BRITISH COLUMBIA UTILITIES COMMISSION

IN THE MATTER OF THE UTILITIES COMMISSION ACT

R.S.B.C. 1996, Chapter 473

and

British Columbia Utilities Commission

Project No. 3698660 / Commission Order G-20-12

Generic Cost of Capital Proceeding

Final Submission on Behalf of the

Association of Major Power Customers of British Columbia

and

Commercial Energy Consumer Association of British Columbia

("AMPC/CEC")

PUBLIC VERSION*

February 15, 2013

*(confidential information has been redacted)

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1 **1.   INTRODUCTION**

2 **1.1   The British Columbia Utility Customers**

3 The Association of Major Power Customers of B.C. ("AMPC"), the Commercial Energy

4 Consumer Association of B.C. ("CEC"), and the B.C. Pensioners' and Seniors' Organization

5 ("BCPSO"), have come together to sponsor the evidence of Dr. Booth, thereby reducing hearing

6 costs and the potential for duplication of evidence and effort.

7 This is the Final Submission of AMPC and CEC, who are referred to throughout this document

8 in the singular as AMPC/CEC. The BCPSO has filed its own final argument; however, it has

9 reviewed and endorsed this Final Submission.

10 In this Final Submission, AMPC/CEC will refer to the FortisBC Utilities in the singular as

11 "FBCU", and FortisBC Energy Inc., the benchmark utility, as "FEI".

12 **1.2   Witness Qualifications**

13 For the purpose of this proceeding, Dr. Lawrence Booth was asked to provide evidence on three

14 issues:

15   (1) the fair rate of return on common equity ("ROE") for FEI;

16   (2) the appropriate capital structure for FEI; and

17   (3) the suitability and design of an automatic adjustment mechanism ("AAM").

18 His results are filed as Exhibit C6-12 and are referred to throughout this Final Submission as Dr.

19 Booth's "report" or "evidence".

20 Dr. Booth is presently a professor of finance at the University of Toronto's Rotman School of

21 Management, where he has held the CIT Chair in Structured Finance since 1999. His resumé,

22 which can be reviewed in Appendix A of his report, details his extensive qualifications to provide

23 expert evidence for this proceeding. For example, Dr. Booth:

24   • holds a B.Sc (Economics), M.A. (Economics), M.B.A. (Finance), and D.B.A. (Finance);

25   • has published over fifty journal articles covering a range of financial issues and a

26   university text on Corporate Finance;

1 • has taught courses in finance and economics at the undergraduate, graduate, and
2 doctoral levels since 1987;

3 • has been an expert financial witness in over thirty utility hearings and numerous civil
4 proceedings; and

5 • has appeared before most of the major utility regulatory boards in Canada, including the
6 BCUC in 1993, 2005, and 2009.

7 In short, Dr. Booth has been deeply involved with financial and economic issues at the highest
8 academic and professional levels for nearly thirty years.

9 **1.3 Summary of AMPC/CEC's Submission**

10 AMPC/CEC recognizes that FEI must be able to attract capital on reasonable terms in order to
11 provide the services that its customers depend on. To do this, it must give investors returns that
12 equal what they could earn on investments of comparable risk.

13 The central purpose of this proceeding is to determine an overall cost of capital for FEI that is
14 fair and reasonable. The outcome should be a result that is sufficient, but no more than
15 necessary, to meet the requirements of the Fair Return Standard. Based on Dr. Booth's
16 evidence, and for the reasons given in this Final Submission, AMPC/CEC submits this is
17 achieved by a capital structure consisting of 35% common equity and an allowed ROE of
18 7.50%.

19 AMPC/CEC's Final Submission is structured as follows:

20 • Section 2 discusses the Commission's mandate and the Fair Return Standard.
21 AMPC/CEC does not dispute the elements of the Fair Return Standard accepted by the
22 Commission in 2009. However, a fair return must be set in the context of the
23 Commission's broader mandate to balance the interests of both utility owners and utility
24 customers. There is no support for FBCU's assertion that Dr. Booth's recommendations
25 reflect "the bare minimum" or "lowest possible" return required to attract capital: his
26 analysis clearly addressed the elements of the Fair Return Standard and his results are
27 consistent with that Standard.

28 • Section 3 addresses FEI's business risk. FEI's overall business risk has declined
29 significantly since 2009, and is now comparable to what it was before 2005 when it

1   operated on a 35% common equity ratio. While a number of trends have been

2   discussed during this proceeding, the indisputable bottom-line is this: there has been a

3   fundamental shift in the natural gas market, owing to a boom in North American shale

4   gas reserves and the consequent decline in commodity prices, raising the price

5   competitiveness of gas versus electricity to new heights. While, as FBCU says, FEI's

6   competitiveness depends on more than just price, the fact is that price is a huge factor

7   and is one that has changed markedly since 2009, whereas non-price factors have

8   largely remained unchanged. Moreover, despite concerns FBCU has once again raised

9   about FEI's throughput, its total throughput has actually been increasing since 2009.

10 More importantly from a risk perspective, throughput would have to drop by a

11 catastrophic amount (over 80%) to ever put FEI in a situation where it might lose its price

12 competitiveness versus electricity.

13 • Section 4 addresses financial and economic conditions. In contrast to this proceeding,

14 the 2009 GCOC proceeding occurred in the wake of the worst financial market turmoil in

15 decades. There had been some recovery by the close of the evidentiary phase of the

16 2009 proceeding; however, the troubling events of 2008 and the first half of 2009 were

17 undoubtedly on everyone's minds. All of this, however, is of limited significance. The

18 key point for the Commission to bear in mind as it considers whether FEI's ability to raise

19 capital going forward might be affected by financial and economic conditions, is that

20 regulated utilities are seen as low-risk, defensive investments: investors favour them

21 during tough economic times.

22 • Section 5 addresses FEI's appropriate capital structure. The Commission has acted

23 decisively in the past to raise the benchmark utility's common equity ratio in the face of

24 perceived increases in business risk. This time, in light of the significant decrease in

25 FEI's business risk since 2009, a just and reasonable outcome requires the

26 Commission to reduce this ratio to no more than 35%. At a 35% common equity ratio,

27 FEI could still maintain its financial integrity and compete very well for capital.

28 • Section 6 describes Dr. Booth's ROE analysis and findings. His recommended fair ROE

29 of 7.50% is reasonable and is supported by several credible and unbiased sources. The

30 ROEs produced by FBCU's witnesses should be approached with caution for the

31 numerous reasons set out in this section, including the fact that they exceed reasonable

32 expectations for the return on the entire Canadian equity market. In terms of the

1   appropriate methodology, AMPC/CEC submits that the Commission should place

2   greater weight on the CAPM relative to the DCF approach (but at the very least should

3   weigh the two equally), and should continue to assign little or no weight to the

4   Comparable Earnings test.

5   • Section 7 addresses the Automatic Adjustment Mechanism. AMPC/CEC supports a

6   return to an AAM: the massive amount of financial and human resources devoted to this

7   proceeding reinforces the benefit of an AAM for the concerned ratepayers who act as

8   interveners, the Commission, taxpayers, and indeed the benchmark utility and its

9   shareholders. Dr. Booth has developed an enhanced ROE formula that addresses the

10   Commission's concerns with the old formula and provides a strong foundation for a

11   return to an AAM.

12

1 **2. THE COMMISSION'S MANDATE AND THE FAIR RETURN STANDARD**

2 FBCU's Final Submission begins with a discussion of the Fair Return Standard. Unfortunately,

3 that discussion is tainted by two fallacies that set the tone for the rest of its argument, namely:

4 (1) that the Commission must set a fair return *without even considering* potential impacts on

5 customers;[1] and (2) that Dr. Booth formulated his recommendations on the basis that the Fair

6 Return Standard is met by the *lowest possible* overall return.[2]

7 **2.1 The Commission's Mandate Requires a Balancing of Interests**

8 In its Final Submission, FBCU claims that the Commission should establish a fair return

9 independently from rate impacts.[3] This argument is, frankly, irrelevant: AMPC/CEC has not

10 made any submissions in this proceeding related to their members' ability to pay rates.

11 That said, AMPC/CEC does not concede that the Commission should simply ignore how its

12 decision in this proceeding will affect ratepayers . The Commission's role is to balance the

13 interests of customers and regulated utilities.

14 AMPC/CEC does not dispute the description of the Fair Return Standard endorsed by the

15 Commission in 2009 and referenced by FBCU in its Final Submission. That description, based

16 on the National Energy Board's Decision RH-1-2008, is the following:

17 "The Fair Return Standard requires that a fair or reasonable overall return on capital
18 <u>should</u>:

19 • be comparable to the return available from the application of the invested capital
20 to other enterprises of like risk (comparable investment requirement);

21 • enable the financial integrity of the regulated enterprise to be maintained
22 (financial integrity requirement); and

23 • permit incremental capital to be attracted to the enterprise on reasonable terms
24 and conditions (capital attraction requirement)."[4]

25 However, the FBCU would have the Commission believe that it *must* consider *only* these factors

26 when deciding what constitutes a fair return, without even considering its broader mandate.

27 That mandate very clearly requires it to balance the interests of ratepayers and utilities

28 investors. In 2006, the Commission stated as follows:

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[1] FBCU Final Submission, January 31, 2013, p.10, para. 15.
[2] FBCU Final Submission, January 31, 2013, pp.11-12, paras. 19-22.
[3] FBCU Final Submission, January 31, 2013, p.10, para. 14.
[4] NEB, Reasons for Decision, RH-1-2008, p. 6 [emphasis added].

1　　　"The Commission's mandate is to ensure that <u>ratepayers</u> receive safe, reliable and non-
2　　　discriminatory energy services <u>at fair rates</u> from the public utilities it regulates, and that
3　　　shareholders of those public utilities are afforded a reasonable opportunity to earn a fair
4　　　return on their invested capital. The process <u>to establish a fair return</u> and just and
5　　　reasonable rates is enshrined in the *UCA* where "the commission must consider all
6　　　matters that it considers proper and relevant affecting the rate" and in doing so <u>it must</u>
7　　　<u>have due regard to the setting of a rate that "is not unjust or unreasonable" within the</u>
8　　　<u>meaning of section 59</u> (of the Act) [*UCA*, s.60 (1)(a) and (b)(i)]."[5]

9　Section 59, in turn, explicitly requires the Commission to consider the customer

10　perspective, and specifically whether a proposed rate is fair and reasonable for the

11　nature and quality of the service.[6]

12　In the 2009 *Kwikwetlem* case, the BC Court of Appeal underscored the Commission's

13　responsibility to protect consumers:

14　　　"Its primary responsibility is the supervision of British Columbia's natural gas and
15　　　electricity utilities "to <u>achieve a balance</u> in the public interest between monopoly, where
16　　　monopoly is accepted as necessary, and <u>protection to the consumer</u> provided by
17　　　competition", subject to the government's direction on energy policy."[7]

18　In AMPC/CEC's submission, what all of this means at bare minimum is:

19　　　(1) when acting as the surrogate for competition, the Commission cannot and must

20　　　　　not protect FEI from *all* business and financial risk by unnecessarily raising the

21　　　　　ROE and common equity ratio at the expense of customers; and

22　　　(2) the Commission must scrutinize whether the "margin of comfort" or "cushion" FEI

23　　　　　asks for in its Final Submission is truly necessary to meet the Fair Return

24　　　　　Standard in light of its broader mandate to protect consumers.

25　**2.2　　Dr. Booth's Recommendations are <u>Not</u> Based on the Lowest Possible Return**

26　FBCU claims that "Dr. Booth was less explicit than Dr. Safir about compromising the Fair Return

27　Standard to account for ratepayer impacts, but this is effectively what he has done."[8]

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[5] *In the Matter of Terasen Gas Inc. and Terasen Gas (Vancouver Island) Inc., Application to Determine the Appropriate Return on Equity and Capital Structure and to Review and Revise the Automatic Adjustment Mechanism* Decision, Order No. G-14-06, March 2, 2006 ["2006 Decision"], p. 7 [emphasis added].
[6] See *Utilities Commission Act*, R.S.B.C. 1996, c. 473, s.59(5).
[7] *Kwikwetlem First Nation v. British Columbia (Utilities Commission),* 2009 BCCA 68 at para. 9*,* citing *British Columbia Hydro & Power Authority v. British Columbia (Utilities Commission)* (1996), 20 B.C.L.R. (3d) 106, 36 Admin L.R. (2d) 249, at paras. 46 and 48 [emphasis added].
[8] FBCU Final Submission, January 31, 2013, p.10, para. 15.

1   There is no support for the proposition that he has *effectively* done anything of this sort. On the

2   contrary, Dr. Booth's evidence shows that he *explicitly* endeavoured to recommend a fair return

3   commensurate with FEI's true cost of capital, not simply the lowest possible return. For

4   example:

5   • His report begins with an accurate account of the Fair Return Standard, including the

6   principle that "only if the owners of a utility earn their opportunity cost will the returns

7   accruing to them be fair"[9] (the "comparable investment requirement").

8   • When recommending an appropriate capital structure, he recognized that "[u]ltimately,

9   the litmus test of whether a board has 'got it right' is whether the regulated company can

10   access capital on reasonable terms"[10] (the "capital attraction requirement").

11   • He did not, as FBCU claims, recommend an overall return that jeopardizes FEI's "A"

12   credit rating, and in fact, provided compelling reasons why his recommendations are

13   "entirely consistent with the maintenance of FEI's existing bond rating"[11] (the "financial

14   integrity" requirement).

15   • He adjusted his recommended ROE upwards to account for flotation costs, credit

16   spreads, and the fact that real bond yields are below any standard equilibrium level.

17   • He checked his findings against numerous independent, reputable sources, which

18   confirmed that his estimates were reasonable, if not generous.

19   In short, Dr. Booth's evidence and testimony before this Commission showed that he both

20   understood and appreciated the standard the Commission's decision must meet. They also

21   showed that he used reasonable data, reasonable assumptions, and a reasonable approach to

22   arrive at what he believes to be an overall return that will allow FEI to maintain its financial

23   integrity, attract additional capital on reasonable terms, and fairly compensate investors for the

24   opportunity cost of their capital. Therefore, the Commission should entirely disregard FBCU's

25   attempt to discredit Dr. Booth's evidence by suggesting that he misapplied the Fair Return

26   Standard.

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[9] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 7.
[10] Exh bit C6-12, AMPC Evidence, Booth Evidence, p. 24.
[11] Exh bit C6-12, AMPC Evidence, Booth Evidence, pp.103-104.

1   **3.   BUSINESS RISK**

2   **3.1   Introduction**

3   Dr. Booth, Mr. Dall'Antonia, and Ms. McShane all agree that the general definition of risk is the

4   possibility of suffering harm, which in a finance context, means losing money.[12]

5   In 2005, the Terasen Utilities claimed that the business risk of what was then Terasen Gas Inc.

6   ("TGI") had increased since the previous generic hearing in 1994. The Commission agreed.

7   Though it recognized that the probability of TGI not earning a return of its capital remained "very

8   low", the Commission concluded that its business risk had "not declined" between 1994 and

9   2005, and raised its allowed common equity ratio from 33% to 35%.[13] In 2009, the Terasen

10   Utilities once again claimed that TGI's business risk had increased since the previous generic

11   hearing. Again, the Commission agreed, mainly because of new uncertainty stemming from

12   climate change-related political initiatives, and raised TGI's equity ratio from 35% to 40%.[14]

13   Today, the evidence shows that FEI's overall business risk has declined significantly since

14   2009. While a number of trends have been discussed during this proceeding, the indisputable

15   bottom-line is this: there has been a fundamental shift in the natural gas market, owing to a

16   boom in North American shale gas reserves and the consequent decline in prices. At the same

17   time, the rates charged by its key competitor, BC Hydro, have increased, and will be under

18   pressure to increase even more going forward. The result is that the competitiveness of gas

19   versus electricity has reached new heights. In light of this, FBCU's proposition that FEI's

20   business risk is "no lower, and perhaps somewhat higher, than what it was in 2009" is clearly

21   untenable.

22   **3.2   Actual vs. Allowed ROE**

23   Before turning to the specific business risks that FBCU identified for this proceeding, FEI's

24   ability to earn its allowed ROE provides a useful *objective* measure of its overall business risk.

25   Dr. Booth analyzed FEI's allowed versus actual ROE from 1994-2011. He concluded that

26   "[o]ver the entire period FEI 'over earned' by 0.89%, so in a dictionary sense of business risk,

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[12] Tr 2, p. 123, l. 17 – l. 23 (Dall'Antonia); Exh bit B1-15, FBCU Response to BC Utility Customers, IR 4.1; Exhibit C6-12, AMPC
    Evidence, Booth Evidence, p. 26.
[13] 2006 Decision, p. 26.
[14] *In the Matter of Terasen Gas Inc., Terasen Gas (Vancouver Island) Inc. and Terasen Gas (Whistler) Inc. Return on Equity and
    Capital Structure* Decision, Order No. G-158-09, December 16, 2009 ["2009 Decision"] pp. 36-37.

1   FEI has not experienced any significant risk as the shareholder has not cumulatively lost any

2   money whatsoever since 1994."[15]

3   During the hearing, there was debate over whether "pre-sharing ROE" or "post-sharing ROE" is

4   the appropriate figure to compare with allowed ROE. In Dr. Booth's view, pre-sharing ROE is

5   the logical comparator, since the purpose of this analysis is to understand FEI's ability to earn

6   its allowed ROE, not how that ROE is allocated between shareholders and ratepayers.

7   However, irrespective of which measure of ROE is used, FEI has typically over-earned by a

8   considerable margin (0.89% in Dr. Booth's submission, and 0.67% according to FEI), and has

9   only missed its allowed ROE three times in the past 18 years: in 1994, 1998, and just barely in

10   2010:[16]
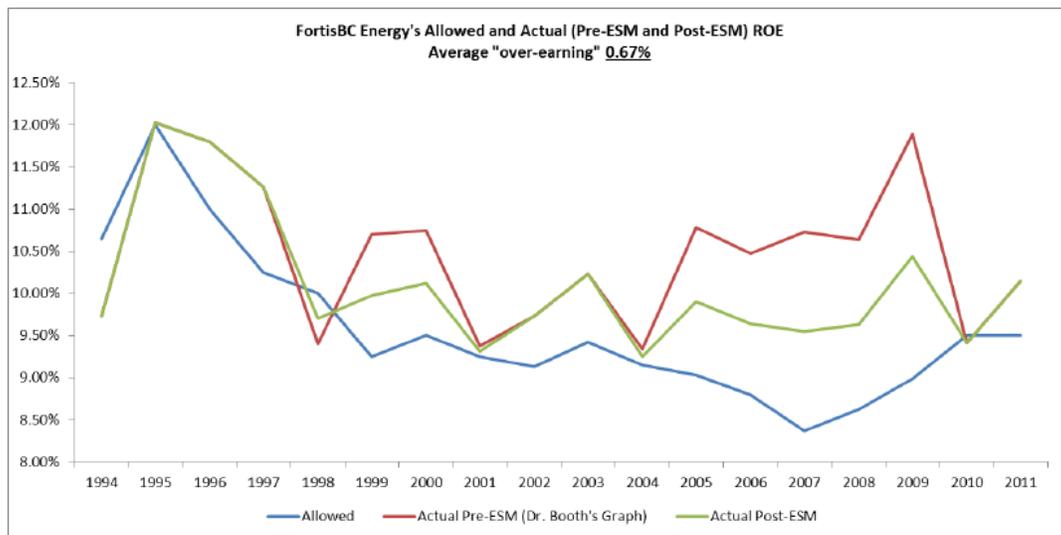
11

12   FBCU considers FEI's ability to earn its allowed ROE *in a particular test year* as a short-run risk.

13   AMPC/CEC does not take issue with this characterization. But, year after year, FEI continues to

14   face very little short-run risk, such that this pattern of consistent overearning is clearly a long-

15   term phenomenon. During cross-examination, Mr. Dall'Antonia acknowledged what this means

16   in terms of FEI's business risk:

17   "MR. WALLACE: Q: Well, it shows that you're in a business and a regulatory environment
18   that is pretty predictable and stable, doesn't it?

19   MR. DALL'ANTONIA: A: I'd agree with that."[17]

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[15] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 26.
[16] Exh bit B1-32, FBCU Rebuttal Evidence, p. 3.
[17] Tr 2, p. 229, l. 26 to p. 230, l. 2 (Dall'Antonia).

3.3 Assessing Business Risk

For this proceeding, FBCU, at the Commission's request, submitted a new framework for assessing business risk. That framework, and the results of FEI's business risk analysis, are as follows:[18]

Table 2. A Snapshot of FEI's Business Risk as Compared to 2009

Risk Category/Risk Factors	Risk Status (Since 2009)	Ranking of Risk
Regulatory	**Higher**	**1**
Regulatory Approvals	Same	
Regulatory Uncertainty and Lag	Higher	
Deferral Accounts	Same	
Administrative Penalties	Higher	
Energy Price	**Lower**	**2**
Commodity Price	Lower	
Commodity Price Volatility	Higher	
Upfront and Installation Costs	Same	
Market Shifts	**Higher**	**2**
New Technology and Energy Forms	Higher	
Perception of Energy	Same	
Housing Types	Higher	
Changes in Energy Use	Higher	
Changes in Customer Additions	Higher	
Political	**Same**	**2**
Energy Policies and Legislation	Same	
GHG Emissions Reductions	Same	
Carbon Tax	Same	
Aboriginal Rights	Same	
Operating	**Same**	**3**
Infrastructure Integrity	Same	
Third Party Damages	Same	
Unexpected Events	Same	
Energy Supply	**Lower**	**4**
Availability of Supply	Lower	
Security of Supply	Same	

For ease of comparison, AMPC/CEC's submissions on business risk will mirror, as best possible, the categories and risk factors FBCU used. However, AMPC/CEC disagrees with FBCU's ranking of the business risks FEI faces. While not all risks apply to FEI equally, the ranking in the above table defies logic. For example, it suggests that purely speculative regulatory risks rank higher than commodity prices. Regulatory risks, such as administrative penalties or regulatory approvals, may affect FEI's business. On the other hand, there is no doubt that commodity prices affect its business on a daily basis. FBCU also ranked speculative

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[18] Exhibit B1-9-6, FBCU Evidence, Appendix H, Company Evidence, pp. 4-5.

1   political risks, such as government policy and aboriginal rights claims, higher than the risk

2   associated with the supply of the very commodity FEI's business would not exist without.

3   FBCU's ranking conveniently pushed the risks it deemed to be "higher" than in 2009 towards the

4   top of the ranking. Over the pages that follow, AMPC/CEC will make its submissions in an order

5   that reflects a more appropriate ranking, from most to least important.

6   **3.4   Energy Price**

7   Price is the key determinant of natural gas' competitiveness and is a factor that FEI has no

8   control over. Accordingly, it deserves the greatest weight when considering changes to FEI's

9   business risk.

10   AMPC/CEC agrees with FBCU that any risk FEI faces in terms of upfront and installation costs

11   is the same now as in 2009, and thus, the main consideration for the Commission under this

12   category is the commodity price and, in particular, price competiveness versus electricity,

13   **(a)   Commodity Price**

14   Due to the boom in shale gas in British Columbia and elsewhere in North America, gas

15   commodity prices are at or near a ten-year low. FBCU's evidence showed that prices are lower

16   than in 2009, and much lower than in 2005:[19]

Figure 8. Factors that Impact Actual Natural Gas Commodity Prices
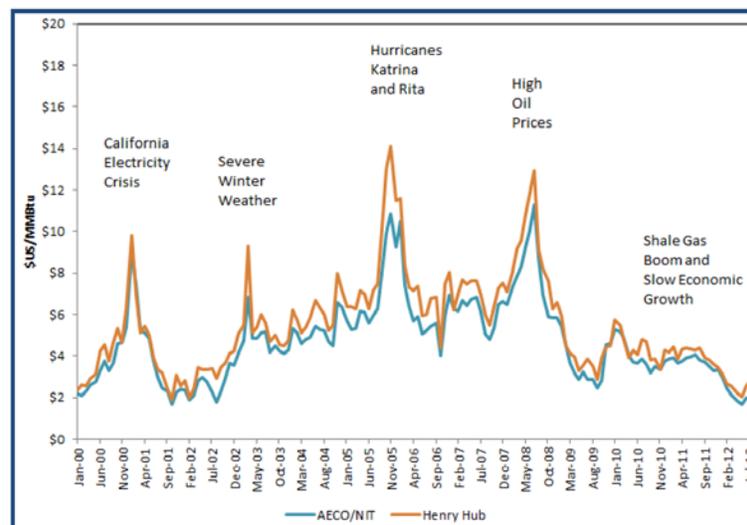
Source: GLJ Petroleum Consultants, National Energy Board, Gas Alberta, CME Group

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[19] Exhibit B1-9-6, FBCU Evidence, Appendix H, Company Evidence, p. 16.

1 Going forward, the outlook for natural gas prices has shifted far below what was projected in

2 2009:[20]
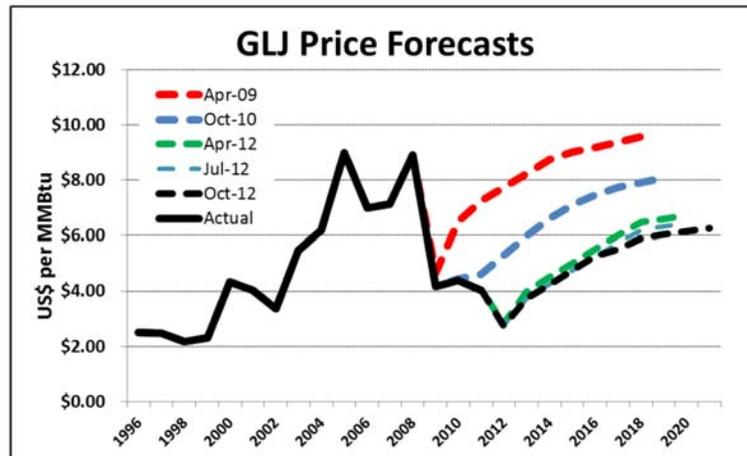
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4 In fact, since 2009, long-term projections for natural gas prices have repeatedly moved

5 downwards, and were reduced as recently as October 2012. Appropriately, FEI's

6 representatives agreed during cross-examination that its commodity price risk is significantly

7 lower now than in 2009:

8   "The company agrees that the supply potential that we're seeing that's coming out of the
9   development of the shale resources is huge. And it has been a major shift in the market.
10   And we agree also that that is resulting in a lower outlook for natural gas prices in the
11   future." [21]

12 During the 2009 generic hearing, interveners argued that it was ludicrous to suggest that gas

13 was risker than in 2005, since prices had come down by 50%. That argument failed to sway the

14 Commission, perhaps because, at that time, the drop in the commodity price was a relatively

15 recent event. We now have three additional years of data that shows that this is a fundamental

16 change in the outlook for gas prices, not just a passing trend.

17 FBCU has attempted to downplay the impact of the drop in commodity prices by arguing that,

18 when all costs are considered, the rates FEI's customers are paying are comparable to what

19 they were in 2009 despite lower commodity prices. It tendered the following exhibit in support of

20 that proposition:[22]

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[20] Exhbit B1-36, FBCU Undertaking No.1

[21] Tr 2, p. 147, l. 11 – l. 16 (Des Brisay).
[22] Exh bit B1-35, Revised Exh bit B1-9-6, FBCU Evidence, Appendix H, Company Evidence, p. 51.

Revised: Exhibit B1-9-6, Appendix H, page 51, Figure 34
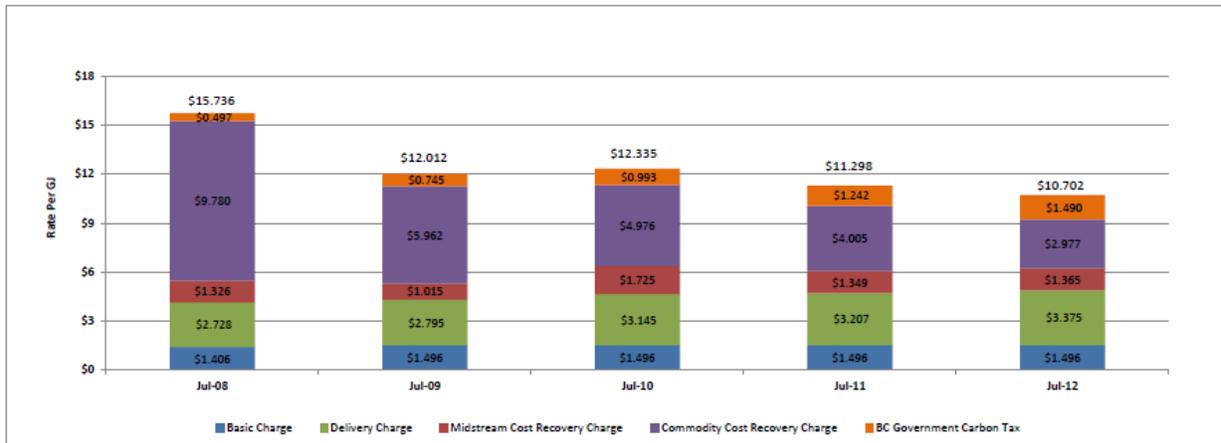
1

2 In fact, what this exhibit shows is that because of lower commodity prices, FEI has been able to

3 bring its rates more than 16% *below* what they were in 2009 *despite* significant increases in

4 delivery charges, midstream costs, and the carbon tax.   Far from refuting AMPC/CEC's

5 submission that FEI's business risk is lower than it was in 2009, this exhibit is further proof that

6 FEI's position has improved.

7 **(b)   Commodity Price Volatility**

8 Natural gas prices fluctuate and will continue to do so. However, AMPC/CEC rejects FBCU's

9 claim that this risk is higher now than in 2009: it is clearly lower. Figure 8, shown previously on

10 page 13, indicates that prices were highly volatile between 2005 and 2009, but have been less

11 so since. As the Commission observed in a 2011 decision, "in light of the recent exploitation of

12 shale gas, the likelihood for more stable natural gas prices is significantly greater and the risk of

13 dramatically higher natural gas prices, excepting short periods of price disconnects, is

14 *significantly lower* than it has been in many years."[23]

15 In its Final Submission, FBCU states that price volatility "taints customers view of using natural

16 gas."[24] However, the company can and does manage its customers' perceptions of price

17 volatility by offering equal payment plans.[25] It also proactively communicates the cost

18 advantage of natural gas relative to other energy sources.[26] These types of sound business

19 practices mitigate its price volatility risk.

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[23] *In the Matter FortisBC Energy Inc. and FortisBC Energy (Vancouver Island) Inc. 211-2014 Price Risk Management Plan,* Reasons for Decision, Order No. G-120-11, July 19, 2011 [emphasis added].
[24] FBCU Final Submission, January 31, 2013, p. 62, para.113.
[25] Exh bit B1-39 pp.5, 69.
[26] Tr. 2, p. 142, l. 8 to p. 143, l. 14 (Stout). See also Exhibit B1-39.

1   Moreover, while consumers may not like significant price volatility, it is reasonable to assume

2   that price fluctuations are less of a deterrent to using natural gas in the current low price

3   environment than in the previous high one. This is particularly true given the higher electricity

4   costs consumers are faced with today (as discussed in the next section).

5   Finally, from FEI's standpoint (as opposed to its customers), commodity price volatility is largely

6   irrelevant since cost of gas variances are fully covered by a deferral account.[27]

7   **(c)   Price Competiveness**

8   On their own, prices tell us little about FEI's competitiveness, which is perhaps the most

9   important determinant of its business risk. Far more telling is the cost of gas relative to the cost

10 its major competitor, electricity. In this respect, FBCU's evidence depicts a remarkably positive

11 trend in FEI's key markets since 2005:[28]

Figure 1: Estimated Annual Expenditure for FEI Lower Mainland Residential Customer – Natural Gas and Electricity for Space Heating
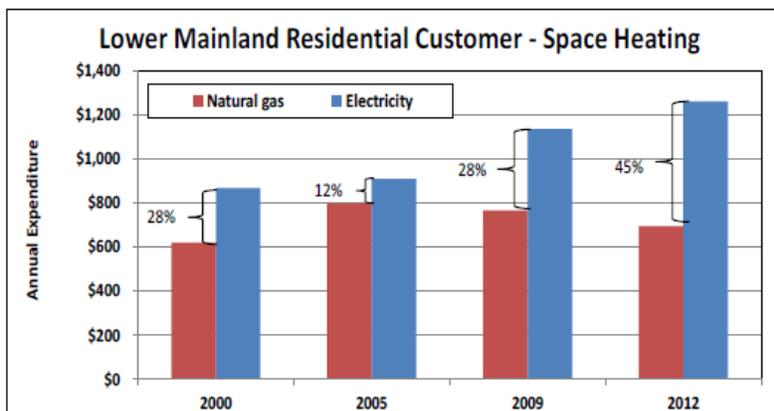
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[27] Tr. 2, p. 286, l. 10 - l. 13 (Leeners).
[28] Exhibit B1-11, FBCU Response to BC Utility Customers IR 1, IR 4.2.

Figure 2: Estimated Annual Expenditure for FEI Lower Mainland Residential Customer – Natural Gas and Electricity for Hot Water Heating
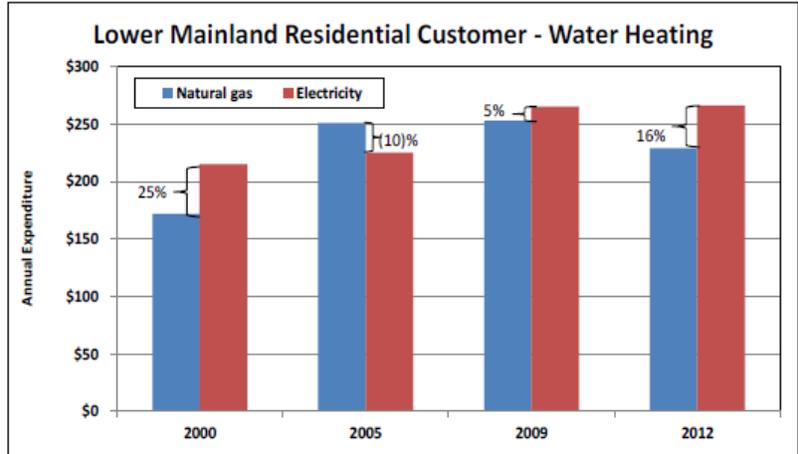
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2   In 2009, there was some concern that the competitive position of natural gas may have

3   weakened relative to electricity.[29] Today, however, the Commission can definitively conclude

4   that gas is far more price competitive now than it was in both 2005 and 2009.

5   This dramatic increase in the price competitiveness of natural gas is not due solely to decreases

6   in the commodity price. Rather, FEI is the beneficiary of two positive trends: while gas prices

7   have come down, BC Hydro rates have been moving up:[30]
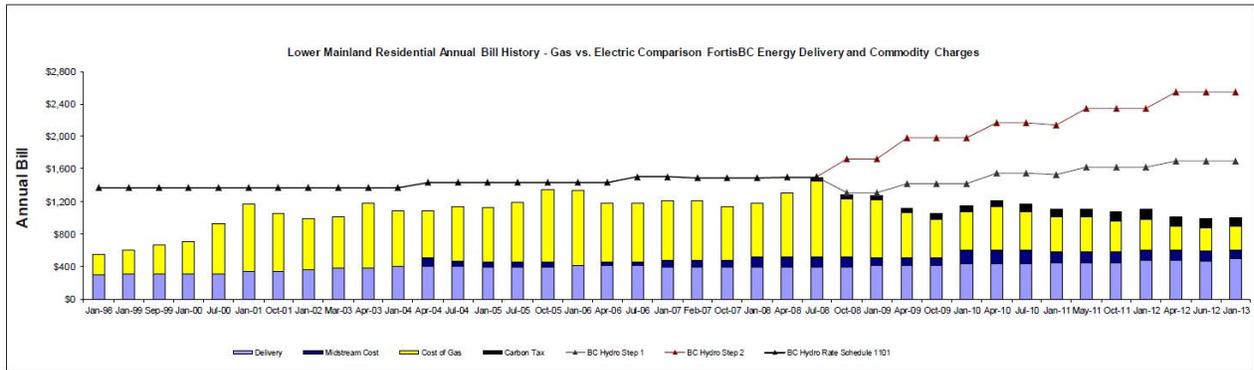
Assumes:
Graph is based on total natural gas consumption of 95 GJ
Efficiency of gas equipment is 90% relative to 100% for electricity
FortisBC amount includes the basic charge
Not all space heating load will be priced at the BC Hydro Step 2 rate, the actual rate will be determined by the total use of electricity within the home
There needs to be an operating cost advantage for FEI so that there is a pay back of the capital cost difference and the maintenance costs (approximately $500) for a single family home at 2,500 square feet

8

9   At the same time, further pressure to increase BC Hydro rates is mounting. In March 2011, BC

10   Hydro applied to increase its rates by an average of 9.73% for each of its 2012, 2013, and 2014

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[29] 2009 Decision, p. 20.
[30] Exhibit B1-44, FBCU Undertaking No. 9, p. 5.

1   fiscal years.[31] The Government reviewed the requested rate increases and directed the

2   Commission to instead approve increases of 8.0% for 2012, 3.91% for 2013, and 1.44% for

3   2014.[32] Significant BC Hydro rate increases are likely in the future due to anticipated high

4   capital, electricity supply, and O&M costs, not to mention the large deferral account balances

5   mentioned in the Auditor General's report that will have to be dealt with.[33] In short, while things

6   are looking better for FEI, its only competitor faces substantial challenges going forward.

7   **3.5   Market Demand**

8   FBCU used the term "Market Shifts" to refer to several non-price factors that impact demand for

9   natural gas. The term is somewhat misleading, as it suggests there has been a "shift" in

10   demand since 2009, while the evidence shows otherwise. Semantics aside, the bottom-line is

11   this: the risks described in this category are the same or lower than they were in 2009. This is

12   also true because an entirely new market, natural-gas-for-transportation ("NGT"), is creating

13   demand that did not exist in 2009.

14   **(a)   Customer Additions**

15   FBCU identified a number of challenges that FEI allegedly faces in adding new customers, such

16   as changes in housing types. However, the size of its total customer base continues to grow.[34]

17   The number of residential customers, who account for approximately 60% of FEI's revenue,

18   grew by 8% over 2005-2011. The number of commercial customers, who account for a further

19   28% of FEI's revenue, grew by 5% over the same period. Although the total number of

20   industrial customers has decreased (very slightly), industrial throughput has increased as

21   industrials switch to natural gas to take advantage of lower prices.[35]

22   **(b)   Energy Use**

23   FBCU's evidence in this proceeding showed that both commercial and industrial use-per-

24   customer ("UPC") have increased since 2009, while residential UPC has decreased only

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[31] BCUC Order No. G-77-12A, *British Columbia Hydro and Power Authority F2012 to F2014 Revenue Requirements Application*, June 20, 2012, p. 1.

[32] *Utilities Commission Act*, Direction No.3 to the British Columbia Utilities Commission, B.C. Reg. 105/2012; BCUC Order No. G-77-12A, *British Columbia Hydro and Power Authority F2012 to F2014 Revenue Requirements Application*, June 20, 2012, at para. 1.

[33] See former Auditor General John Doyle's report, *BC Hydro: The Effects of Rate-Regulated Accounting*, October 2011, available at: http://www.bcauditor.com/pubs/2011/report8/bc-hydro-audit-rate-regulated-accounting.

[34] Exhibit B1-11, FBCU Response to BC Utility Customers IR 1, IR 4.4.

[35] Exhibit B1-9-6, FBCU Evidence, Appendix H, Company Evidence, pp. 35-36.

1 marginally.[36] Of particular importance is that the downward trend in FEI's *total* throughput,

2 observable in the lead up to the 2009 generic hearing, has now reversed:[37]

Figure 4. FEI's Total Throughput (Normalized Demand vs. Customer Accounts)
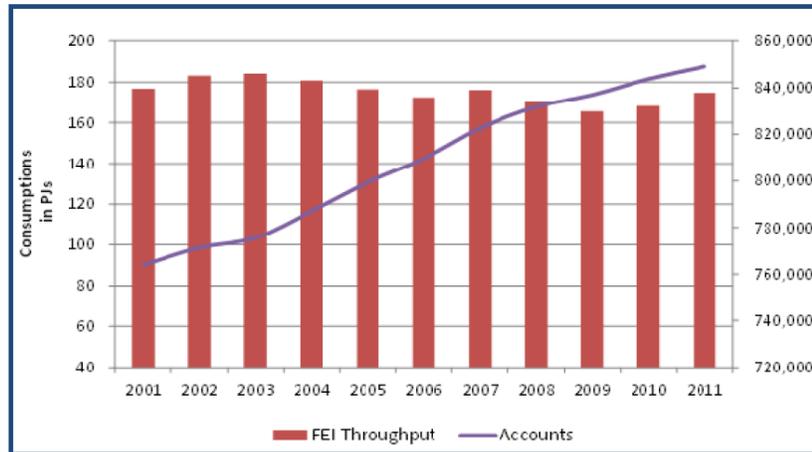
Note: This graph includes Lower Mainland, Inland, Columbia and Revelstoke service areas. Industrial demand includes both sales and transportation volumes.

3

4 This is unsurprising in light of natural gas' increasing cost advantage relative to electricity. What

5 is surprising is that, notwithstanding the fact that throughput has risen since 2009, FBCU claims

6 that FEI's energy use risk is "higher" now than in 2009. Moreover, FBCU's Final Submission

7 mentions, on several occasions, risks to FEI's throughput, but fails to recognize this positive

8 overall trend.

9 FBCU has attempted to depict a future of gradually declining UPC and throughput, particularly

10 in the residential segment. As the Commission considers this issue, two points should be borne

11 in mind.

12 First, and most importantly from a risk point of view, according to an analysis FBCU produced in

13 response to an information request, FEI's residential throughput would need to decrease by

14 76% based on 2009 rates and 83% based on 2012 rates to drive its distribution margin up to the

15 point where its rates would become equal to BC Hydro's Tier 2 rates.[38] This is an *exceptionally*

16 wide margin, and supports the conclusion that throughput is (a) little cause for concern in the

17 first place, and (b) even less of a concern now than it was in 2009.

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[36] Exhibit B1-9-6, FBCU Evidence, Appendix H, Company Evidence, pp. 31 and 35.
[37] Exhibit B1-9-6, FBCU Evidence, Appendix H, Company Evidence, p. 9. It should be noted that this does not include the transportation market demand, which is small now but is a large market and is growing very quickly.
[38] Exhibit B1-20, FBCU Response to BCUC IR No.1, IR 2.1.1 (Table 1).

1 Second, one of the negative trends FBCU cites is greater energy efficiency.[39] This is inevitable

2 as consumers switch to more energy efficient appliances and better insulation, and has been

3 occurring over long periods of time. However, FEI is no more "at risk" from conservation than is

4 BC Hydro or any other energy supplier. In particular, other Canadian gas distribution utilities

5 face exactly the same "problem" and have lower common equity ratios than FEI. Apart from the

6 fact that conservation should be viewed positively, it also has not had any discernible impact on

7 FEI's ability to earn its allowed ROE.

8 The energy use trends FBCU sounds the alarm over are nothing new, and they are only a risk if

9 they affect FEI's ability to earn a fair return. They have not done so, and there is no credible

10 evidence that they will. During cross-examination, Mr. Dall'Antonia agreed that "the immediate

11 impact of the decrease in throughput has not caused us to not earn our ROE."[40] It bears

12 repeating that total throughput has in fact been *increasing* since 2009.

13 **(c)   Housing Types**

14 This issue is not new. It was not new in 2009. The only thing that we have learned since 2005

15 is that whatever trends there may be in new home development, FEI is still adding customers

16 and earning a return on and of its capital. The share of multi-family housing starts versus

17 single-family housing starts in BC increased slightly in 2010 and 2011, but the fact remains that,

18 in the words of FortisBC's CEO, "2011 was a record year."[41]

19 **(d)   New Technology and Energy Forms**

20 AMPC/CEC submits that any impact this factor has on FEI's business risk is encompassed

21 within the "Customer Additions" and "Energy Use" risk factors. Including it as a separate risk

22 factor is an act of double-counting.

23 Moreover, there is no compelling evidence that alternative energy poses a greater business risk

24 to FEI now than it did in 2009. In fact, the reverse is true. The advent of new transportation

25 technology that allows natural gas to replace diesel in heavy duty trucking applications will likely

26 increase natural gas demand in the future.

27 **3.6   Energy Supply**

28 **(a)   Availability of Supply**

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[39] FBCU Final Submission, January 31, 2013, p. 52, para. 89.
[40] Tr. 2, p. 194, l. 24 – l. 26 (Dall'Antonia).
[41] Tr. 2, p. 231, l. 4 – l. 11.

1   FBCU and AMPC/CEC agree that this risk is lower now than in 2009, and that the shale gas

2   development is a "game changer".[42] The resulting impact on commodity prices, and hence

3   FEI's competitiveness, has already been discussed.

4   In its Final Submission, FBCU says that the impact of shale gas developments on commodity

5   prices was recognized in 2009.[43] A review of the 2009 decision suggests that it was not, as

6   neither shale gas nor gas supply are mentioned in its pages. Moreover, FBCU's submission

7   differs from the explanation Ms. Des Brisay's gave during the hearing.   In reference to what

8   was or was not recognized back in 2009, she said:

9   "What was not fully understood is how low the cost could be in terms of how we produced
10   that resource, and that's really where we've seen the shifting in the curve has been as we
11   have a better understanding of the economic feasibility of the development of the shale
12   gas reserves in different parts of North America."[44]

13   In other words, the existence of significant North American shale gas reserves was known in

14   2009, but the understanding that this resource can be developed in an economically-feasible

15   manner is a shift since then.

16   FBCU has also argued that, owing to an alleged lack of infrastructure, there is a risk that this

17   resource "will be left stranded" beneath the ground in British Columbia.[45] Calling this a "risk" is

18   nonsensical and clearly demonstrates FBCU's propensity to overstate risk. Gas is a valuable

19   resource and is slated to play an important role in this Province's future. There is no reason to

20   suggest that appropriate infrastructure will not be extended to a resource located in the Province

21   when it is needed.

22   In any event, it is clear that this factor has reduced FEI's business risk going forward.

23   **(b)   Security of Supply**

24   AMPC/CEC agrees with FBCU that any risk this factor presents has not changed since 2009.

25   The important point is that the weight this factor deserves pales in comparison to the availability

26   of supply. The abundance of the resource in the ground is out of FEI's control. Conversely, FEI

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[42] Tr. 2, p. 263, l. 5 – l. 7(Des Brisay).
[43] FBCU Final Submission, January 31, 2013, p. 58.
[44] Tr. 2, p. 161, l. 15 – l. 21 (Des Brisay) [emphasis added].
[45] FBCU Final Submission, January 31, 2013, p. 60, para. 107.

1 can, and is, actively managing the security of its supply.[46] Consequently, FEI's overall energy

2 supply risk is lower now than it was in 2009.

3 **3.7   Regulatory**

4 FBCU claims that FEI faces greater regulatory risk now compared 2009 due to two risk factors:

5 regulatory uncertainty and lag, and administrative penalties. These factors were not raised by

6 Terasen in 2009, requiring the Commission to scrutinize them in some detail.

7   **(a)   Regulatory Uncertainty and Lag**

8 In AMPC/CEC's view, there is no compelling evidence that FEI faces greater regulatory

9 uncertainty now than it did in 2009. Even if it is true, as FBCU stated, that the Commission's

10 role has expanded, there is no reason to believe this will impact FEI's ability to earn a return on

11 or of its capital. During cross-examination, Mr. Dall'Antonia confirmed there is no cause for

12 concern:

13   "MR. WALLACE: Q: I'd like to turn to regulatory uncertainty and lag. And I just -- I guess
14   the nature of regulatory risks is that there is a risk that the government or the
15   Commission will do something that will unreasonably cause Fortis to fail to earn a return
16   on or of capital. What -- are you concerned the Commission will make such a move? I
17   mean, you have a very -- we talked earlier about how well your equity and return
18   compare to other utilities.

19   MR. DALL'ANTONIA: A: Well, I won't -- on regulatory risk, no, we cannot believe the
20   Commission is going to make an egregious decision against us. I think we, in the past,
21   have had a reasonable approach to regulation. I think, you know, we have not suggested
22   that we're expecting that kind of decision. Or any kind of decision like that.

23   MR. WALLACE: Q: No. You expect the Commission will listen to the evidence and make
24   a decision on what's just and reasonable on all your applications.

25   MR. DALL'ANTONIA: A: Yes, that's correct."[47]

26 FEI can also expect that the Commission, like other utilities regulators, will take measures to

27 mitigate FEI's risk if it runs into any unforeseen difficulty that could prevent it from earning a fair

28 return.

29

30

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[46] Tr. 2, p. 170, l. 22 to p. 171, l. 5 (Des Brisay).
[47] Tr. 2, p. 208, l. 9 to p. 209, l. 5 (Dall'Antonia).

1   **(b)   Administrative Penalties**

2   FBCU introduced this risk factor because of amendments to the *Utilities Commission Act* which

3   allow the Commission to impose administrative penalties against parties who contravene the

4   *Act.* The Commission should entirely disregard this new alleged risk for two reasons.

5   First, contraventions of the *UCA* by a utility (or its directors, officers and employees) have long

6   been punishable offences. While this has been broadened by the amendments, this broadening

7   does not represent a risk that FEI should be compensated for.

8   Second, as Ms. Leeners confirmed during cross-examination, the possibility of a penalty only

9   becomes a risk if a utility does something wrong, and there is no reason to believe the

10   Commission would ever impose a penalty that was disproportionate to the offender's conduct.[48]

11   Provided that it plays by the rules, FEI faces no risk from administrative penalties.

12   **(c)   Deferral Accounts**

13   Deferral accounts are of course a tool for *reducing* a utility's business risk. As Dr. Booth

14   explained:

15   "The essence of deferral accounts is simply to capture major forecasting errors. Instead
16   of having the utility's stockholders "eat" any cost over runs in terms of a lower earned rate
17   of return, the regulator can simply pass the extra costs to a balance sheet deferral
18   account. The value of the deferral account is then charged to the ratepayers over some
19   future time period. In this way "ratepayers" always pay the full cost of service and
20   stockholder risk is lowered."[49]

21   FBCU tries to downplay the risk-mitigating benefit of deferral accounts by arguing that "[n]o

22   deferral accounts are specifically set up [to manage earnings volatility], but reduced earnings

23   volatility is a side-effect of accounts designed to ensure that neither the shareholder, nor

24   customers obtain a windfall from forecast variances for costs."[50] But this distinction is both

25   irrelevant and illogical: a tool designed to eliminate windfalls is one that by definition is intended

26   to manage volatility.

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[48] Tr. 2, p. 209, l. 11 – l. 16 and p. 210, l. 17 – l. 20 (Leeners).
[49] Exhbit C6-12, AMPC Evidence, Booth Evidence, pp. 11-12.
[50] FBCU Final Submission, January 31, 2013, p. 41, para. 65.

1   FBCU claims that there have been no significant changes to FEI's deferral accounts in recent

2   years. Its evidence indicates otherwise.[51] In 2005, TGI had 16 rate base deferral accounts. In

3   2009, it had 18. FEI now has 25.

4   AMPC/CEC recognizes that some of the additions since 2009 simply reflect accounting

5   changes. Other new deferral accounts, however, are significant. These include: (1) an account

6   which "reflects uncertainty regarding requirements and potential recoveries associated with

7   emissions regulations" (Compliance to Emission Regulation Account);[52] (2) an account for

8   customer service operating cost variances (Customer Service Variance Account);[53] and (3) an

9   account for depreciation expenses (Depreciation Variance Account).[54]

10 This may not be a monumental change, but it does indicate that FEI has been able to obtain

11 new deferral accounts to address new risks. Therefore, this risk factor is properly regarded as

12 being lower today than in 2009.

13 **3.8   Political**

14 It is clear today that many of the political risks that the Terasen Utilities perceived in 2009 –

15 which had significant bearing on the Commission's decision to raise TGI's equity ratio – have

16 not materialized. In particular, fears over climate change-related legislation (including the

17 carbon tax) and aboriginal issues were overborne.

18 **(a)   Energy Policy and Legislation / GHG Emissions**

19 The period between 2007 and 2009 saw several policy and legislative developments related to

20 climate change concerns. Consequently, "climate change-related risk" was one of two new

21 sources of risk identified by the Terasen Utilities in 2009, and a sizable list of political initiatives

22 that had the potential to impact TGI's business was put before the Commission.[55]

23 This is not the case today. The Western Climate Initiative has collapsed, emissions-trading has

24 become a dormant issue, and the political climate in this province has shifted to favour natural

25 gas.

26 The only relevant legislation introduced since 2009 is the *Clean Energy Act* (2010) and the

27 related *Greenhouse Gas Reduction (Clean Energy) Regulations* (2012). FBCU argued that the

[51] See Exhibit B1-11, FBCU Response to BC Utility Customers IR 1, IR 3.1.
[52] Exhbit B1-9-6, FBCU Evidence, Appendix H, Company Evidence, p. 54 (footnote).
[53] Exhbit B1-9-6, FBCU Evidence, Appendix H, Company Evidence, p. 54 (footnote).
[54] Tr. 2, p. 206, l. 18 (Leeners).
[55] See 2009 Decision pp. 20-21.

1   *Act* adds to the challenges FEI faces in maintaining throughput levels. However, it is difficult to

2   see how the conservation measures established by the *Act* affect FEI more than any other

3   energy supplier.

4   On the other hand, the *Regulations* that accompany the *Act* encourage the adoption of natural

5   gas as a transportation fuel and therefore clearly stand to benefit FEI. This is a by-product of

6   BC's new *Natural Gas Strategy*, which was released in February 2012.[56] The *Strategy*

7   "describes natural gas as the cleanest burning fossil fuel and recognizes its ability to reduce

8   GHG emissions by replacing coal-fired power plants and oil-based transportation fuel."[57]

9   During cross-examination, Mr. Stout recognized that a government policy favouring natural gas

10   would have been an unexpected development in 2009:

11   "MR. WALLACE: Q: Mr. Stout, I suggest to you that Document C6-17, the Natural Gas
12   Strategy, would have been unthinkable in 2009.

13   MR. STOUT: A: I don't know if unthinkable is the word, but unlikely perhaps at that
14   time."[58]

15   Moreover, FEI has moved quickly to take advantage of the NGT opportunity. While it remains a

16   nascent market, in Mr. Stout's words, "NGT is a good opportunity for FEI and can benefit

17   customers."[59]

18   Clearly, things are looking better today compared to 2009 in terms of the government's policy

19   towards natural gas.

20   **(b)   The Carbon Tax**

21   In 2009, the Terasen Utilities made the following submissions with respect to the carbon tax:

22   •   The tax could discourage consumers from using natural gas, which in turn would reduce
23   throughput volumes and reduce the attachment of new customers, potentially leading to
24   a "downward spiral".[60]

25   •   The tax could move as high as $15/GJ ($300/tonne).[61]

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[56] See Exhibit C6-17.
[57] Exh bit B1-9-6, FBCU Evidence, Appendix H, Company Evidence, p. 45.
[58] Tr. 2, p. 226, l. 3 - l. 7 (Stout).
[59] Tr. 2, p. 109, l. 25 - l. 26 (Stout).
[60] 2009 Decision, p. 22.
[61] 2009 Decision, p. 22.

1 The carbon tax reached its final scheduled increase to $1.50/GJ on July 1, 2012, and neither of

2 these two propositions show any sign of materializing. On the contrary, FEI's total throughput

3 has been rising since 2009, despite the advent of the carbon tax. And, as already shown in

4 Section 3.4(a), the tax's impact has been more than offset by gains in the cost advantage of

5 natural gas versus electricity. Moreover, while there was much speculation in 2009 that the

6 carbon tax could increase many-fold after 2012, speculation of a significant increase would be

7 unwarranted today:

8 "MR. WALLACE: Q: [T]here does not appear to be any current plan to move it [the
9 carbon tax] beyond the $1.50 a gigajoule?

10 MR. STOUT: A: I have not heard of anything to move it further upwards or to reduce it.

11 MR. WALLACE: Q: Yeah. And we're not hearing of rumours of going to $15 a gigajoule
12 these days?

13 MR. STOUT: A: No. No. And we've stated that. That ~~was $1.50~~ [sic] was what was there
14 at the time." [62]

15 In light of these facts, AMPC/CEC respectfully submits that, when assessing FEI's business

16 risk, the Commission should revisit its 2009 finding that "the change in government policy will

17 quite probably cause potential customers not to opt for natural gas and persuade potential

18 retrofitters to opt for electricity."[63]

19 **(c)** **Aboriginal Rights**

20 The second new source of risk introduced by the Terasen Utilities in 2009 concerned "the lack

21 of certainty of the nature and extent of aboriginal rights and title in BC together with the lack of

22 treaties."[64] The Commission concluded that this issue did *not* "cast doubt over TGI's ability to

23 earn a return on or of its capital."[65] FBCU submitted that there has been no change in this risk

24 since 2009, and thus the same conclusion by the Commission – namely, that this is not a

25 business risk that should be given any weight – is appropriate today.

26 **3.9** **Operating Risk**

27 AMPC/CEC agrees with FBCU that this risk has not changed since 2009, and thus will not

28 elaborate further on the risk factors FBCU includes in this category.

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[62] Tr. 2, p. 224, l. 2 – l. 10 (Stout).
[63] 2009 Decision, p. 37.
[64] 2009 Decision, p. 25.
[65] 2009 Decision, p. 37.

1 The reality is that FEI faces very little operating risk at all. As Dr. Booth explained, "in the event

2 of unanticipated risks, regulated utilities are the only group that can go back to their regulator

3 and ask for 'after the fact' rate relief."[66]

4 **3.10 Conclusions on FEI's Business Risk**

5 Based on the preceding evidence, AMPC/CEC submits that:

6 • The key development in FEI's business risk since 2009 has been a fundamental shift in

7   the natural gas market, owing to a boom in reserves and consequent decline in prices,

8   which has raised the price competitiveness of gas versus electricity to new heights.

9 • Energy Price Risk and Energy Supply Risk are substantially lower today than in 2009.

10 • Market Demand Risk (or what FBCU calls "Market Shifts") and Political Risk are the

11   same or lower than in 2009, except for risks related to energy policies and climate

12   change, which are clearly lower than in 2009. Moreover, the growing NGT market is a

13   strong positive in reducing FEI's demand risk.

14 • Regulatory Risk and Operating Risk are the same as in 2009.

15 • Despite FBCU's stated concerns about FEI's throughput, total throughput has in fact

16   been rising since 2009 and, most importantly, it would have to drop by 83% for FEI's

17   distribution margin to increase to the point where its natural gas rates would become

18   equal to BC Hydro's Tier 2 electricity rates.

19 • Overall, FEI's business risk is lower than in 2009 and has declined to what it was before

20   2005 when it operated on a 35% common equity ratio.[67]

21

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[66] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 19.
[67] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 2.

1 **4.   FINANCIAL AND ECONOMIC CONDITIONS**

2 **4.1   Conditions Since 2009**

3 According to Dr. Booth, "capital market conditions today are much easier than in 2009, but even

4 at that point in time FEI had good market access."[68]

5 Dr. Booth reviewed the key financial and economic trends beginning at page 44 of his report.

6 Some of the pertinent highlights include:

7 •   The Canadian economy weathered the 2008-2009 recession far better than the US

8   economy.[69]

9 •   Utility bond yields were consistently lower than generic A yields as the financial crisis

10   started to emerge and remained so until the recent collapse in bond yields. This points

11   to the fact that the market recognizes that utilities are lower risk than equivalently rated

12   bonds during difficult economic periods.[70]

13 •   Recently, for both Canada and the US, the absolute values of the leading indicators

14   have been trending down slightly from their previous lofty levels, but they are still

15   showing economic recovery.[71]

16 •   Credit conditions for Canadian firms remain relatively easy. Not only are A utility

17   borrowing costs hovering around 4.0%, but the maturities of these bonds are

18   lengthening out to 40, and in some cases, 50 years. Moreover, this extends over the full

19   range of issuers, with the cost for BBB rated issuers being only slightly higher. The

20   capital market is very attractive for corporate issuers, while lending officers are "no

21   longer keeping their purses tightly shut".[72] This is consistent with Mr. Engen's

22   conclusion that "[o]verall, the Canadian debt capital market is in good condition as 2012

23   issuance levels are line with 2011 and credit spreads tightened earlier this year after a

24   period of widening in the latter part of 2011."[73]

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[68] Exhbit C6-12, AMPC Evidence, Booth Evidence, p. 67.
[69] Exhbit C6-12, AMPC Evidence, Booth Evidence, p. 51.
[70] Exhbit C6-12, AMPC Evidence, Booth Evidence, pp. 62-63.
[71] Exhbit C6-12, AMPC Evidence, Booth Evidence, p. 49.
[72] Exhbit C6-12, AMPC Evidence, Booth Evidence, p. 66.
[73] Exhbit B1-9-6, FBCU Evidence, Appendix E, Engen Evidence, p. 8.

1   •   While financial stress has largely disappeared from the system, corporate spreads over

2   government bond yields remain high at 180 basis points mainly due to unusually low

3   government bond yields (as will be discussed in Section 4.3).[74]

4   A recent debt issue illustrates how favourable the capital market currently is towards utilities. In

5   September 2012, CU Inc., a holding company whose principal operating subsidiaries are ATCO

6   Electric Ltd. and ATCO Gas and Pipelines Ltd., raised capital by issuing two sets of debentures:

7   (1) $500 million of 3.805% debentures maturing in 30 years; and

8   (2) $200 million of 3.825% debentures maturing in 50 years.[75]

9   Mr. Engen agreed during cross-examination that it would have been "unlikely" that CU Inc. could

10   have issued debt at such a low coupon for such a long duration back in 2009.[76] Likewise, Ms.

11   McShane could not indicate any time in the last 60 years when a Canadian utility had been able

12   to issue 40 year debt at under a 5% yield.[77]

13   In contrast to this proceeding, the 2009 GCOC proceeding occurred in the wake of the worst

14   financial market turmoil in decades, as demonstrated by the Canadian Financial Conditions

15   Index:[78]

Canadian Financial Conditions Index
"-" is loose and "+" is tough"
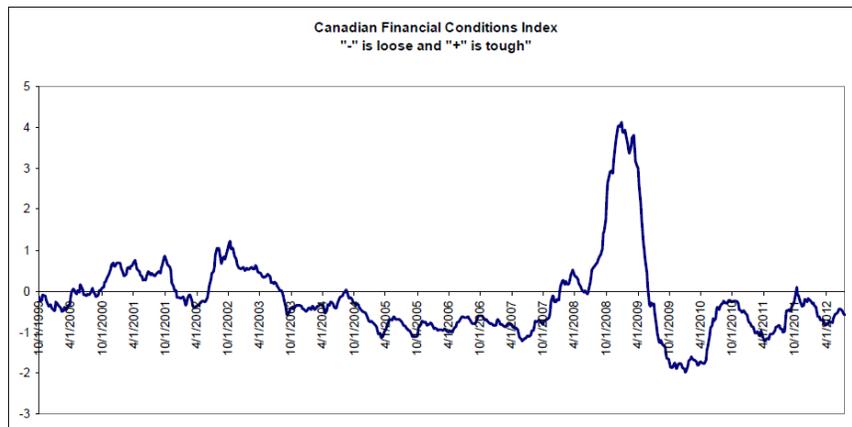
16

17   While there had been some recovery by the close of the evidentiary phase of the 2009 hearing

18   (October 20, 2009)[79], the troubling events of 2008 and the first half of 2009 were undoubtedly

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[74] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 3.
[75] Canadian Utilities Limited 2012 Q3 Statement as referenced in Tr. 5, p. 855, l. 11 – l 19.
[76] Tr. 5, p. 855, l. 20 to p. 866, l 1.
[77] Exhibit B1-15, FBCU Response to BC Utility Customers, IR 2.3
[78] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 67.
[79] 2009 Tr. 5, p. 736, l. 8 to l. 16.

1   on everyone's minds. As Dr. Booth explained during cross-examination, during the 2009

2   hearing:

> 3   "I certainly pointed out that things were improving. But, as I pointed out in my opening
> 4   remarks, I also recommended that -- I mean, I was still skeptical because the fact is I
> 5   think all of us had in our mind that we'd just come through a tremendous traumatic
> 6   financial crisis."[80]

7   FBCU has gone to great lengths in its Final Submission to argue that current capital market

8   conditions are similar to what they were at the time of the 2009 hearing. It is replete with

9   graphs, including the following, which indicate that, *at the precise time* of 2009 hearing, some

10   indicators were at levels comparable to what they are at now: [81]

Figure 1 – S&P/TSX Composite Index 10-Year Performance
January 1, 2002 to December 17, 2012

11

12   But regulators, of course, do not determine a fair ROE or capital structure based solely on the

13   immediate circumstances. Just as this Commission will look at financial and economic

14   conditions since the last hearing and consider the outlook going forward, the 2009 Commission

15   surely did the same. The difference now, as the previous graph shows, is that the last few

16   years have witnessed the market hold or increase the ground it recovered, whereas in the lead

17   up to the 2009 hearing, it had just suffered a dramatic crash. Therefore, this Commission has

18   correctly recognized that changes in the financial markets since the 2009 Decision necessitate

19   that FEI's cost of capital be revisited through this proceeding.[82]

20   Finally, FBCU's argument that capital market conditions are "similar" to what they were during

21   the 2009 hearing conflicts with its own witnesses' findings. Specifically, both Ms. McShane and

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[80] Tr. 7, p. 1397, l. 18 to l. 23 (Booth).
[81] FBCU Final Submission, January 31, 2013, p. 20.
[82] Exhibit A-1, Order G-20-12 – Establishing an initial Regulatory Timetable.

1   Dr. Vander Weide's DCF calculations have declined considerably since the evidentiary portion

2   of the last proceeding closed in October 2009:

3   • Dr. Vander Weide's Exhibits 10 and 11 show DCF estimates of 12.37% for electric

4   utilities and 11.31% for natural gas utilities for February 2009[83] (the date of the last

5   estimates he filed in the 2009 proceeding).[84] The latest values in the same tables show

6   DCF estimates of 9.67% and 10.48% respectively, significant drops.[85]

7   • Ms. McShane's report presents a 2009 DCF estimate of 10.6%, which falls to 9.0% in

8   Q1 2012.[86]

9   In AMPC/CEC's submission, it is hardly surprising that with the obvious improvement in the

10 temperament of the capital market the cost of equity capital has fallen. The data buried deep in

11 the evidence of both Ms. McShane and Dr. Vander Weide clearly supports this conclusion. It is

12 the "averaging process" over different estimators that hides this fact.

13 **4.2   Utilities are Defensive Investments**

14 During this proceeding, a massive volume of information concerning the state of capital markets

15 and global economies was put before the Commission. At times, FBCU's witnesses described

16 market conditions using adjectives like "volatile" and "turbulent". What is critical to bear in mind,

17 however, is that Canadian utilities are *low-risk, defensive investments*.[87] The world may remain

18 "a dangerous place"[88] for *some* companies, but it is a welcoming place for low-risk utilities like

19 FEI.

20 To this point, BMO Capital Markets recently issued an opinion on FEI's parent company, FTS:

21   "One of the things we like the most about FTS is its longer-term earnings visibility…Fortis
22   is well positioned to grow its EPS to ~$2.00 by 2015E while its significant exposure to
23   low-risk utility operations should afford it shelter from ongoing global macroeconomic
24   headwinds."[89]

25 Furthermore, as Dr. Booth stated in his evidence, no utility in Canada was unable to raise

26 capital on fair and reasonable terms during the financial crisis.[90] The reality is that even when

[83] Exhibit B1-9-6, FBCU Evidence, Appendix G, Vander Weide Evidence, pp. 71 and 75.
[84] Tr. 6, p. 1001, l.20 – l. 24.
[85] Exhibit B1-9-6, FBCU Evidence, Appendix G, Vander Weide Evidence, pp. 72 and 76.
[86] Exhibit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, Sch. 16, p. 3
[87] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 66.
[88] FBCU Final Submission, January 31, 2013, p. 32, para. 51.
[89] Exhibit B1-9-3, BMO Capital Markets, August 1 2012, p. 1 [emphasis added].
[90] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 67.

1 "the going gets tough", Canadian utilities are seen as a safe haven and enjoy good access to

2 capital.

3 **4.3   Long-Term Government of Canada Bond Yields**

4 Long-term Government of Canada bond yields ("LTC yields") are particularly important for the

5 purposes of this proceeding. LTC yields are used to establish corporate bond yields and are a

6 key input into the various risk premium models used to determine the cost of equity.

7 Starting at page 53 of his report, Dr. Booth described how the recent history of LTC bonds has

8 been characterized by declining yields, resulting in a very low current LTC yield of around 2.4%:

9   "[I]n 2010 Q3 long term interest rates started to fall and this fall accelerated into Q4 2011
10   and has continued into 2012. Currently LTC yields are at 2.41% and barely compensate
11   an investor for the purchasing power loss caused by 2% inflation let alone the tax bite on
12   the nominal 2.41% interest. So for a taxable investor current LTC yields represent a
13   negative real rate of return."[91]

14 In Dr. Booth's view, the return to more typical yields has been delayed for at least two years due

15 to two key events. First, fears stemming from the Euro crisis have triggered a rush into

16 Government of Canada bonds (which are perceived as a "safe haven"), causing a large drop in

17 interest rates. Second, the US Federal Reserve's Operation Twist, a quantitative easing

18 program designed to keep the federal funds rate at 0-0.25% until 2014, has brought down global

19 interest rates. Consequently, Dr. Booth concludes that "current long Canada bond yields are

20 about 0.80% below where they should be for this stage in the business cycle."[92]

21 At the time when Dr. Booth was preparing his testimony, the Consensus Economics forecast for

22 2013-2014 (with the spread addition to convert it to a forecast of the 30-year bond) was for a

23 yield of about 3.0%. But, as Dr. Booth explained, this is not an appropriate yield to use for the

24 purposes of this proceeding:

25   "I would judge forecast LTC yields of 3.0% as well below any 'equilibrium' yield, since
26   they are only 1.0% above the forecast inflation rate and mean locking in a negative real
27   yield for a typical taxable investor. This is an interest rate that is not made in Canada but
28   reflects US and Eurozone problems."[93]

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[91] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 54.
[92] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 3.
[93] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 60.

1   To ignore this is to ignore the dominant factor in the capital markets at the moment and
2   violate the requirement to take into account 'altered conditions in the money market'.[94]

3   Additional evidence before the Commission supports Dr. Booth's position that current LTC

4   yields are below equilibrium. For example:

5   • During cross-examination, Ms. McShane agreed that current yields are not at equilibrium

6   and stated that she places the equilibrium 30-year yield in the range of 4.5-5.0%.[95]

15   Consequently, Dr. Booth added a 0.80% Operation Twist adjustment to the current forecast.[98]

16   The result is a 30-year LTC yield of 3.80%, which he used as the basis for his risk premium

17   analysis and as a *floor* for his proposed AAM formula.

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[94] Exhibit C6-15, BCUC-AMPC (Booth) IR 34.1.
[95] Tr. 3, p. 482, l. 6 – l.20 (McShane).
[96] Appendix A-11-2, FBCU Evidence, Confidential Appendices, ████████████████████████
[97] Appendix A-11-3, FBCU Evidence, Confidential Appendices, ████████████████████
[98] This is approximately the spread increase of preferred yields over A bond yields since Summer 2011: see Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 85.

1 **5.   CAPITAL STRUCTURE**

2 **5.1   Introduction**

3 Based on Dr. Booth's evidence and the factors that will be discussed in this section, AMPC/CEC

4 submits that a capital structure consisting of a **35%** common equity ratio is appropriate for FEI.

5 Capital structure is important for two main reasons: (1) the cost of equity is higher to reflect the

6 greater risk of investing in shares as opposed to bonds, and (2) the cost of debt (interest) is tax

7 deductible, whereas the cost of equity (dividends) is paid out of after-tax income. Consequently,

8 equity is substantially more expensive than debt.

9 For example, if long-term debt costs 4.0% and equity costs 9.5% (as is currently the case for

10 FEI), then at an assumed 25% tax rate, the pre-tax costs are actually 12.67% for the equity

11 compared to 4.0% for the debt: a spread of 8.67%.[99] In terms of the revenue requirement, this

12 means that every dollar shifted from debt into equity costs customers roughly 9%. For this

13 reason, FEI's customers have a right to expect that its capital structure will be efficient and the

14 common equity component will reflect the real risks equity shareholders are exposed to.

15 According to Dr. Booth, FEI's common equity ratio should reflect two basic factors: its business

16 risk and its financial integrity, which includes its ability to attract capital on reasonable terms.[100]

17 This is generally consistent the criteria Ms. McShane suggests for determining capital structure,

18 though she also advocates looking at comparable utilities' capital structures. Each of these

19 three factors will be addressed in turn.

20 **5.2   Business Risk**

21 In its 2009 decision, the Commission stated that "[t]he assessment of risks has <u>significant</u>

22 bearing on the application of the fair return standard and the determination of an appropriate

23 common equity ratio for regulatory purposes."[101]   Debt financing magnifies business risk, and

24 therefore, all other things equal, the lower a utility's business risk is, the lower a reasonable

25 common equity ratio would be.[102]

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[99] Exhibit C6-12, AMPC Evidence, Booth Evidence, pp. 16-17.
[100] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 25.
[101] 2009 Decision, p. 17 [emphasis added].
[102] See Ms. McShane's discussion of business risk at Exhibit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, p. 34.

1 For the reasons already discussed in Section 3, it is clear that FEI's business risk is significantly

2 lower now than in 2009, when it was awarded a 40% common equity ratio. While this is true

3 across several of the risk factors identified by FBCU, the key points for the Commission to

4 recognize are that:

5 (1) there has been a fundamental shift in the natural gas market, owing to a boom in North

6 American shale gas reserves and the consequent decline in prices, raising the price

7 competitiveness of gas versus electricity to new heights;

8 (2) the speculative risks that the Terasen Utilities sounded the alarm over in 2009 now

9 appear to present little or no cause for concern; and

10 (3) overall, FEI's business risk has declined to what it was before 2005 when it operated on

11 a 35% common equity ratio.[103]

12 As noted in Section 3.1, the Commission has acted decisively in the past to raise the

13 benchmark utility's common equity ratio in the face of perceived increases in its business risk.

14 This time, a fair and reasonable outcome requires the Commission to reduce this ratio.

15 **5.3   Comparators**

16 In his report, Dr. Booth identified FEI's comparators as being ATCO Gas (Alberta), Gaz Métro

17 (Québec), Union Gas (Ontario), and Enbridge Gas Distribution Inc. (Ontario). Like FEI, each of

18 these is a large gas distribution utility with a strong position in its respective market. Dr. Booth

19 also identified Nova Scotia Power Inc. (NSPI) as a reasonable comparator, being a province-

20 wide integrated electric utility.[104]

21 All of these comparators have common equity ratios *below* the 40% currently enjoyed by FEI.

22 As Dr. Booth submitted:

23 "In terms of common equity ratios, Union was awarded a 36% common equity ratio by the
24 OEB (October 25, 2012), and EGDI is currently before the OEB but it is difficult to see
25 how the OEB can change its 36% common equity ratio given the Union Gas Decision.
26 The Régie allows Gaz Métro 38.50% and NSPI recently settled on 37.5% common
27 equity. These would indicate a reasonable range for FEI of 36.0%-38.50%. The only
28 major utility outside that range is ATCO Gas, which was allowed 39%. This was the result
29 of an across the board AUC decision that simultaneously set both allowed ROEs and

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[103] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 2.
[104] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 2.

1   common equity ratios in response to capital market conditions in 2009. So this decision
2   did not reflect any changes in ATCO Gas' business risk."[105]

3 On February 7, 2013, the OEB confirmed EDGI's common equity ratio at 36%, as Dr. Booth had

4 anticipated.[106]

5 At 38.5% common equity, Gaz Métro lies near the top of the range. However, it operates in a

6 far more difficult and risky climate than FEI does. Specifically, the cost advantage of natural gas

7 over electricity in BC is *over five-times* what it is in Québec.[107] Therefore, a common equity ratio

8 for FEI that meets or exceeds 38.5% would be unreasonable on comparative terms.

9 In light of these comparisons, Dr. Booth concluded:

10   "Overall I would judge FEI as warranting a common equity ratio of 37% in a range from
11   36% (Union and EGDI) to 38.5% (Gaz Metro) based on these comparators. <u>However, I</u>
12   <u>would recommend the same 35% I recommended in 2009</u>. Capital market conditions are
13   much improved from 2009 and it is difficult to see how the vast expansion in shale gas
14   and consequent collapse in natural gas prices has done anything but reduce FEI's
15   business risk."[108]

16 In other words, based *solely* on comparable decisions, Dr. Booth identified an appropriate

17 common equity ratio of 37%. However, taking into account *all of the relevant factors* that must

18 be weighed when determining an appropriate capital structure, his recommendation is 35%.[109]

19 **5.4   Financial Integrity and Ability to Attract Capital**

20 Consistent with Ms. McShane, Dr. Booth took the view that "an appropriate common equity ratio

21 is one which, in conjunction with the allowed return, allows a regulated company to maintain its

22 credit and attract capital."[110] AMPC/CEC submits that this is the appropriate test. Just as FEI

23 should not pay more than necessary to obtain services or capital items, it should not pay more

24 than necessary to attract capital.

25 **(a)   Financial Integrity**

26 Contrary to FBCU's Final Submission, FEI's credit metrics are not "weak".[111] FEI's debt is

27 presently rated "A" with a "Stable" trend by DBRS and "A3" with a "Stable Outlook" by

28 Moody's.[112] In terms of FEI's ability to service its debt, Dr. Booth noted the following:

29   "On June 30, 2012 FEI filed its interest coverage ratio on Sedar.com and it was 2.41 well
30   above the 2.0X needed to access the MTN market under the terms of its trust indenture.

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[105] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 2.

1 2 The persistent decline in interest rates has allowed FEI to lower its embedded interest cost and enhance its coverage ratio."[113]

3 A 2.41x coverage is vastly in excess of the reported interest coverage ratios historically shown

4 in the company's financial statements and by the rating agencies.

5 FBCU states that Dr. Booth used an "implicit approach of seeking to 'walk the line' of a

6 downgrade".[114] There was nothing "implicit" in Dr. Booth's approach: he provided sound

7 justification for why the Commission does not need to be concerned about a possible

8 downgrade. Specifically, he noted the following:[115]

9 10 - With his recommended ROE of 7.50% and the existing 40% common equity ratio, FEI's interest coverage ratio would be 2.67x.

11 12 13 - With his recommended ROE of 7.50% and his recommended 35% common equity ratio, FEI's interest coverage ratio would be 2.35x: *well above the level when FEI's predecessors were an A credit.*

14 As Dr. Booth pointed out in his report, actual coverage ratios are less than this because of FEI's

15 high embedded debt cost.[116] However, this will fall as FEI refinances its debt at the current low

16 rates. Moreover, there is no regulatory precedent for allowing a utility a higher ROE or more

17 generous common equity ratio simply because it has a high embedded debt cost. This would

18 effectively charge ratepayers twice: once for the debt cost, and then again for the more

19 generous ROE and common equity ratio.

20 In its Final Submission, FBCU underscores the following passage from Moody's October 2012

21 Credit Opinion for FEI:

22 23 24 "Accordingly, a sustained weakening of FEI's Cash Flow Interest Coverage below 2.3x and CFO pre-WC / Debt below 8% combined with a less supportive and predictable regulatory framework would likely result in a downgrade of FEI's rating."[117]

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[106] Ontario Energy Board, Decision on Equity Ratio and Order, EB-2011-0354, February 7, 2013.
[107] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 42.
[108] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 43 [emphasis added].
[109] See also Dr. Booth's explanation during cross-examination at Tr. 8, p. 1418, l. 24 to p. 1419, l. 17.
[110] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 25.
[111] FBCU Final Submission, January 31, 2013, p. 15, para. 26.
[112] Exhibit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, p. 57.
[113] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 103.
[114] FBCU Final Submission, January 31, 2013, p. 15, para. 28.
[115] See Exh bit C6-12, AMPC Evidence, Booth Evidence, p. 103. Based on an average debt cost of 4.0%, which reflects current A-bond yields.
[116] Exhibit C6-12, AMPC Evidence, Booth Evidence, pp. 103-104.
[117] FBCU Final Submission, January 31, 2013, p. 75, para. 137 [emphasis added].

1   But Dr. Booth's recommendations do not result in cash flow interest coverage below 2.3x, and

2   there is no evidence that FEI can expect a "less supportive and predictable regulatory

3   framework".

4   The bottom-line is that a 35% common equity ratio is entirely consistent with the objective of

5   maintaining FEI's existing credit rating. In this regard, the Commission can also take note of the

6   OEB's recent confirmation of the common equity ratios for Union Gas and EGDI at 36%. These

7   gas distributors have more industrial load than FEI and do not have the same amount of

8   regulatory protection, yet obviously there was no concern that a 36% common equity ratio would

9   put their A credit ratings at risk.

10   Any concerns that a return to Dr. Booth's recommended 35% might impact FEI's interest

11   coverage ratio or otherwise affect its financial integrity can be addressed by deeming some

12   preferred shares in FEI's capital structure. As Dr. Booth explained:

13   "In a situation of debt market access I would recommend a tranche of short term
14   preferred shares. As "equity" they rank behind the debt and are paid out of after tax
15   income. As preferred shares they cost more than debt, but are cheaper than common
16   equity and solve the access problems by enhancing the interest coverage ratio. More to
17   the point they are consistent with the fair return standard and do not reward the
18   shareholders for debt market problems."[118]

19   FBCU's argument against this option, as set out in its Final Submission, seems to be based on

20   a misunderstanding of the nature of preferred shares.[119] FBCU says that "the introduction of

21   preferred equity into the capital structure has the same effect on the cost of equity as adding

22   debt."[120] But, as the passage cited explains, dividends on preferred shares are paid out of after-

23   tax income. And, similar to dividends on ordinary shares, they must be declared by the Board of

24   Directors. Moreover, they do not constitute "interest" in the new issue test for the coverage ratio

25   and thus improve market access. Dr. Booth's suggestion is based the obvious point that the

26   cost of preferred shares is less than the cost of common shares.

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[118] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 105. See also Tr. 8, p. 1585, l. 3 to p. 1587, l. 9.
[119] See FBCU Final Submission, January 31, 2013, p. 86, paras. 158-160.
[120] FBCU Final Submission, January 31, 2013, p. 86, para. 160.

1   **(b)   Ability to Attract Capital**

2   As already discussed in Section 4.1, nothing in the current capital market conditions indicates

3   that FEI needs any sort of "cushion" to improve its capital market access so that it can obtain

4   funds on fair and reasonable terms.[121] Utilities are a desirable investment. For example:

5   • In February 2009, at a time when Terasen had a 35% common equity ratio and debt

6   markets were still recovering from the financial turmoil of 2008, it was able to issue $100

7   million in debt.

8   • As noted earlier, in September 2012, CU Inc. (a wholly owned subsidiary of Canadian

9   Utilities Ltd.) issued $500 million of 3.805% debentures maturing in 30 years and $200

10   million of 3.825% debentures maturing in 50 years.[122] Utilities are not having trouble

11   attracting capital if they can borrow at 3.8% for 50 years.

12   • As of August 1, 2012, FTS (FEI's parent company) had a market-to-book ratio of 1.6X,

13   [123] which is in the typical range for utility holding companies.[124] Essentially, every dollar

14   invested in these utilities rapidly achieves a market value that exceeds its book value.

15   In short, at a 35% common equity ratio, FEI could still preserve its financial integrity and

16   compete very well for capital.

17

18   **5.5   Conclusions on an Appropriate Capital Structure for FEI**

19   AMPC/CEC submits that the significant decrease in FEI's business risk since 2009 justifies

20   returning to a 35% common equity ratio. Concerns that this might affect FEI's financial integrity

21   or ability to access capital markets on reasonable terms are unwarranted. However, if the

22   Commission has such concerns, it would be more consistent with the Fair Return Standard to

23   introduce preferred shares into FEI's capital structure than to permit it to continue to operate

24   with a common equity ratio that exceeds what is reasonably necessary.

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[121] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 68.
[122] Canadian Utilities Limited 2012 Q3 Statement as referenced in Tr. 5, p. 855, l. 11 – l 19.
[123] Exhibit B1-9-3, BMO Capital Markets, Fortis (FTS-TSX), August 1, 2012, p.1. Note that this was the more recent analyst report in the evidentiary record.
[124] For example, the average market-to-book ratio for US Gas Utility holding companies ranged from 1.43 to 2.92 over the period 1993 to 2011: see Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix E, sch.11, p. 29.

1 **6.   RETURN ON EQUITY**

2 **6.1   Introduction**

3 Based on Dr. Booth's recommendations and the points discussed over the following pages,

4 AMPC/CEC submits that the fair ROE for FEI is **7.50%**. In this section, AMPC/CEC will first

5 make general submissions on the methodologies the various witnesses used to calculate ROE,

6 and will then address the specific results.

7 **6.2   Context**

8 Before becoming immersed in the technical analysis, it is instructive to consider FBCU's view on

9 the *incremental* change in FEI's fair ROE since 2009.

10 In 2009, the Commission awarded a 9.50% ROE on 40% common equity. The Terasen Utilities

11 did not appeal that decision or ask for a reconsideration, and nor would it have made sense to

12 do so: TGI had received a 5% increase in its common equity ratio and the second-highest ROE

13 in Canada. This time, FBCU submits that a fair ROE is one that is 50 basis points below the

14 one they put forward in 2009 (but 100 basis points higher than what the Commission awarded).

15 If that 2009 decision produced an ROE that was fair and reasonable, then the conversation

16 today should begin at 9% - that is, 50 basis points lower than the fair ROE in 2009.

17 **6.3   Overview of ROE Methodologies**

18 Once again, this hearing saw much debate over the correct approach to calculating ROE.

19 Three main methodologies were used by one or more of the various witnesses: Equity Risk

20 Premium ("ERP", which includes the Capital Asset Pricing Model or "CAPM"), Discounted Cash

21 Flow ("DCF"), and Comparable Earnings ("CE").

22 In 2009, the Commission concluded that it would "give most weight to the DCF approach, some

23 lesser weight to the ERP and CAPM approaches and a very small amount of weight to the CE

24 approach."[125] AMPC/CEC submits that, for the reasons that follow, the Commission should

25 continue to give little or no weight to the CE approach, but should place greater weight on the

26 CAPM relative to the DCF approach.

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[125] 2009 Decision, p. 45.

1   **(a)   Equity Risk Premium**

2   The most common ERP model and indeed the pre-eminent model for estimating ROE is the

3   CAPM.[126] Dr. Booth explained the theory behind the CAPM starting at page 69 of his evidence

4   and summarized why it is so widely used:

5   "Why the CAPM is so widely used is because it is intuitively correct. It captures two of the
6   major "laws' of finance: the time value of money and the risk value of money...[T]he time
7   value of money is captured in the long Canada bond yield as the risk free rate. The risk
8   value of money is captured in the market risk premium, which anchors an individual firm's
9   risk…CAPM measures the right thing: which is how much does a security add to the risk
10   of a diversified portfolio, which is the central idea of modern portfolio theory. It also
11   reflects the fact that modern capital markets are dominated by large institutions that hold
12   diversified portfolios."[127]

13   The report by the Commission Consultant, the Brattle Group, described the CAPM as "[o]ne of

14   the most common pricing models used in business valuation and regulatory jurisdictions"[128] and

15   noted that it "has a transparent and well-explored economic theory underlying it."[129] The AUC,

16   in its most recent decision, described the CAPM as "a well-accepted and theoretically-grounded

17   economic model for valuing securities based on the relationship between non-diversifiable risk

18   and expected return."[130] The NEB, in its last ROE decision, stated:

19   "The Board is of the view that CAPM is widely accepted as a cost of equity model…In the
20   Board's view, CAPM captures the risk equity holders have to bear when holding a
21   common stock…In the Board's view, even if the DCF model is intuitive and theoretically
22   sound, challenges remain in its applicability since historical growth rates might not reflect
23   the future and analyst expectations might be different than the aggregate expectations of
24   all financial market participants. As a result of these challenges, the Board will not rely on
25   the DCF model and will be informed by CAPM when estimating the cost of equity…"[131]

26   Thus, the Commission's decision in 2009 to give the CAPM *less* weight than DCF analysis

27   made it somewhat of an outlier among Canadian regulators.

28   Importantly, since the 2009 GCOC proceeding, new research has looked at empirical support

29   for the CAPM.[132] It concluded that "the empirically measured return parameters and the market

30   portfolio weights are perfectly consistent with the CAPM using a typical proxy," and hence,

31   "minor changes in estimation error reverse previous negative and disappointing findings for the

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[126] Exhibit C6-12, AMPC Evidence, Booth Evidence, pp. 69-70.
[127] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 69.
[128] Exhibit A2-3, Brattle Group Report, p. 7.
[129] Exhibit A2-3, Brattle Group Report, p. 4.
[130] AUC, *2011 Generic Cost of Capital* Decision 2011-474, December 8, 2011, p. 7.
[131] As cited in Exhibit A2-3, Brattle Group Report, pp. 103-104.
[132] See Moshe Levy and Richard Roll, "The Market Portfolio May be Mean Variance Efficient After All", Review of Financial Studies, 2010 as discussed in Exhibit C6-12, AMPC Evidence, Booth Evidence, pp. 72-73.

1 CAPM." This finding shows that the standard criticism that utility witnesses level at the CAPM

2 relies on an outdated view of the model's accuracy.[133]

3 The CAPM is not perfect, but of course no model is. The Brattle Group concluded that "the

4 CAPM will provide regulated entities with a reasonable return only if it is implemented

5 accurately, and the analyst must take into account any unique circumstances that may bias the

6 estimates."[134] In AMPC/CEC's submission, Dr. Booth has gone to great lengths to consider any

7 unique circumstances and make the adjustments necessary to ensure that his estimate is fair

8 and reasonable.

9 **(b)   Discounted Cash Flow**

10 The standard alternative to ERP models is the discounted cash flow model.[135] It is based on the

11 theory that the equity cost is equal to the forecast dividend yield plus the expected capital gain

12 or growth yield.

13 The report by the Brattle Group states that "[t]he DCF approach is conceptually sound if its

14 assumptions are met, but can run into difficulty in practice because those assumptions are so

15 strong, and hence unlikely to correspond to reality."[136] In particular:

16   "The major source of debate for the DCF model is determining the dividend growth rate,
17   particularly for the long-term. There is generally no publicly available data on forecast
18   growth rates for periods longer than 5 years. Unfortunately, the forecast growth rate has
19   a major effect on the cost of equity estimated by the DCF method."[137]

20 As Dr. Booth explained in Appendix D to his evidence, DCF tests are particularly at risk of

21 overstating the investor's required rate of return when they rely on growth rates forecasted by

22 analysts.[138] The AUC was wary of this in its 2011 generic hearing. It wrote:

23   "The Commission concludes that the DCF results appear to suggest that investors expect
24   a return of about nine per cent on utility investments, assuming investors agree with
25   analysts' growth forecasts. However, as noted above, the Commission remains
26   concerned about the impact of optimistic growth forecasts in this result. This concern is
27   bolstered by the results of the DCF analysis applied to the overall market which
28   suggested returns in the range of 7.1 to 10.1 per cent."[139]

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[133] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 73.
[134] Exhibit A2-3, Brattle Group Report, p. 25.
[135] Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix D, p. 1.
[136] Exhibit A2-3, Brattle Group Report, p. 30.
[137] Exhibit A2-3, Brattle Group Report, p. 30.
[138] Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix D, p. 4.
[139] AUC, *2011 Generic Cost of Capital* Decision 2011-474, December 8, 2011, para. 147.

1   Also, as Dr. Booth noted during cross-examination, there is a very limited sample to include in a

2   DCF analysis for Canadian utilities. In the past, DCF may have been a more accurate approach

3   to rely on, but that is no longer the case. He explained:

4   "[In the past] we had lots of pure play utilities in Canada, where you could do a DCF. In
5   particular, all the local telephone companies were still regulated by the CRTC on a rate of
6   return rate based method, and we had Island Telephone traded, Maritime Tel traded,
7   NewTel traded, Bruncor Traded, Bell Canada traded, B.C. Tel traded. So we had a lot of
8   traded rate of return regulated utilities that we could actually do DCF tests on.
9   Unfortunately, they don't exist anymore." [140]

10   Therefore, in Dr. Booth's view and in the AMPC/CEC's submission, DCF analysis can provide a

11   helpful "check" on CAPM estimates, but the Commission should be cautious not to rely too

12   heavily on it.

13   **(c)   Comparable Earnings**

14   The comparable earnings methodology looks at the earned ROE of comparable companies to

15   assess the cost of equity.[141]

16   In its Final Submission, FBCU states that in 2009 the Commission "gave <u>some weight</u> to the

17   results of the comparable earnings test employed by Ms. McShane in determining the

18   benchmark ROE."[142] More accurately, the Commission's determination was that it would give "a

19   <u>very small amount of weight</u> to the CE approach."[143]

20   Leaving this discrepancy aside, the fact that the Commission gave CE *any* consideration at all

21   made it an outlier among other boards. During cross-examination, Ms. McShane was unable to

22   identify any other board that has given any weight to this approach within the last fifteen

23   years.[144] The most recent regulatory decision FBCU relies on in its argument in support of CE

24   (aside from the BCUC's 2009 decision to give very little weight to the approach) reaches back to

25   1995.[145]

26   Dr. Booth explained why he advises against using CE in Appendix E of his evidence, listing six

27   critical shortcomings:

28   (1) it relies on an average, not a marginal, rate of return;

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[140] Tr. 8, p. 1494, l. 1 to l. 8 (Booth).
[141] Exhibit A2-3, Brattle Group Report, p. 116.
[142] FBCU Final Submission, January 31, 2013, p. 142, para. 295 [emphasis added].
[143] 2009 Decision, p. 65 [emphasis added].
[144] Tr. 3, p. 397, l. 3 - l. 15.
[145] FBCU Final Submission, January 31, 2013, p. 145, para. 301.

1   (2) it is an accounting, not an economic, rate of return;

2   (3) it may include the impact of market power;

3   (4) it is based on non-inflation adjusted numbers;

4   (5) it is earned on historic accounting book equity that does not reflect what can be earned
5   on investments today; and

6   (6) it varies with the firms selected in the "comparable earnings" sample.[146]

7   In 2004, the AEUB strongly rejected the CE test on the basis of "serious conceptual or
8   methodological concerns".[147] Chief among these was the fact that the approach "measures
9   actual earnings on actual book value of comparable companies, which…does not measure the
10   return 'it would receive if it were investing the same amount in other securities possessing an
11   attractiveness, stability and certainty equal to the company's enterprise'."[148] And, in 2011, the
12   AUC found that the "evidence on historic returns is inconclusive with respect to the return
13   investors expect on comparable investments."[149]

14   **(d)   The Ex Post (or Historic) Risk Premium Method**

15   Dr. Vander Weide presented the following table of his Ex Post Risk Premium results in his
16   evidence:[150]

TABLE 2
EX POST RISK PREMIUM RESULTS

COMPARABLE GROUP	PERIOD OF STUDY	AVERAGE STOCK RETURN	AVERAGE BOND YIELD	RISK PREMIUM
S&P/TSX Utilities	1956 – 2011	11.99	7.33	4.7
BMO CM Utilities Stock Data Set	1983 – 2011	16.01	7.24	8.8
Average				6.7

17

18   The problem with this approach is that it calculates the risk premium by subtracting historic
19   average bond *yields* from historic average utility stock *returns*. This is problematic because
20   utility shares are interest sensitive[151] and in a sustained period of declining interest rates, like

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[146] Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix E, p. 5.
[147] AEUB, *Decision 2004-052: Generic Cost of Capital*, July 2, 2004, p. 24.
[148] AEUB, *Decision 2004-052: Generic Cost of Capital*, July 2, 2004, p. 23.
[149] AUC, *2011 Generic Cost of Capital* Decision 2011-474, December 8, 2011, para. 99.
[150] Exhibit B1-9-6, FBCU Evidence, Appendix G, Vander Weide Evidence, p. 34.
[151] Exhibit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, p. 93; Tr. 6 p. 983-984.

1 the one experienced between 1981 and 2011,[152] the price of bonds goes up. This generates an

2 unexpected capital gain and bondholder returns increase, as does the return from holding utility

3 shares.[153]

4 It is important to capture this capital gain and match the one year return from holding bonds with

5 the one year return from holding equities. If one ignores this capital gain in the bond return

6 while including it in the equity return, the calculation of the risk premium is bound to increase, as

7 Dr. Vander Wiede's does in the above table. This overstates the premium required by investors

8 to hold stocks rather than bonds.

9 In Exhibit C6-21, a Witness Aid Prepared by BC Utilities Customers, ex post (or historic) risk

10 premiums were calculated at page 3 using bond returns instead of bond yields.[154] This practice

11 is consistent with the way that the market risk premium is calculated.

		Revised VW Table 2		
		Stock Return	Bond Return	Risk Premium
TSX Utilities	1956-2011	11.99	7.96	4.03
TSX Composite	1956-2011	10.53	7.96	2.57
BMO Utilities	1983-2011	16.01	11.10	4.91
TSX Composite	1983-2011	10.60	11.10	-0.50

12

13 The result was not surprising; average ex post risk premiums for utilities were 4.47%, that is,

14 2.3% less than Dr. Vander Wiede's calculation in Table 2. Notably, this result is comparable to

15 Dr. Vander Wiede's result for the period 1956-2011, a period that includes increasing and

16 decreasing interest rates. This table also indicates that the average return on the BMO Utilities

17 group has been 5.41% greater than that on the TSX Composite, while the ex post risk premium

18 on the TSX Composite was negative. With his market risk premium of 8.8%, Dr. Vander Weide

19 would have the Commission conclude that the utilities are riskier than the TSX Composite.

20 Instead, the obvious conclusion is simply that interest rates have declined enormously since

21 their peaks in 1981 and this has generated very large unexpected returns to holding long

22 Canada bonds and utilities.

23 The ex post risk or historic premium estimates of Dr. Vander Weide must be ignored. If the

24 Commission places any weight on this type of analysis, Dr. Vander Weide's estimates must be

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[152] Exhibit C6-21, Witness Aid Prepared by BC Utilities Customers, p. 1.

[153] Tr. 6, p. 985, l. 12 – l. 23; Tr. 6, p. 983, l. 23 to l. 26.

[154] See Exh bit C6-21, Witness Aid Prepared by BC Utilities Customers, p. 3. While Dr. Vander Weide did not endorse the approach he confirmed the accuracy of the data and calculations at Tr. 6, pp. 985-987.

1 reduced by 2.3% to reflect a consistent estimate of like with like, that is, utility returns minus

2 bond returns.

3 **(e) Dr. Booth's Approach**

4 In light of the strengths and weaknesses of the aforementioned methodologies, Dr. Booth

5 calculated a fair ROE for FEI using the equity risk premium method, based on the CAPM. He

6 used a DCF analysis of the return on the Canadian market as a whole to help derive some of

7 the inputs into the CAPM (namely, the market risk premium and the Operation Twist

8 adjustment). He also checked his CAPM results for consistency against his DCF analysis.[155] In

9 short, his recommendation was based primarily on the CAPM, but was supported by a DCF

10 analysis. His results are discussed in detail over the remainder of this section.

11 Ms. McShane and Dr. Vander Weide derived their ROEs by averaging the results of several

12 different models (and various versions of those models). Contrary to FBCU's submissions, it is

13 not "obvious" that "employing multiple tests provides greater confidence that the allowed ROE is

14 within a reasonable range."[156] Rather, employing multiple tests, when some of those tests are

15 of dubious validity, only serves to taint the final result. For example, Ms. McShane's use of the

16 widely discredited comparable earnings test pushed the upper limit of her "reasonable range"

17 out by 0.50%. Without it, her average ROE would have been 10.1% instead of 10.5%.[157]

18 It is prudent for the Commission to look at multiple results in order to inform its decision. For his

19 part, Dr. Booth used two tests (CAPM and DCF) and checked his results against several

20 independent sources. However, AMPC/CEC urges the Commission not to fall into the trap of

21 thinking that the more tests a witness uses, the more reasonable their recommendations. Each

22 test needs to be thoroughly scrutinized for the quality of its data, the reasonableness of its

23 assumptions, its applicability to the Canadian utility context, and the overall sensibility of its

24 results.

25 **6.4 Discussion of Some Common Elements of Multiple Models**

26 Two preliminary issues are relevant across the witnesses' ROE results: the use of arithmetic as

27 opposed to geometric (or "compound") returns, and the use of US data.

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[155] See Tr. 8, p. 1491, l. 2 – l. 15, for Dr. Booth's summary of his approach.
[156] FBCU Final Submission, January 31, 2013, p. 91, para 170.
[157] See Exhibit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, p. 6 (Table 1) and Tr. 3, p. 397, l. 16 – l.22.

1   **(a)   Arithmetic Returns vs. Geometric Returns**

2 Dr. Booth explained the difference between arithmetic and geometric returns as follows:

3   "Both the arithmetic and compound rates of return are normally calculated when
4   evaluating investments. If we need the best estimate of next period's rate of return, this is
5   the arithmetic return. If we need the best estimate of the return over several periods, the
6   arithmetic return becomes less useful and more emphasis is placed on the compound
7   return. If we want the best estimate of the annual rate of return earned over a long period
8   of time, this is the compound rate of return, since this indicates the long run expected
9   change in wealth. Moreover, if we ignore intervening periods, then the arithmetic return
10   over a very long period is the compound rate of return, that is, the difference between the
11   arithmetic and compound returns is essentially the definition of the period over which the
12   investment is held."[158]

13 Fortunately for the non-experts, Ms. McShane, Dr. Vander Weide, and Dr. Booth all agree that

14 *arithmetic* returns should be used for the purpose of this proceeding.[159]

15 Dr. Booth gave evidence that geometric returns can be converted to arithmetic returns by

16 adding 2.0% to equity returns and 0.40% to long Canada bond returns.[160] Mr. Dall'Antonia and

17 Ms. McShane both agree that this is an appropriate adjustment.[161] In the submissions that

18 follow, AMPC/CEC will identify where adjustments have been made to compare returns on the

19 same basis.

20   **(b)   FBCU's Reliance on US Data**

21 As was the case in 2009, FBCU's witnesses relied heavily on US data to arrive at their ROE

22 recommendations. Dr. Booth explained why this is cause for concern:

23   "The recommendations of the US witnesses on behalf of FEI are heavily based on US
24   utilities and I generally regard US estimates as biased high when applied to Canadian
25   utilities for two reasons. First, US financial markets exhibit more risk than Canadian
26   markets and have generated higher risk premia in the past. Second, although the
27   principles of regulation are the same between the US and Canada, as is widely
28   recognised the implementation is different."[162]

29 There is ample support for Dr. Booth's proposition that the US financial market is, on the whole,

30 riskier than Canada's. For example, the historical data in Appendix B to Dr. Booth's report

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[158] Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix B, p. 3.
[159] Exhibit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, p. A-6 and Exhibit B1-9-6, FBCU Evidence, Appendix G, Vander Weide Evidence, p. 39.
[160] Exhibit C6-12, AMPC Evidence, Booth Evidence, pp. 92-93.
[161] Mr. Dall'Antonia uses 2% at Tr. 3, p. 355, l. 3 - l. 10. Ms. McShane agrees with Dr. Booth's adjustment at Tr.3, p. 460, l. 7 – l. 12 and p. 463, l.6 – l. 24.
[162] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 106.

1 shows that, over the period 1926-2011, (a) US returns exhibited greater volatility than Canadian

2 returns, and (b) the US market risk premium was about 1.0% higher than the Canadian

3 equivalent.[163] Similarly, Ms. McShane's report presents a historical market risk premium of 4.7-

4 4.8% for Canada versus 5.6-5.7% for the US.[164]

5 It is also commonly accepted that US utilities are risker than Canadian ones for reasons other

6 than the differences between the financial markets. During cross-examination, Ms. McShane

7 agreed that "the typical U.S. utility would probably be viewed as higher-risk than the typical

8 Canadian utility."[165] Certainly that is the view taken by Moody's, one of the two major US bond

9 rating agencies. Dr. Booth's evidence referenced a report by that agency which concluded as

10 follows:

11   "[F]or a regulated utility the predictability and supportiveness of the regulatory framework
12   in which it operates is a key credit consideration and the one that differentiates the
13   industry from most other corporate sectors…Moody's views the regulatory risk of US
14   utilities as being higher in most cases than that of utilities located in some other
15   developed countries, including Japan, Australia and Canada. The difference in risk
16   reflects our view that individual state regulation is less predictable than national
17   regulation; a highly fragmented market in the US results in stronger competition in
18   wholesale power markets; US fuel and power markets are more volatile; there is a low
19   likelihood of extraordinary political action to support a failing company in the US; holding
20   company structures limit regulatory oversight; and overlapping and unclear regulatory
21   jurisdictions characterize the US market."[166]

22 After reviewing utility bond ratings in both countries, Dr. Booth found that "despite their poorer

23 financial ratios, Canadian utilities have higher bond ratings, which simply reflects the importance

24 placed by the rating agencies on the differing regulatory approaches in the US and Canada."[167]

25 He also considered decisions by several Canadian regulators on the use of US comparables,

26 and concluded that these decisions "indicate that a sample of US 'comparables' cannot be used

27 as a benchmark for a Canadian utility's fair ROE without either significant evidence that the

28 regulatory, institutional, economic and financial [contexts] are the same or making significant

29 adjustment."[168]

30 Notably, all but one of the methods Dr. Vander Weide used to calculate FEI's cost of equity

31 were derived *entirely* from US data. The only test he used that included Canadian utilities, his

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[163] Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix B, Sch. 8, p. 25.
[164] Exhibit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, p. 80 (Table 10).
[165] Tr. 3, p. 466, l. 9 – l. 11. See also p. 467, l. 5 – l. 17 for Ms. McShane's discussion of why US utilities are risker than Canadian ones.
[166] Exhibit C6-12, AMPC Evidence, Booth Evidence, pp. 108-109 [emphasis added].
[167] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 109.
[168] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 113.

1 "Ex Post Risk Premium Test", was given no weight by the Commission in 2009 due to

2 methodological deficiencies[169] and, for the reasons discussed earlier, should continue to be

3 disregarded. Therefore, his testimony is, quite simply, made for the U.S.A. This is despite the

4 fact that Dr. Vander Weide stated during cross-examination that his "general feeling is that the

5 ROEs in Canada are less than in the U.S."[170]

6 In 2009, the Commission was cognizant of the danger of relying on US comparables. It wrote:

7 "The Commission Panel agrees with Dr Booth that "significant risk adjustments" to US
8 utility data are required in this instance to recognize the fact that TGI possesses a full
9 array of deferral mechanisms which give it more certainty that it will, in the short-term,
10 earn its allowed return than the Value Line US natural gas LDCs enjoy."[171]

11 AMPC/CEC submits that the Commission should continue to approach results based on US

12 data with caution, and should continue to adjust such results downwards to reflect the

13 differences between the financial and regulatory contexts in which Canadian and US utilities

14 operate.

15 **6.5   Equity Risk Premium Results**

16 **(a)   The Model**

17 Under the CAPM, ROE is calculated using the following formula:

18   ROE = Risk-Free Rate + [Relative Risk Adjustment x Market Risk Premium]

19 Dr. Booth used a two-part approach to calculate the fair ROE for FEI using the CAPM. First, he

20 calculated a "simple" ROE using the above formula. Then, he made various adjustments to

21 account for current capital market conditions. The inputs to the model and the necessary

22 adjustments are discussed in turn.

23 **(b)   Risk-Free Rate**

24 According to the Brattle Group, "[i]t is common among Canadian regulators to rely on a

25 forecasted yield on long-term Canadian Government bonds" as a proxy for the risk-free rate.[172]

26 Consistent with this practice, Dr. Booth calculated this rate by taking the current forecasted LTC

[169] 2009 Decision, p. 59.
[170] Tr. 6, p. 1033, l. 20 - l. 23.
[171] 2009 Decision, p. 51[emphasis added].
[172] Exhibit A2-3, Brattle Group Report, p. 14.

1   yield of approximately 3.0% and adding a 0.80% Operation Twist adjustment for the reasons

2   described in Section 4.3. The result is a risk-free rate of **3.8%**.

3   **(c)   Relative Risk Adjustment ("Beta")**

4   The purpose of the relative risk adjustment was explained in Appendix C of Dr. Booth's report:

5   "In risk premium models, the relative risk coefficient adjusts the overall market risk
6   premium up or down depending on whether the individual security (company) is more or
7   less risky than the market as a whole. More risky stocks have a relative risk coefficient
8   greater than 1.0, and less risky stocks a relative risk coefficient less than 1.0. All risk
9   premium models have this same risk assessment relative to the market, whether they are
10   the capital asset pricing model (CAPM) where the only source of risk is the market risk, or
11   models that introduce other sources of risk…With the CAPM the relative risk assessment
12   is the expected covariance between the security's return and that on the market scaled
13   by the variance of the return on the market. This is called the security's beta coefficient
14   (β) and measures the contribution of the security to the risk of a diversified portfolio."[173]

15   Dr. Booth analysed the relative risk of a sample of utility equities[174] and found that "[t]he recent

16   history of Canadian and low risk US utilities is of beta coefficients [of] about <u>0.30-0.35</u> as they

17   have withstood the impact of the financial crisis much better than the market as a whole, that is,

18   the crisis demonstrated yet again the low risk nature of regulated utilities."[175] However, since he

19   believes that the 2008/2009 global financial crisis was a unique event, Dr. Booth adjusted his

20   recommend beta upwards to better reflect the historic range of Canadian utility betas under

21   normal market risk. On this basis, he used a Canadian utility beta of **0.45-0.55**. In other words,

22   he determined that the relative risk of a Canadian utility is about 45-55% of that of the market as

23   a whole.[176] In AMPC/CEC's submission, this is a generous beta in light of the much lower utility

24   betas experienced in recent years.[177]

25   FBCU criticizes the relative risk adjustment Dr. Booth used as being "largely based on his

26   judgment."[178] Indeed, on several occasions throughout this proceeding, FBCU has referred to

27   "judgment" as if it were some great evil (except in the context of its argument against an

28   AAM).[179]   However, as just explained, Dr. Booth derived his utility beta estimate after

29   considering both recent and longer-term historical utility betas. He then adjusted it *upwards* to

30   reflect the fact that current utility betas are unrealistically low due to the present state of the

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[173] Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix C, p. 1.
[174] See Exhbit C6-12, AMPC Evidence, Booth Evidence, Appendix C, Sch. 4.
[175] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 74 [emphasis added].
[176] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 74.
[177] See Exhbit C6-12, AMPC Evidence, Booth Evidence, Appendix C, Sch. 3 and Sch. 4.
[178] FBCU Final Submission, January 31, 2013, p. 138, para. 286.
[179] FBCU Final Submission, January 31, 2013, p. 156, para. 323. See also Section 7.2 of this Final Submission.

1   financial markets. Thus, his relative risk adjustment was not "largely" based on judgment – it

2   was based on what the data says, coupled with a prudent level of "judgment constrained by the

3   facts" to account for current conditions.[180]

4   During this proceeding, two other contentious issues arose concerning utility betas, namely: (1)

5   whether they should be adjusted, and (2) whether US betas should be used to calculate the

6   beta for a Canadian benchmark utility. These issues are discussed next.

7   ***Adjusting beta***

8   It is typical for utilities witnesses to adjust "raw" utility betas to the overall market mean of 1.0.

9   As Dr. Booth explained in his evidence, this practice is based on the work of Professor Blume

10 and results in low betas being increased and high betas being reduced.[181] Ms. McShane uses

11 the "Blume adjustment" to arrive at her estimated beta of 0.65-0.70. Without adjustment, her

12 result would be 0.48-0.55, which is consistent with Dr. Booth's conclusion.

13 In 2009, the Commission decided that "the relative risk factor should be adjusted in a manner

14 consistent with the practice generally followed by analysts."[182] AMPC/CEC respectfully submits

15 that this was an error for the following reasons.

16 First, as Dr. Booth discussed in Appendix C of his evidence, analysts *do not* generally adjust

17 betas in the way that the Commission assumed in 2009 (i.e., towards a mean of 1.0). Dr. Booth

18 examined utility beta estimates from several neutral sources, including RBC, Google Finance,

19 and Yahoo, and found none of these were Blume-adjusted. Notably, RBC's average utility beta

20 was 0.29 and Google Finance's was 0.20, both of which are considerably lower than Dr. Booth's

21 estimate.[183]

22 Second, as Dr. Booth explained:

23   "Betas are always adjusted in the sense that what is needed is a forward looking
24   estimate, not a backward looking estimate. However, we cannot pluck a number out of
25   the air and there has been no statistical evidence supporting the BCUC's value of 0.60-
26   0.66 for at least 30 years and no other Canadian regulator has used a value this high."[184]

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[180] See Dr. Booth's discussion of the role of judgment in his recommendations at Tr.8, p. 1541, l. 24 – l. 26.
[181] Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix C , p. 10. The specific formula is: 2/3 (Raw Beta) + 1/3 (1.0) = Adjusted Beta.
[182] 2009 Decision, p. 45.
[183] Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix C, p. 11.
[184] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 73 [emphasis added].

1   Finally, and most importantly, the fact that Canadian utilities have relatively low betas does not

2   mean they are underestimated – it simply reflects the reality that they are low risk. This is

3   confirmed by the drop in beta estimates in the wake of the worst stock market crash for

4   decades. According to Ms. McShane, the median beta for the five regulated Canadian utility

5   holding companies was 0.54 in 2007, dropped to 0.21 in 2008, and has remained near that level

6   since.[185] Her evidence also indicated a long-term (1970-2011) average utility beta of 0.465,[186]

7   which is consistent with Dr. Booth's finding that over fifty years of data confirms that utility betas

8   are perennially low.[187]

9   It is illogical to adjust regulated utility betas towards 1.0 when there is no indication that their risk

10   is increasing towards that of the market as a whole. In AMPC/CEC's submission, a beta of 0.45

11   to 0.55 is supported by the evidence and is entirely sensible: it recognizes that regulated

12   utilities face roughly half of the risk faced by the market as a whole. Any artificial refinements to

13   this outcome distort this reality.

14   ***US Betas***

15   As discussed in Section 6.4(b), US utilities are typically risker than Canadian ones.

16   Nevertheless, Ms. McShane relied in part on a sample of *Value Line* US utility betas to arrive at

17   her suggested beta of 0.65-0.70 for FEI.[188] To justify this approach, she stated that "[t]he

18   average difference in the adjusted monthly betas of publicly-traded Canadian utilities and U.S.

19   utility sample for five-year periods ending 1993-2011 has been minor."[189] However, her data

20   shows that the difference is not "minor". Schedule 14 to Ms. McShane's report indicates a

21   median beta since 2008 of 0.20-0.21 for her Canadian utility sample compared to 0.37-0.40 -

22   nearly double - for her US sample.[190] AMPC/CEC submits that this is further evidence of the

23   riskier nature of US utilities and is cause for the Commission to discount ROEs derived from

24   tests that adjust for risk based on US data.

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[185] Tr. 3, p. 469, l.10 – l. 17; Exhibit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, Sch. 14, p. 1.
[186] Exhibit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, pp. 92-93.
[187] Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix C, p. 10.
[188] Exhibit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, p. 98 (Table 21).
[189] Exhibit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, p. 75.
[190] Exhibit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, Sch. 14, pp. 1 and 4.

1   **(d)   Market Risk Premium ("MRP")**

2 Dr. Booth estimated a Canadian equity MRP in the range of **5.0-6.0%** (as set out in Appendix B

3 of his evidence). In contrast, Ms. McShane used an MRP of 7.25-7.50%.[191]

4 To estimate the MRP, Dr. Booth first undertook his own calculation using the historic realized

5 rates of return on different broad classes of Canadian securities since 1924. The outcome

6 indicated an MRP of under 5.0%.[192] He then performed three checks on his direct estimate.

7 First, he checked his results against a 2012 survey by Professor Fernandez, which had asked a

8 large sample of analysts, companies, and finance professors to estimate the MRP in various

9 markets.[193] The respondents placed the Canadian MRP at a median of 5.5% and an average of

10 5.4%. Notably, 75% of the Canadian respondents estimated the Canadian MRP at 6.0% or

11 less.

12 Second, Dr. Booth compared his results to recent reports by TD Economics and RBC. With

13 respect to the TD report, he found:

14   "The TD analysis placed long run Canadian equity returns at 7.50%, the same as in the
15   US and internationally, whereas bond returns were forecast at 4.0% for the universe
16   bond index, that is, including corporate as well as government bonds. The implication is
17   for a long run market risk premium of 3.50% of equities over bonds and slightly higher
18   over government bonds…Since these are long run or geometric (compound) returns <u>an</u>
19   <u>adjustment to arithmetic returns would move the market risk premium to about 5.0% over</u>
20   <u>long Canada bonds, consistent with the judgement of professionals and my historic</u>
21   <u>analysis.</u>"[194]

22 Compared to the RBC analysis, Dr. Booth found:

23   "[My MRP estimate] is also significantly in excess of a recent report by the Royal Bank of
24   Canada that while acknowledging historic equity returns of about 9.4%, forecasts future
25   US equity returns over the next ten years at <u>4.9%</u>, that is, the total return from the equity
26   market is forecast by RBC to be less than the market risk premium I am using."[195]

27 Although it did not form part of Dr. Booth's analysis, the Brattle Group identified similar results.

28 In its review of the Canadian MRP, it stated:

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[191] Exhibit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, p. 87.
[192] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 74.
[193] P. Fernandez et al., Market risk premium used in 82 countries in 2012: a survey with 7,192 answers. June 19, 2012.
[194] Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix B, p. 15 [emphasis added]. Note that a more recent update filed by the Commission staff (Exhibit A2-30) shows that TD has lowered its expected return on the S&P/TSX Composite over the next decade from 7.5% to 7.0% and its expected return on bonds to 3.0%.
[195] Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix B, p. 16.

1   "Using the longest period available, Credit Suisse reports an arithmetic MRP of 5.5%
2   over government bills and <u>5.0%</u> over government bonds….Evidence from a survey of
3   Canadian economists has placed the Canadian MRP in a similar range. For example,
4   Fernandez (2009) and Fernandez, Aguirreamalloa and Corres (2011) find that Canadian
5   professors, responding to the survey, placed the MRP at 5.4 percent (on average) in
6   2008 and at 5.9 percent in 2011."[196]

7   Finally, Dr. Booth considered his estimate against the latest forecast expected rates of return by

8   the FortisBC subsidiaries' actuary, Towers Watson. That forecast is:[197]

Canadian Equities	7.00%
US equities	7.40%
Non North Americian equities	7.40%
Real Estate	6.50%
Bonds	3.40%
Cash	0.00%

9

10   Dr. Booth converted the actuary's forecast from geometric means to arithmetic means for the

11   sake of comparison, using an adjustment that Ms. McShane confirmed to be accurate.[198] After

12   making the necessary conversion, he concluded:

13   "I would judge FEI's acceptance of their actuary's expected returns as being consistent
14   with my own estimates. I would regard FEI as accepting <u>a Canadian equity market return</u>
15   <u>of 9.0% versus my own 9.30%</u>, so here FEI would be less optimistic than me. On the
16   other hand, FEI's implicit acceptance of a current <u>market risk premium of 6.20%</u> would be
17   consistent with my own range of 5.0-6.0% plus my Operation Twist adjustment of 0.80%,
18   which moves my mid-point to 6.30%. Overall if FEI had submitted their own Actuary as
19   an expert witness on cost of capital I would have very little disagreement with them."[199]

20   FEI accepted these estimates for the purpose of ensuring that future returns on its defined

21   pension plan were *realistically* projected.[200] During cross-examination, it was unable to point to

22   why these estimates should not also be accepted for the purpose of this proceeding.

23   In its Final Argument, FBCU says that these forecasts are of "limited relevance".[201] However, its

24   arguments in this regard are without merit. First, it labels the forecast as being "conservative"

25   without providing specific supporting evidence; it simply states that "such estimates can be

[196] Exhibit A2-3, Brattle Group Report, p. 15 [emphasis added].
[197] Exhibit B1-11, FBCU Response to BC Utility Customers IR 1, IR 7.1.
[198] See Tr. 3, p. 460, l. 7 – l. 12 and p. 463, l. 16 – l. 24.
[199] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 93 [emphasis added].
[200] Tr. 2, p. 212, l. 9 – l. 13.
[201] FBCU Final Submission, January 31, 2013, p. 151, para. 311.

1 reasonably expected to be conservative".[202] Moreover, FBCU fails to explain why, if actuaries

2 are conservative by nature, the forecasts are nevertheless completely in line with the TD report

3 discussed earlier, as well as several other forecasts that will be discussed in Section 6.6.

4 Second, FBCU argues that the relevance of the actuary's estimates is limited because they

5 "relate to the market return" whereas "the Commission is assessing a return on book value".[203]

6 However, by this logic, the Commission would have to ignore virtually all of the ROEs submitted

7 by the witnesses in this proceeding, as DCF and equity risk premium estimates are market

8 estimates based on market values.

9 The bottom-line is that Dr. Booth's proposed MRP of 5.0-6.0% is clearly supported by several

10 independent and credible sources.   In contrast, Ms. McShane's range of 7.25-7.50% is a

11 significant departure from these sources. There is no support whatsoever for a forecast MRP of

12 this magnitude.

13 Ms. McShane calculated her MRP by subtracting her 2013-2015 average LTC yield of 4.0%

14 from her estimated return on the overall Canadian equity market of 11.5%. There are two

15 critical problems with this approach. First, as will be discussed in detail in Section 6.6(b), there

16 is no support for a going-forward Canadian equity market return that is anywhere near as high

17 as 11.5%. Second, Ms. McShane used *forecasted* bond yields over the next three years to get

18 her risk-free rate, but *historical* equity returns to estimate the overall return on the equity

19 market.[204] The result is an MRP derived from a mismatch of time periods. This is particularly

20 problematic since, as already discussed in Section 4.3, current LTC yields are below equilibrium

21 yields. Moreover, this is despite the fact that Ms. McShane agreed during cross-examination

22 that "an equity risk premium is a forward-looking estimate",[205] and despite the fact that FBCU's

23 Final Argument recognizes that there "need[s] to be consistency between the choice of risk-free

24 rate and the estimated premium."[206]

25   **(e)**   **Adjustments and Allowances**

26 In addition to the 0.80% Operation Twist adjustment he added to the risk-free rate, Dr. Booth

27 made two adjustments to the CAPM results. First, consistent with the practice adopted by the

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[202] FBCU Final Submission, January 31, 2013, p. 147, para. 312. This is in contrast to AMPC's argument that analyst forecasts are biased high, which is supported by a study by well-known academics and decisions by other utility boards. See Section 6.6(c) of this Final Submission.
[203] FBCU Final Submission, January 31, 2013, p. 147, para. 314.
[204] See Exhibit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, p. 87.
[205] Tr. 3, p. 485, l. 24 – l. 25.
[206] FBCU Final Submission, January 31, 2013, p. 115, para. 230.

1   Commission in the past, he added a floatation cost allowance of 0.50%. Second, he added a

2   0.40% credit spread adjustment to account for credit market conditions. He explained:

3   "At the current point in time A spreads are at 180 bps or 80bps more than normal or
4   average for the business cycle, this would indicate that the fair ROE should increase by
5   0.40% for this credit market effect. This adjustment in turn is very similar to that allowed
6   by regulators during the financial crisis over their normal CAPM estimate. I regard this
7   sort of adjustment as converting the CAPM into a conditional CAPM where the CAPM
8   holds conditional upon the state of the financial markets."[207]

9   AMPC/CEC submits that these are prudent adjustments consistent with the objective of

10   ensuring that FEI's fair ROE reflects current capital market conditions.

11   **(f)**   **Results**

12   The following table summarizes Dr. Booth's results:

	Risk-Free Rate	Relative-Risk Adjustment	Market Risk Premium	Credit Spread Adjustment	Flotation Cost Allowance	Result
Lower-End	3.8%	0.45	5.0%	0.40%	0.50%	6.95%
Upper-End	3.8%	0.55	6.0%	0.40%	0.50%	8.00%
Average						7.48%

13

14   Material filed by FBCU in this proceeding offers the Commission an opportunity to check this

15   result against an independent source. ██████████████████████████

██   ██████████████████████

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[207] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 81.
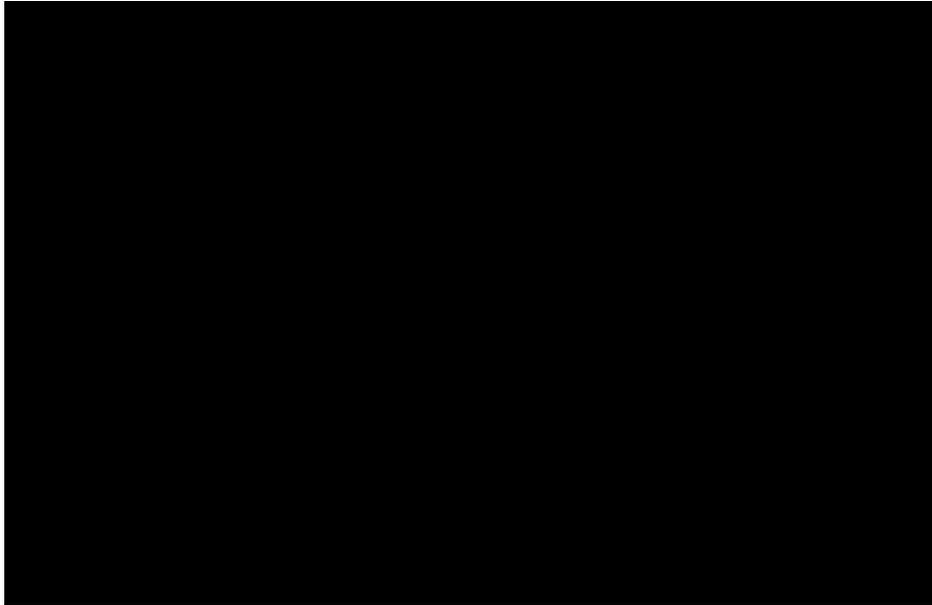
10   **6.6   DCF Analysis Results**

11   **(a)   The Model**

12   The standard DCF model is expressed as:

$$K = \frac{d_1}{P_0} + g$$

13

14   It says that the investor's required rate of return (K) can be estimated as the expected dividend
15   yield (d1/P0) plus the expected growth rate in dividends (g).

16

1   **(b)   Dr. Booth's DCF Analysis**

2   Using the DCF model, Dr. Booth calculated the fair return **on the equity market as a whole** to

3   be **9.30%** in Canada and at least 0.50% higher in the US. He did not use the DCF model to

4   estimate returns for individual stocks since, in his view, DCF estimates for the market as a

5   whole are more reliable than for individual companies due to the significant measurement error

6   attached to forecasting future growth rates.[208]

7   His DCF analysis is presented in Appendix D of his evidence, and is summarized as follows:

8   "[T]he average ROE of corporate Canada back to 1987 has been about 9.2% and the
9   median 9.70%. Multiplying these ROEs by the retention rates gives a sustainable growth
10   rate range of 4.7% (0.50*9.2) - 6.1% (.63*9.70) which brackets the estimate of 5.5% from
11   the long run GDP growth rate. However, given the recent higher ROEs and retention
12   rates flowing from higher commodity prices I would judge 6.1% to be a reasonable
13   forward estimator. If this is combined with the current TSX dividend yield of 3.00%, the
14   DCF estimate for the market as a whole is 9.28% ((1.061*1.03)-1)."[209]

15   Dr. Booth then used the results of this analysis to inform his CAPM estimate of the fair ROE,

16   specifically, the market return used to calculate the MRP and the appropriate magnitude of the

17   Operation Twist adjustment.[210] He explained the relationship between his CAPM analysis and

18   his DCF analysis as follows:

19   "Ultimately all estimates have to be anchored by the fair return on the market and the
20   acknowledgement that utilities are low risk, so their fair return must be below that of the
21   market…In the CAPM the market return comes from the market risk premium over the
22   long term bond yield, which currently would be 5.0-6.0% + 3.0% or 8.0-9.0%. It is the
23   DCF analysis that estimates this as closer to 9.0-9.30% that indicates that the Operation
24   Twist adjustment of 0.80% is in the right ball park. Once the market return is anchored, it
25   is up to the utility risk adjustment to move the market return down to a level appropriate
26   for low risk utilities."[211]

27   An expected equity market return of 9.3% is consistent with the forecasts of 9.0% by both

28   Towers Watson (FEI's actuary) and TD Economics.[212] Moreover, three other credible and

29   independent sources on the record in this proceeding support an overall equity market return in

30   the neighborhood of 9.3%.

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[208] Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix D, p. 14.
[209] Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix D, p. 9.
[210] See Tr. 8, p. 1490, l.8 to p. 1491, l. 23.
[211] Exhibit C6-15, BCUC-AMPC (Booth) IR 37.1.
[212] See Exh bit B1-11, FBCU Response to BC Utility Customers IR 1, IR 7.1 for the Towers Watson forecast and Exhibit A2-30 for
       the TD forecast.

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19   While the volume of evidence included in this portion of this Final Submission verges on overkill,

20   the message is clear: there is ample support for Dr. Booth's results.

21   **(c)   Comments on the DCF Estimates by FBCU's Witnesses**

22   Ms. McShane and Dr. Vander Weide used various forms of DCF-based tests to arrive at the

23   following ROE estimates:

24

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26

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[213] Appendix A-11-2, FBCU Evidence, Confidential Appendices, ████████████████████████████████

[214] Appendix A-11-3 FBCU Evidence, Confidential Appendices, ██████████████████████

[215] As shown at Exhibit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, Sch. 10, p. 1.

[216] See Appendix A-11-3, FBCU Evidence, Confidential Appendices, ███████████████████████

[217] Appendix A-11-3, FBCU Evidence, Confidential Appendices, ███████████████████████

Witness	Test	Basic Cost of Equity	Return on Equity (incl. financing adjustment)
Ms. McShane	Discounted Cash-Flow Test (an average of the results from three different models)	9.4%	9.9%
	DCF-Based Risk Premium Model	9.6%	10.1%
Dr. Vander Weide	DCF for Comprehensive Group of US Utilities	9.8%	10.3%
	DCF for Small Group of US Utilities with Mostly Regulated Assets	9.5%	10.0%

1

2 An immediate concern is that these results *exceed* the expected return on the *entire Canadian*

3 *equity market*, not only compared to Dr. Booth's forecast of 9.3%, but also considered against

4 the views of FEI's actuary (9.0%) and the other independent sources discussed in the previous

5 section. Dr. Booth explained why this is simply illogical:

6 "Ultimately all estimates have to be anchored by the fair return on the market and the
7 acknowledgement that utilities are low risk, so their fair return must be below that of the
8 market. This means a fair return for a utility has to be below about 9.0%, so a benchmark
9 utility ROE of say 10.0% is clearly not anchored in any meaningful way to current market
10 conditions and is inconsistent with the legal standard in Canada."[218]

11 A second concern stems from Ms. McShane and Dr. Vander Weide's reliance on analysts'

12 earnings growth forecasts. In contrast to Dr. Booth, who used sustainable growth rate

13 estimates for his DCF analysis, Dr. Vander Weide used "analysts' estimates of future earnings

14 per share ('EPS') growth" to estimate the growth component of his quarterly DCF model.[219] In

15 Ms. McShane's case, she used analysts' EPS forecasts in one of the three models that factor

16 into her overall DCF test results, as seen in the following table:[220]

Table 30

	Constant Growth		Three-Stage Model
	Analysts' EPS Forecasts	Sustainable Growth	
U.S. Utilities	9.3%	8.7%	9.2%
Canadian Utilities	11.0%	N/A	8.6%

Source: Schedules 19-23.

17

18 Relying on analysts' earnings growth forecasts is problematic because there is a "well-known

19 optimism bias attached to analyst forecasts, which means that growth forecasts are generally

20 too high."[221] A 2007 study by Easton and Sommers confirmed this and concluded that, on

[218] Exhibit C6-15, BCUC-AMPC (Booth) IR 37.1.
[219] Exhibit B1-9-6, FBCU Evidence, Appendix G, Vander Weide Evidence, pp. 27-28.
[220] Exhibit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, p. 113.
[221] Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix D, p. 15.

1   average, expected rates of return based on analysts' earnings forecasts are 2.84% higher than

2   those based on current earnings realizations.[222] The bias is also confirmed by reference to the

3   actuarial and capital market reports by Towers Watson, ███████████████████, which

4   show comparable or lower forecast returns for the market as a whole.

5   Due to this concern, the AUC made the following finding in its 2011 decision:

6   "In 2009, the Commission expressed concern about the potential upward bias in analysts'
7   growth estimates. However, Ms. McShane argued that, as long as investors believe the
8   optimistic forecast, they would price the securities lower (resulting in a lower dividend
9   yield) and the DCF test would still be an unbiased estimate of investor required
10   returns…In the Commission's view, this line of reasoning does not resolve the issue
11   because there is no evidence that investors believe optimistic forecasts. Therefore, the
12   Commission remains concerned with the potential upward bias in analysts' growth
13   estimates."[223]

14 Consequently, AMPC/CEC submits that this potential upward bias may have inflated FEI's DCF

15 estimates above a figure that would be consistent with a fair return. It might explain why Ms.

16 McShane's ROE for Canadian utilities is 8.6% under her 3-stage model, versus 11.0% under

17 her constant growth model, which uses analysts' EPS forecasts.

18 Analyst growth estimates are also extremely variable. As the Brattle Group wrote, "the DCF

19 model is highly sensitive to the growth rate estimates, which can vary widely among analysts,

20 and that variation may increase in times of greater economic uncertainty."[224]   Schedule 19 to

21 Ms. McShane's report, which lists the analyst estimates she used in her DCF analysis,

22 illustrates just how inconsistent these figures are (for example, the growth estimates for

23 Piedmont Natural Gas range from 2.5% to 5.2%). Due the volatility and potential upward bias

24 they inject into a DCF analysis, if the Commission decides to place any weight on the DCF

25 models, it should consider discounting the results derived from analyst growth estimates.

26 A final concern with Ms. McShane and Dr. Vander Weide's DCF results is their heavy reliance

27 on US data, for the reasons discussed in Section 6.4(b). In 2009, the Commission saw fit to

28 "reduce its DCF estimate by between 50 and 100 basis points" after accepting Dr. Booth's

29 evidence that the risk premium required by US utilities is between 90 and 100 basis points more

30 than utilities in Canada.[225] AMPC/CEC submits that this adjustment was warranted and should

31 be repeated by this Commission. In fact, in Dr. Booth's view, "[t]his over-estimate has probably

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[222] Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix D, p. 16.
[223] AUC, 2011 Generic Cost of Capital Decision 2011-474, December 8, 2011, para. 86 [emphasis added].
[224] Exhibit A2-3, Brattle Group Report, p. 4.
[225] 2009 Decision, p. 51.

1 increased since 2009 due to the divergent paths taken in the US versus Canada,"[226] and

2 therefore a larger adjustment may be necessary.

3 **6.7   Comparable Earnings Results**

4 For the reasons given in Section 6.3(c), AMPC/CEC submits that the comparable earnings

5 approach should be disregarded by the Commission. In Appendix E of his report, Dr. Booth

6 summed up his comparable earnings evidence in the following manner:

> 7 "My comparable earnings evidence is therefore to allow an average ROE of 9.30% for
> 8 Corporate Canada as a whole, which is approximately the long run equity return for the
> 9 TSX Composite. Like the overall stock market return this then needs to be lowered for the
> 10 lower risk attached to regulated utilities."[227]

11 **6.8   Conclusions on a Fair ROE for FEI**

12 In its Final Submission, FBCU lists seven main arguments concerning a fair ROE for FEI.[228]

13 Section 6 has addressed these points, and shows there is good cause for dismissing them all.

14 Dr. Booth recommends a fair ROE for FEI of 7.50% based on the CAPM and a DCF analysis of

15 the Canadian equity market as a whole. His forecasted return on the Canadian equity market

16 (9.3%) and market risk premium (5.0-6.0%) are supported by several credible and independent

17 sources. Furthermore, he adjusted for the relative risk of utility equities using a beta coefficient

18 (0.45-0.55) that is both sensible, in that recognizes that utility stocks have historically been

19 exposed to about half of the risk of the overall market, and generous, in that Canadian utility

20 betas have actually been much lower since 2009.

21 The ROEs recommended by FBCU's witnesses should be approached with an appropriate level

22 of caution, for the following reasons:

23   (1) They relied heavily on US utility data, and their results are therefore neither fair nor

24   reasonable in the Canadian context unless they are adjusted downwards.

25   (2) Dr. Vander Weide, and to some degree, Ms. McShane, relied on analyst growth

26   estimates to derive their DCF results. These forecasts, as the AUC recently recognized,

27   may taint ROE results with an upward bias.

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[226] Exhibit C6-15, BCUC-AMPC (Booth) IR 36.2.
[227] Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix E, p. 7.
[228] See FBCU Final Submission, January 31, 2013, p. 89.

1   (3) Ms. McShane's ERP analysis relied on a very high relative risk adjustment of 0.65-0.70.

2   Actual Canadian utility betas have not been anywhere near this high in *decades*,[229] so it

3   is difficult to see how this could produce a reasonable ROE for FEI.

4   (4) Ms. McShane's average ROE was inflated by using the comparable earnings

5   methodology, an approach which has been widely rejected.

6   (5) Overall, their recommended ROEs for FEI exceed what Dr. Booth and several other

7   credible sources expect the return on the entire Canadian equity market to be.

8

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[229] See, for example, Ms. McShane's table of "raw" betas at Exhbit B1-9-6, FBCU Evidence, Appendix F, McShane Evidence, Sch. 14, p. 1. See also Dr. Booth's graph of average utility betas going back to 1985 at Exhibit C6-12, AMPC Evidence, Booth Evidence, Appendix E, p. 17.

7. AUTOMATIC ADJUSTMENT MECHANISM

In 2009, the Commission eliminated the AAM at the request of the Terasen Utilities. Prior to then, the BCUC had used an AAM since 1995. For this proceeding, the Commission has asked whether the re-establishment of an AAM is warranted.

7.1 AMPC/CEC's Position on Returning to an AAM

AMPC/CEC supports a return to an AAM: the massive amount of financial and human resources devoted to this proceeding reinforces the benefit of an AAM for the concerned ratepayers who act as interveners, the Commission, taxpayers, the benchmark utility, and its shareholders. Only the Commission will be familiar with the total extent of the cost of this proceeding, but this much is clear: the efficiency benefit of an AAM has never been more relevant than it is now.

The Commission's decision to abandon the AAM in 2009 was directly related to the effects of the financial crisis. It found that the AAM, as it then existed, would not provide a fair ROE for TGI because "in particular the recent flight to quality has driven down the yield on long-term Canada bonds, while the cost of risk has been priced upwards."[230] As Dr. Booth explained in his evidence for the current proceeding:

> "The key problem with the "old" ROE adjustment models was that they *only* linked the ROE to the forecast long Canada yield. As a result, during the financial crisis the ROE formula indicated declining ROEs while at the time the utility cost of debt was increasing. An enhanced ROE formula has to deal with this…"[231]

It is important to remember that until the onset of the *extraordinary* events of 2008-2009, Canadian regulatory boards were generally content that their automatic ROE adjustment formulae were producing appropriate ROEs.[232] Therefore, the question for this Commission is what formula will allow it to return to an AAM, while ensuring that results are fair in light of the current financial conditions and the conditions FEI might encounter going forward.

Dr. Booth has answered this question by developing an "enhanced ROE formula", which he presented beginning on page 97 of his evidence. The key to this two-variable formula is that, in addition to setting a floor on the LTC yield, it incorporates a credit market adjustment. By doing

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[230] 2009 Decision, p. 73.
[231] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 97 [emphasis in original].
[232] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 95.

1   so, it addresses the major complaint levelled at the old ROE formulae; namely, that during

2   periods of crisis the allowed ROE and utility borrowing costs move in opposite directions.[233]

3   Taking 7.50% as a starting fair ROE (though note that this formula is not tied to Dr. Booth's

4   recommended ROE), the formula would be as follows:

5   ROE = 7.50 + 0.50*(Spread-1.80%) + 0.75*(max(Forecast LTC Yield, 3.80%) –3.80%)[234]

6   Thus, the ROE will change by 50% of the change in credit spread from 1.80% and increase by

7   75% of the change in the forecast LTC yield above 3.80%.

8   AMPC/CEC submits that this enhanced formula responds to the concerns the Commission

9   expressed in 2009 and provides a strong foundation on which to return to an AAM.

10   **7.2   Response to FBCU's Submission on an AAM**

11   FBCU opposes a return to an AAM. In its view:

12   (1) there will be no efficiency benefits if there are to be periodic reviews in any event;

13   (2) an AAM will not meet the Fair Return Standard in the intervening years until the next

14   cost of capital hearing since it relies on imperfect proxies and current conditions are

15   particularly problematic; and

16   (3) Dr. Booth's proposed formula is "biased downwards".[235]

17   Each of these arguments are flawed.

18   FBCU's first ground for opposing an AAM, namely that there is no efficiency to be gained, rests

19   on the illogical assumption that periodic cost of capital reviews should occur with the same

20   frequency with or without an AAM. An AAM reduces the frequency at which periodic reviews

21   are necessary. For example, FBCU suggests that 3-5 years is a reasonable gap between

22   comprehensive ROE reviews.[236] If the Commission agrees with that proposition, an AAM would

23   in all likelihood allow the Commission conduct reviews at intervals closer to five years, rather

24   than every three years. The efficiency benefits for all parties involved would be considerable.

25   Furthermore, as Dr. Booth explained:

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[233] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 99.
[234] Note that Dr. Booth's original report used a spread of 1.86%, but as he discussed in IR 30.1 of Exhibit C6-16, the spread dropped
        from 1.86% to 1.80% during the preparation of his testimony and thus 1.80% is the proper starting spread to use.
[235] See FBCU Final Submission, January 31, 2013, pp. 153-161.
[236] FBCU Final Submission, January 31, 2013, p. 161, para 339.

1 "The BCUC utilities have been allowed a 9.5% ROE for the last three years at a time
2 when the fair ROE has undoubtedly dropped. It is almost impossible to think of a situation
3 where objective market estimates of the fair ROE, such as long term corporate A bond
4 yields, have dropped so much without a commensurate drop in the opportunity cost of
5 investing in Canadian utilities. The dramatic increase in the PE ratios for utility stocks,
6 relative to the market as a whole, simply confirms this statement. However, this process
7 can quickly reverse causing the same utilities to be allowed sub-par ROEs. An automatic
8 adjustment formula avoids this problem without the need for a new hearing."[237]

9 Under its second ground for opposing an AAM, FBCU says that a formula would rely on

10 "imperfect proxies" for, among other things, judgment. Specifically, it argues:

11 As is evident from the scope of the present proceeding, the Fair Return Standard
12 requires a significant degree of analysis, market information, and judgment in its
13 implementation. Setting the required return to meet the Fair Return Standard is inevitably
14 a matter of both analysis and judgment, both of which are circumscribed when a formula
15 is in use.[238]

16 Earlier in its Final Submission, FBCU chastised Dr. Booth for employing judgment.[239] It did so

17 even though, as Dr. Booth explained during cross-examination, where he did use judgment, it

18 was "judgment constrained by the facts".[240] Now, in a stark reversal, FBCU is espousing the

19 importance of using a "significant" degree of judgment when determining a fair return. This

20 inconsistency calls into question both FBCU's criticism of Dr. Booth's evidence and its position

21 on an AAM. Nevertheless, if there are reasonable grounds to believe that the mechanism is not

22 producing fair results, the benchmark utility always has the option of asking for a review, not as

23 a matter of routine, but out of necessity.

24 FBCU also submits that "[e]ven if the Commission sees value in AAMs generally, this is not the

25 time to implement one [because] we are in the midst of an unusual business cycle, at least as

26 far as interest rates are concerned."[241] However, Dr. Booth's formula obviates this concern,

27 since the *minimum* input for the LTC yield is 3.80%. As a result, the formula acts like a fixed

28 rate ROE until LTC yields revert to normal. Thereafter, the formula performs in a way consistent

29 with those used by both the Régie in Québec and the OEB in Ontario.[242] In this way, Dr. Booth's

30 formula combines the benefit of a fixed ROE during this period of low interest rates and an

31 adjustment mechanism for periods when conditions are more typical.

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[237] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 102 [emphasis added].
[238] FBCU Final Submission, January 31, 2013, p. 156, para. 323.
[239] See for example FBCU Final Submission, January 31, 2013, p. 140, para. 289.
[240] Tr. 8, p. 1541, l. 24 – l. 26.
[241] FBCU Final Submission, January 31, 2013, p. 157, para. 327.
[242] Exhibit C6-12, AMPC Evidence, Booth Evidence, p. 3.

1   Finally, FBCU's third ground for opposing an AAM is that, in its view, Dr. Booth's formula is

2   "biased downwards".[243] Dr. Booth recommends a floor that is well above current LTC yields to

3   ensure that the AAM is not biased downwards. Paradoxically, in the very next line after it

4   alleges a downward bias, FBCU seems to recognize this, stating: "The current long Canada

5   bond yield is approximately 2.4%, well *below* the floor of 3.8% that Dr. Booth employs."[244]

6   FBCU also disapproves of the fact that, under the proposed formula, the allowed ROE may

7   decline *if* the credit spread declines.[245] But just because an AAM might decrease the allowed

8   ROE if conditions change does not mean it is biased downwards. If credit spreads narrow, this

9   would indicate that the impact of Operation Twist is lessening. This in turn implies that fair rates

10   of return are declining, in which case the allowed ROE should come down. An AAM that can

11   only produce a greater ROE than the last one would certainly give FEI the "margin of comfort" it

12   seeks, but would not be in accordance with even the most utility-friendly views of the Fair

13   Return Standard.

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[243] FBCU Final Submission, January 31, 2013, p. 160, para. 335.
[244] FBCU Final Submission, January 31, 2013, p. 160, para. 336 [emphasis added].
[245] FBCU Final Submission, January 31, 2013, p. 156, para. 323

1 **8. PROCEDURAL COMMENTS**

2 AMPC/CEC is concerned by the increasing complexity and cost of hearings related to capital

3 structure and return on equity. To a large extent, the increased complexity and cost have been

4 brought on by utilities calling more witnesses who add little incremental value. The extra

5 evidence also leads to longer and less focused arguments, all with their associated costs.

6 Unfortunately, the increasing costs of a GCOC proceeding are usually borne by the customers

7 and not the utility.

8 Although AMPC/CEC disagrees with Ms. McShane's evidence, it was comprehensive and when

9 coupled with FEI's filed evidence and testimony from its Panel, should have been enough. The

10 other FBCU witnesses added little incremental value, but took up a significant amount of time

11 and, AMPC/CEC suspects, added significantly to the cost. This, in turn, is reflected in the

12 extreme length of FBCU's Final Submission. The Commission should take this into account

13 when it considers the costs of this proceeding that FEI should recover from ratepayers. In the

14 future, the Commission should consider limiting the number of utility experts eligible for cost

15 recovery in proceedings of this sort.

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9.   CONCLUSION AND ORDER SOUGHT

FEI's overall business risk has declined significantly since 2009. In particular, the price competitiveness of natural gas versus electricity is much stronger than it was in 2009 (or in 2005), and the competitive advantage this gives FEI is likely to increase even further going forward as electricity costs escalate. Moreover, the non-price risks FEI faces are the same, or in some cases lower, than they were in 2009. Notably, FEI's total throughput (though not really cause for concern in the first place) has been increasing, the NGT opportunity stands to create a new source of demand, and the political climate in this province has shifted in favour of natural gas.

The Commission appropriately initiated this proceeding in response to changes in the capital markets since the 2009 decision. While FEI enjoyed good access to capital on reasonable terms back in 2009, the financial crisis that occurred immediately before the 2009 proceeding was clearly on the Commission's mind. The current favourable state of the capital markets is reflected in the fact that utilities have been issuing debt at very low rates for very long terms, in some cases as long as fifty years. It is also reflected in the fact that the DCF-based risk premium estimates produced by FBCU's witnesses have declined considerably since the last proceeding, indicating that the cost of equity capital has fallen.

With its business risk much reduced and the financial climate much improved, there is no doubt that FEI's common equity ratio should come down from the 40% awarded in 2009. While comparisons are of limited import, the fact that Ontario's major gas distributers were recently confirmed at 36%, and the fact that Gaz Métro (a company that faces far more risk than FEI) is at 38.5%, reinforce the conclusion that FEI's common equity ratio is simply too high.

To determine the fair ROE for FEI, the Commission should place greater weight on the CAPM relative to the DCF approach (but at the very least should weigh the two equally), and should continue to assign little or no weight to the Comparable Earnings test. Dr. Booth's recommended ROE was grounded on two tests (CAPM and DCF), based on reasonable data and assumptions, and confirmed against several independent and credible sources. The figures put forth by FBCU's witnesses should be scrutinized for their reliance on US utility data, analyst growth estimates, and in some cases, discredited methodologies. Moreover, their ROEs are unreasonably high in light of the outlook for the overall Canadian equity market.

AMPC/CEC supports a return to an AAM: the extent of the resources devoted to this proceeding suggests that an AAM is necessary now more than ever. The enhanced formula Dr.

1   Booth has proposed responds to the concerns the Commission expressed in 2009 and is able

2   to accurately account for market conditions, be they a typical or typical. It provides a strong

3   foundation on which to return to an AAM.

4   AMPC/CEC submits that the evidence before the Commission in this proceeding supports a fair

5   ROE of 7.50% for FEI based on a common equity ratio of 35%.

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7   ALL OF WHICH IS RESPECTFULLY SUBMITTED.

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10   R. Brian Wallace, Q.C.

11   Counsel

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