The Wall Street Journal* publishes an annual ranking of the best equity analysts  
6           in each industry. The rankings are largely based on the accuracy of the analysts'  
7           earnings forecasts and their buy and sell recommendations. Inclusion on this  
8           prestigious list is very important for both the analyst and the firm for which he or she  
9           works. There is ample evidence to support the conclusion that earnings estimates for  
10          utilities are reasonably accurate, and accordingly are relied upon by utility investors.

11   **Q.    ARE YOU AWARE OF OTHER PROFESSIONAL INVESTMENT SERVICES THAT SHARE**  
12   **YOUR VIEW REGARDING WHETHER ANALYST'S GROWTH RATES ARE OVERLY**  
13   **OPTIMISTIC AND UPWARDLY BIASED?**

14   A.    Yes. Zacks Investment Research, a reputable source of consensus growth rate  
15          forecasts, published an article which states that brokerage analysts are "expected to be  
16          objective experts for the industries they cover."<sup>29</sup> With regard to guidance provided  
17          by companies to brokerage analysts, Zacks writes:

18                   It is not in the best interest of corporate executives to share the most  
19                   optimistic projections with brokerage analysts, however. A large  
20                   percentage of executive compensation comes from company stock and  
21                   stock option plans. Executives realize that if their company reports  
22                   earnings that are below analysts' forecasts, almost without exception, the  
23                   stock price will tumble. This in turn costs them money. Therefore, it is

---

<sup>29</sup> Source: <http://www.zacks.com/help/zrank-guide.php?p=3>



1 more advantageous for executives to provide brokerage analysts with  
2 conservative earnings estimates.<sup>30</sup>

3 With respect to analyst's incentive to provide overly-optimistic earnings forecasts,

4 Zacks observes:

5 Clients will only act on a brokerage analyst's recommendation if they  
6 think the recommendation will help them make money. The more  
7 money a firm's clients make from a particular analyst's recommendations,  
8 the more valuable the analyst is to the firm. Since the analysts issue far  
9 more "buy" recommendations than "sell" recommendations, they want  
10 to avoid making earnings forecasts that are overly optimistic. The  
11 incentive for issuing conservative earnings estimates is that the company  
12 has a better chance of reporting earnings that exceed forecasts. In turn,  
13 clients will be happy to see the stock's price rise. Conversely, there is no  
14 incentive to issue an earnings forecast that is overly optimistic.<sup>31</sup>

15 Finally, in terms of the issue of reported earnings vs. forecasted earnings, Zacks  
16 observes:

17 Over 10 years ago, only about 50% of companies met or exceeded  
18 earnings estimates every quarter. Now that number has moved to 80%  
19 as corporate executives and brokerage analysts have wised up to the  
20 importance of creating conservative earnings estimates.<sup>32</sup>

21 **Q. HAVE YOU DEVELOPED AN ALTERNATIVE DCF ANALYSIS THAT REASONABLY**  
22 **ADDRESSES ANY CONCERNS THAT MAY EXIST OVER OPTIMISM BIAS?**

23 A. Yes. Although I see no reason to believe that optimism bias exists in the analyst  
24 growth rate estimates used in my Constant Growth DCF analysis, I have also provided  
25 a Multi-Stage DCF analysis which mitigates the potential for analyst bias and concerns  
26 about whether the analyst growth rates could be sustained in perpetuity. According to

---

<sup>30</sup> Ibid.

<sup>31</sup> Ibid.

<sup>32</sup> Ibid.



1 Dr. Booth's Corporate Finance text, use of the two-stage DCF model mitigates  
2 concerns about analyst bias. The textbook states:

3 Finally, an important source of information regarding company growth,  
4 particularly for the near term, can be found in analyst estimates. Investors  
5 are often especially interested in "consensus" estimates, because market  
6 values reflect these estimates. However, a word of caution is in order:  
7 analysts have been shown to be biased—that is, they tend to be overly  
8 optimistic—in part because their major source of information is  
9 frequently the company itself. Research by Easton and Sommers has put  
10 the "optimism" bias in analysts' growth forecasts at an average of 2.84  
11 percent. **As a result, analyst forecasts tend to be used with the two-**  
12 **stage growth model (discussed in the next section) to mitigate this**  
13 **optimism.**<sup>33</sup>

14 My Multi-Stage DCF model uses analyst growth rates for the first 5 years of the model.  
15 The remaining years reflect projected GDP growth or the transition to GDP growth.  
16 I have relied on the Multi-Stage DCF results in conjunction with the Constant Growth  
17 DCF and CAPM results in reaching my range of ROE estimates for Maritime Electric.

## 18 B. Sustainable Growth Rates

19 **Q. IN SCHEDULE 17 OF APPENDIX D, DR. BOOTH CALCULATES A DCF ESTIMATE**  
20 **FOR A GROUP OF U.S. ELECTRIC UTILITIES USING SUSTAINABLE GROWTH RATES.**  
21 **DO YOU AGREE THAT SUSTAINABLE GROWTH RATES, AS CALCULATED BY DR.**  
22 **BOOTH, APPROPRIATELY CAPTURE THE EXPECTED GROWTH OF A REGULATED**  
23 **UTILITY?**

24 A. No, I do not. The full form of the "sustainable growth" model is premised on the  
25 proposition that a firm's growth is a function of its expected earnings, and the extent  
26 to which it retains earnings to invest in the enterprise. In the sustainable growth

---

<sup>33</sup> Laurence D. Booth and W. Sean Cleary, Corporate Finance, 3rd Edition (2013), at 260. [Emphasis added.]



1 formula, this is commonly referred to as the product of “ $b \times r$ ”, where “ $b$ ” is the  
2 retention ratio, or the portion of net income not paid in dividends, and “ $r$ ” is the  
3 expected ROE on the portion of net income that is retained within the Company as a  
4 means for future growth. In the fullest form of the sustainable growth formula, new  
5 equity issuances, or what are commonly known as externally generated funds, are also  
6 considered. This is shown as the product of “ $s \times v$ ”, where “ $s$ ” represents the growth  
7 in shares outstanding, and “ $v$ ” is that portion of the market/book ratio that exceeds  
8 unity. This methodology is recognized as a common approach to calculating the  
9 sustainable growth rate.

10 Dr. Booth has relied upon the simplest form of the sustainable growth model,  
11 projecting growth only as a function of internally generated funds. The “ $b \times r$ ” method  
12 fails to account for future equity issuances, and no sustainable growth formula  
13 considers debt leverage as a source of future growth for an entity. Failure to consider  
14 the potential for debt and equity issuances as a source of future growth understates  
15 the firm's growth potential under this model.

16 **Q. HAS THE FERC RECENTLY MOVED AWAY FROM THE USE OF SUSTAINABLE**  
17 **GROWTH RATES IN ITS ROE METHODOLOGY?**

18 A. Yes. In Opinion No. 531, the FERC moved away from its use of sustainable growth  
19 rates in its DCF methodology to be applied in public utility rate cases.<sup>34</sup> The FERC’s  
20 two-step DCF methodology for electric utilities now relies on a combination of analyst

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<sup>34</sup> See FERC Order 531 at <http://www.ferc.gov/whats-new/comm-meet/2014/061914/e-7.pdf>



1 growth rates and GDP growth estimates, just as I have used in my Multi-Stage DCF  
2 analysis.

3 **Q. DO YOU HAVE OTHER CONCERNS WITH THE REASONABLENESS OF DR. BOOTH'S**  
4 **SUSTAINABLE GROWTH RATE CALCULATION?**

5 A. Yes, I do. Since the “r” in the “b x r” approach refers to the ROE, Dr. Booth has  
6 effectively pre-supposed analyst ROE and payout ratio projections for the companies  
7 in his analysis. Thus, by using this sustainable growth measure, Dr. Booth has assumed  
8 the reasonableness of analysts’ ROE projections, while contesting the same analysts’  
9 projections of company earnings per share growth rates. As shown in Schedule 17 of  
10 Dr. Booth’s Appendix D, the mean and median ROE projections for the U.S. electric  
11 utility companies are 8.91 percent and 9.18 percent, respectively, which while low are  
12 significantly higher than the mean and median DCF results Dr. Booth calculates of  
13 6.41 percent and 6.50 percent, respectively, using the simple form of the sustainable  
14 growth rate.

15 In response to Data Request No. 13, Dr. Booth provided his sustainable growth rate  
16 calculations in electronic format. Dr. Booth indicates that he pulled current data from  
17 Yahoo! Finance, which reports data from S&P Capital IQ’s database. In reviewing his  
18 sustainable growth rate calculations, I have several concerns. First, Dr. Booth has  
19 calculated the retention ratio for each company using spot data for EPS and DPS.  
20 Consequently, his retention ratio for several companies diverges substantially from  
21 what would be considered an average long-term retention ratio for the regulated  
22 electric and gas utility industry of approximately 30-40 percent (i.e., a 60-70 percent  
23 dividend payout ratio). For example, Dr. Booth uses retention ratios of 12 percent for



1 Duke Energy, two percent for both Southern Company and PNM Resources, and  
2 negative 72 percent for Edison International. Second, Dr. Booth multiplies the  
3 retention ratio by the most recently reported ROE for each company rather than the  
4 long-term projected ROE. Once again, the reported ROE in the most recent period  
5 may deviate substantially from the long-term average for either the individual company  
6 or the industry as a whole. Based on these questionable input assumptions, Dr. Booth  
7 derives sustainable growth rates as low as -2.13 percent for Edison International, 0.10  
8 percent for PNM Resources, 0.15 percent for Southern Company and 0.85 percent for  
9 Duke Energy. Such growth rates are clearly not “sustainable” over the longer term,  
10 and the return estimates produced by these growth rates (i.e., from 1.94 percent for  
11 Edison International to 5.27 percent for Southern Company) do not reflect the risk  
12 associated with owning common equity. In fact, several of these equity return  
13 estimates are much lower than the long-term debt costs for public utilities in the  
14 current market. In addition, these returns are not comparable to allowed ROEs for  
15 other regulated electric and natural gas utilities in either Canada or the U.S. Therefore,  
16 these returns do not satisfy the Fair Return Standard and should be rejected. Yet, Dr.  
17 Booth uses his DCF analysis to support his view that his CAPM results are reasonable.

18 **Q. WHAT ARE YOUR CONCLUSIONS REGARDING DR. BOOTH’S DCF ANALYSIS?**

19 A. Dr. Booth’s DCF analysis has very limited value because much of the analysis is based  
20 on historical economic data and growth rates rather than forward looking EPS growth  
21 rates for a proxy group of companies with comparable risk to Maritime Electric. The  
22 only DCF analysis that Dr. Booth provides using forecast EPS growth rates for a proxy  
23 group of U.S. electric utilities produces ROE estimates of 8.97 percent, when adjusted



1 to exclude OGE Energy due to its negative growth rate. While these results are low,  
2 they are well above Dr. Booth's CAPM results and his ROE recommendation.  
3 Furthermore, they do not appear to include an adjustment of 50 basis points for  
4 flotation costs and financing flexibility. Dr. Booth's DCF analysis based on sustainable  
5 growth rates does not produce reliable ROE estimates because his method of  
6 calculating those sustainable growth rates only considers internally-funded growth and  
7 not externally-funded growth, and his calculation is based on historical data rather than  
8 projected data. Finally, the mean results of his DCF analysis using sustainable growth  
9 rates are substantially below any authorized ROE for an investor-owned gas or electric  
10 utility in Canada since at least 2000 and many individual company results are more like  
11 long-term debt costs than common equity costs. For all of these reasons, Dr. Booth's  
12 DCF analysis should be given no weight by the Commission.

13 **VI. RISK ANALYSIS AND CAPITAL STRUCTURE**

14 **Q. PLEASE SUMMARIZE DR. BOOTH'S CAPITAL STRUCTURE RECOMMENDATION.**

15 A. Dr. Booth recommends that Maritime Electric's equity ratio be reduced from 40.0  
16 percent to 35.0 percent.

17 **Q. WHAT IS THE BASIS FOR HIS RECOMMENDATION TO REDUCE THE COMMON**  
18 **EQUITY RATIO FOR MARITIME ELECTRIC FROM 40.0 PERCENT TO 35.0 PERCENT?**

19 A. On pages 64-65 of his evidence, Dr. Booth states that Maritime Electric is a low-risk  
20 electric distribution utility that has limited generation risk, no viable competition and  
21 serves very little industrial load, which limits the Company's variability in earnings.  
22 Dr. Booth contends that the PEI Energy Accord illustrates two phenomenon: 1) that





1 a utility's shareholders are rarely at risk due to the regulatory compact in Canada where  
2 almost all risks resulting from prudent operation are passed on to ratepayers with after  
3 the fact deferral accounting truing up these costs; and 2) that Maritime electric is a  
4 small utility, but it operates in a small province, where its activities are important not  
5 just for the regulator but also for the provincial government. Dr. Booth concludes  
6 that Maritime Electric has not borne any significant risks since 2010, while earning a  
7 generous risk premium. On that basis, Dr. Booth asserts that Maritime Electric should  
8 have a deemed common equity ratio similar to other low risk distribution utilities in  
9 Canada, which he claims is 35.0 percent.

10 **Q. WHAT IS THE AVERAGE ALLOWED COMMON EQUITY RATIO FOR OTHER**  
11 **INVESTOR-OWNED ELECTRIC UTILITIES IN CANADA AND THE U.S.?**

12 A. As shown in Figure 25 of my Report, the average deemed common equity ratio for  
13 other investor-owned electric utilities in Canada is 39.4 percent within a range from  
14 37.0 percent to 45.0 percent. The average authorized common equity ratio for the  
15 operating companies held by the U.S. electric proxy group is 49.4 percent, within a  
16 range from 40.0 percent to 55.8 percent.

17 **Q. WHY IS THE ALLOWED COMMON EQUITY RATIO OF THE OPERATING UTILITIES**  
18 **HELD BY THE PROXY GROUP COMPANIES IMPORTANT?**

19 A. The allowed common equity ratio of the operating utilities held by the Canadian and  
20 U.S. proxy group companies is important because these companies were selected for  
21 their comparability to Maritime Electric in terms of business and financial risk. If the  
22 authorized ROE is established using a proxy group of risk comparable companies,



1           then the allowed common equity ratio should also be set by reference to that same  
2           group of companies which have been determined to possess similar risk characteristics.

3   **Q.   WHAT RISK FACTORS DID THE COMMISSION CONSIDER RELEVANT IN THE 2010**  
4   **ORDER WHEN THE COMMISSION ESTABLISHED AN AUTHORIZED ROE OF 9.75**  
5   **PERCENT FOR MARITIME ELECTRIC?**

6   A.   In its 2010 Order, the Commission considered the following risk factors to be relevant:

7           1) The Commission noted testimony from experts with different opinions  
8           regarding the risk profile of Maritime Electric in comparison to the Ontario  
9           distribution utilities. The Commission accepted that Maritime Electric, with  
10          its responsibilities for electricity supply, is different than Ontario electric  
11          distribution utilities and the Commission viewed this difference as significant.  
12          [para 99]

13          2) The Commission noted that the lower than average Company corporate  
14          rating from S&P and the debt rating of BBB+, both lower than Canadian  
15          averages, is further evidence that the risk profile of Maritime Electric is higher.  
16          [para 100]

17          3) The Commission noted the authorized ROEs and common equity ratios of  
18          other investor-owned utilities in the Atlantic region. This included the 2009  
19          Nova Scotia Power ROE, arising from a negotiated settlement agreement, of  
20          9.35 percent on a common equity ratio of 37.5 percent and the Newfoundland  
21          Power ROE of 9.0 percent with a common equity ratio of 45 percent for 2010.  
22          [para 101]

23          4) The Commission noted the BCUC ROE decision for FortisBC of 9.75  
24          percent, which was 0.25 percent above the benchmark British Columbia ROE  
25          rate. The Commission viewed Maritime Electric as a higher risk than the  
26          benchmark BC utility (Terasen Gas) and FortisBC Electric due to a variety of



1 factors such as utility size, nature of operations, economic climate within which  
2 it operates, and regulatory risk factors. [para 104]

3 **Q. HOW WOULD YOU ASSESS THESE SAME RISK FACTORS TODAY?**

4 A. Maritime Electric continues to have responsibility for electricity supply, which the  
5 Commission previously determined is a significant difference as compared with the  
6 electric distribution utilities in Ontario, and volatility in electricity sales is challenging  
7 the scheduling and purchasing of energy under the various contracts with NB Power.  
8 The current authorized ROE for electric distribution companies in Ontario is 8.98  
9 percent on 40.0 percent deemed common equity. This implies that Maritime Electric's  
10 authorized ROE and deemed common equity ratio should be higher than electric  
11 utilities in Ontario due to the higher supply risk of Maritime Electric.

12 Maritime Electric's long-term issuer rating from S&P continues to be BBB+. Figure  
13 7 shows the S&P long-term issuer ratings for Canada's investor-owned utilities as of  
14 December 31, 2018. As shown in that Figure, two Canadian companies are rated "A",  
15 two companies are rated "A-", two companies are rated "BBB+", and one company  
16 is rated "BBB".



1

**Figure 7: S&P Long-term Issuer Ratings**

<b>Company</b>	<b>S&amp;P Rating</b>
AltaGas Ltd.	BBB
AltaLink LP	A
Canadian Utilities Ltd.	A-
Emera Incorporated	BBB+
Energir Inc.	A
Enbridge, Inc.	BBB+
Fortis Inc.	A-
<b>Maritime Electric Co. Ltd.</b>	<b>BBB+</b>

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Maritime Electric's business risk profile from S&P has improved to "Excellent" from "Satisfactory", while its financial risk profile remains at "Significant". Maritime Electric's issue rating for its first mortgage bonds is "A" by S&P (or the same as the "A" rating in 2010 that Dr. Booth references), but that rating is for debt that is secured by the assets of the utility. The Company's lower issuer rating suggests that Maritime Electric has greater investment risk than four of the seven other investor-owned utilities in Canada and equivalent investment risk as two other utilities.

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Nova Scotia Power's current authorized ROE is 9.0 percent (down from 9.35 percent in 2010) on 37.5 percent common equity (the same as in 2010). Newfoundland Power's current authorized ROE is 8.5 percent (down from 9.0 in 2010) on 45.0 percent common equity (the same as in 2010). In both instances, the authorized ROE has declined between 35 and 50 basis points since 2010, while the deemed common equity ratio has not changed. Maritime Electric's authorized ROE has declined by 40 basis points since 2010, when it was set at 9.75 percent by the Commission. The



1 Company's current deemed equity ratio of 40.0 percent is also the same as in 2010, but  
2 lower than the 42-43 percent levels under the PEI Energy Accord from 2011-2015,  
3 suggesting that any reduction in the common equity ratio would not be justified by  
4 comparison to Nova Scotia Power and Newfoundland Power.

5 The same factors that caused the Commission to find in 2010 that Maritime Electric  
6 had higher risk than the benchmark BC utility (Terasen Gas) and FortisBC (i.e., small  
7 utility size, nature of operations, economic climate within which it operates, and  
8 regulatory risk factors) remain in place today. The small size gap has widened between  
9 Maritime Electric and FortisBC Inc. since 2010, increasing the relative risk of Maritime  
10 Electric. In particular, since 2010 the number of customers served by Maritime  
11 Electric has increased by 9.5 percent (from 74,000 to 81,000), while the number of  
12 customer served by FortisBC Inc. has increased by 55.8 percent (from 113,000 to  
13 176,000). The current authorized ROE for the benchmark utility in British Columbia  
14 (FortisBC Energy, a gas distributor) is 8.75 percent on 38.5 common equity, and the  
15 authorized ROE for FortisBC Inc. (an electric distributor) is 9.15 percent on 40.0  
16 common equity. This implies that the authorized ROE for Maritime Electric should  
17 be higher than 9.15 percent (the level for FortisBC Inc.), and the deemed equity ratio  
18 should be at least 40.0 percent, which is the highest level permitted by statute in PEI.

19

20 **Q. DR. BOOTH ACKNOWLEDGES ON PAGE 70 OF HIS EVIDENCE THAT THE SMALL**  
21 **SIZE OF MARITIME ELECTRIC LIMITS THE COMPANY'S ACCESS TO DEBT MARKETS**  
22 **BECAUSE OF ECONOMIES OF SCALE IN DEBT ISSUES, BUT HE ARGUES THAT SMALL**  
23 **SIZE HAS NOT PREVENTED THE COMPANY FROM EARNING ITS AUTHORIZED**



1           **ROE IN RECENT YEARS. ON THAT BASIS, HE ARGUES THAT MARITIME ELECTRIC**  
2           **HAS LOW SHORT-TERM RISK. WHAT IS YOUR RESPONSE?**

3       A.     The fact that Maritime Electric has been able to earn its authorized ROE does not  
4           diminish the relevance of the Company's small size as an important risk factor for  
5           investors. As discussed in my Report, the small size of Maritime Electric, both in  
6           terms of number of customers and total assets, magnifies other business risks,  
7           including:

8                     1) the relatively weak economic conditions and demographic trends on PEI,  
9                     which make it likely that over the longer term Maritime Electric's sale growth  
10                    will be relatively flat even as the Company needs to continue investing capital  
11                    to maintain and modernize its aging infrastructure;

12                   2) the relatively high supply and operating risk of Maritime Electric due its  
13                    island location, as well as weather related service disruptions;

14                   3) very limited protection against costs that tend to fluctuate significantly from  
15                    year to year, are material in nature, and over which utility management has no  
16                    control;

17                   4) competition from alternative fuels; and

18                   5) political and regulatory uncertainty.

19           Furthermore, as Dr. Booth alludes to and as discussed on page 58 of my Report, the  
20           small size of Maritime Electric limits the supply of potential investors for its debt  
21           offerings. The Company typically issues first mortgage bonds in the range of \$40  
22           million or less through a private placement with Canadian based insurance companies,  
23           whereas the minimum threshold for the Canadian public bond market is around \$100  
24           million. In summary, the small size of Maritime Electric does not support Dr. Booth's  
25           recommendation to reduce the Company's common equity ratio or its authorized  
26           ROE.



1 **Q. PLEASE EXPLAIN HOW THE COMPANY’S ISLAND LOCATION AFFECTS MARITIME**  
2 **ELECTRIC’S RISK PROFILE.**

3 A. Maritime Electric faces higher operating and supply risks relative to the typical  
4 Canadian distribution utility due to its island location because the Company is highly  
5 dependent on submarine cables that connect PEI to the mainland and to the  
6 Company’s principal sources of power. No other Canadian utilities face a similar level  
7 of supply disruption risk. Maritime Electric’s dependence on mainland power supplies  
8 means that, for reliability purposes, the Company owns on-island generation capacity  
9 to serve as back-up in case of supply interruption. While this generation capability is  
10 not intended to be operated on a regular basis, Maritime Electric has an obligation to  
11 ensure that back-up capability is maintained and available. This differentiates Maritime  
12 Electric from electricity distributors in Ontario and Alberta that do not have that  
13 supply obligation.

14 **Q. DO YOU AGREE WITH DR. BOOTH THAT MARITIME ELECTRIC’S ABILITY TO**  
15 **CONSISTENTLY EARN ITS ALLOWED ROE IS EVIDENCE OF THE COMPANY’S LOW**  
16 **SHORT-TERM BUSINESS RISK GOING FORWARD?**

17 A. No, I do not. First, as Dr. Booth is aware, under the regulatory compact, a regulated  
18 utility has an opportunity to earn its allowed ROE, not a guarantee. Second, the fact  
19 that Maritime Electric has historically been able to earn its allowed ROE in most years  
20 through efficient and economical management does not tell us anything about the  
21 future. Nor should the company be penalized for doing so. Lastly, Dr. Booth suggests  
22 that Maritime Electric has low short-term risk as evidenced by the Company’s ability  
23 to earn its authorized return, and he implies that this is because Maritime Electric tends



1 to under-estimate forecasted revenues and over-estimate forecasted costs. However,  
2 the Commission reviews and approves the forecasted revenues and costs for Maritime  
3 Electric as part of the revenue requirement in each GRA. I presume the Commission  
4 has determined that those forecasts are reasonable.

5 **Q. ON PAGES 65-66 OF HIS EVIDENCE, DR. BOOTH ARGUES THAT MARITIME**  
6 **ELECTRIC ALSO HAS LOW LONG-TERM BUSINESS RISK BECAUSE THE COMPANY IS**  
7 **NOT EXPOSED TO TECHNOLOGICAL CHANGES OR DEVELOPMENT OF**  
8 **ALTERNATIVE SUPPLIES THAT WOULD CONTRIBUTE TO DECLINING ELECTRICITY**  
9 **SALES SIMILAR TO THE “DEATH SPIRAL” THAT OCCURRED WITH THE**  
10 **TRANSCANADA MAINLINE. WHAT IS YOUR RESPONSE?**

11 A. Dr. Booth fails to recognize that there are other long-term risks that affect the cost of  
12 equity for regulated utilities. In particular, companies such as Maritime Electric have  
13 very long capital planning horizons. Investment decisions that are made today will  
14 continue to affect the Company for many years because construction lead times can  
15 be significant for major transmission and generation projects, financing must be  
16 secured for capital investments in a variety of economic and financial market  
17 conditions, and the utility must have a reasonable opportunity to recover its  
18 investment and earn a fair return on that investment. As discussed in my Report, my  
19 understanding is that Maritime Electric currently faces some risk due to technological  
20 changes or development of alternative supplies, which increases the volatility and  
21 uncertainty around the Company’s demand forecast and future load growth. More  
22 importantly, the long capital planning horizon of utility investments still exposes





1 Maritime Electric to uncertainty and risk because conditions can substantially change  
2 over the life of the investment.

3 Finally, under the Fair Return Standard, the cost of equity must be set according to  
4 the three-pronged test of capital attraction, comparability of returns, and financial  
5 integrity. This standard is designed to determine a fair return to the shareholder for  
6 its invested capital.

7 **Q. ON PAGE 70, DR. BOOTH STATES THAT THE COMPANY'S CREDIT METRICS WOULD**  
8 **CONTINUE TO SUPPORT AN A- RATING ON ITS FIRST MORTGAGE BONDS EVEN AT**  
9 **HIS ROE AND CAPITAL STRUCTURE RECOMMENDATIONS. DO YOU AGREE?**

10 A. No, I do not. First, as a point of clarification, Maritime Electric's first mortgage bonds  
11 are rated "A" by S&P, not "A-" as indicated by Dr. Booth. More importantly, the  
12 evidence and analysis provided by Dr. Booth does not appear to support his assertion.  
13 According to Dr. Booth, Maritime Electric targets an interest coverage ratio of 2.4-  
14 2.6X. Using the Alberta Utilities Commission's ("AUC") calculation for maintaining  
15 an A credit rating, Dr. Booth claims that a utility can maintain interest coverage of  
16 2.4X and achieve an A rating with an 8.50 percent authorized ROE and a deemed  
17 common equity ratio of 37.5 percent. However, Dr. Booth is recommending an  
18 authorized ROE of 7.5 percent and a deemed common equity ratio of 35.0 percent,  
19 both of which are lower than his calculation of the 2.4X interest coverage ratio based  
20 on the AUC's methodology. In summary, Dr. Booth's own evidence suggests that  
21 Maritime Electric could not maintain a sufficient interest coverage ratio for its current  
22 credit rating under his ROE and capital structure recommendations.



1 **Q. DO YOU HAVE ANY FURTHER COMMENTS ON DR. BOOTH'S RECOMMENDATION**  
2 **TO REDUCE THE COMMON EQUITY RATIO OF MARITIME ELECTRIC FROM 40.0**  
3 **PERCENT TO 35.0 PERCENT?**

4 A. Yes. Dr. Booth does not offer any specific recommendations regarding the steps that  
5 Maritime Electric should take to achieve his target equity ratio of 35.0 percent. As the  
6 Commission knows, the Company cannot simply change its capital structure. Such a  
7 reduction in common equity ratio requires a series of steps, such as issuing additional  
8 long-term debt and/or changing the dividend payout ratio used by Maritime Electric  
9 to allocate more retained earnings to the parent company, or issuing preferred shares.  
10 In summary, Dr. Booth has offered the Commission no recommended path for the  
11 Company to achieve his capital structure recommendation.

12 **Q. PLEASE SUMMARIZE YOUR CONCLUSIONS REGARDING THE APPROPRIATE**  
13 **CAPITAL STRUCTURE FOR MARITIME ELECTRIC.**

14 A. It is not reasonable to suggest that Maritime Electric should have a deemed equity  
15 ratio that is more than 4.0 percent lower than the average electric utility in Canada and  
16 more than 14.0 percent lower than the proxy group of low-risk U.S. electric utilities.  
17 Such a low equity ratio, in conjunction with an authorized ROE of 7.50 percent, would  
18 not allow Maritime Electric to attract equity capital on reasonable terms, is not  
19 comparable to the returns available to investors in companies with commensurate risk,  
20 and would undermine the financial integrity of the utility.



1 **Q. WHAT IS YOUR CONCLUSION REGARDING A REASONABLE AND APPROPRIATE COST**  
2 **OF EQUITY AND EQUITY RATIO FOR THE COMPANY?**

3 A. I affirm the recommendations from my Report. Based on the ROE analysis contained  
4 in my Report, the range of reasonable returns for comparable risk companies in  
5 Canada and the U.S. is from 9.20 percent to 9.90 percent, and Maritime Electric's  
6 requested ROE of 9.35 percent is reasonable, if not conservative. Likewise, the  
7 Company's request to maintain its common equity ratio at 40.0 percent is conservative  
8 as compared with the Canadian and U.S. proxy group companies, and given the small  
9 size of Maritime Electric and the attendant risks of that small size. The company-  
10 specific risks of Maritime Electric could support an equity ratio greater than 40.0  
11 percent; however, that is not permitted by statute. Therefore, it is even more  
12 important that the authorized ROE for Maritime Electric reflect the Company's risk  
13 profile relative to other peer group companies in Canada and the U.S.

14 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

15 A. Yes, it does.