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August 13, 2013

Via Email
Original via Mail

British Columbia Public Interest Advocacy Centre
Suite 209 – 1090 West Pender Street
Vancouver, B.C.
V6E 2N7

Attention: Ms. Tannis Braithwaite, Acting Executive Director

Dear Ms. Braithwaite:

Re: British Columbia Utilities Commission (the Commission) Generic Cost of Capital (GCOC) Proceeding – Stage 2

FortisBC Energy (Vancouver Island) Inc. (FEVI) and FortisBC Energy (Whistler) Inc. (FEW) Response to the British Columbia Public Interest Advocacy Centre on behalf of the British Columbia Pensioners' and Seniors' Organization *et al* (BCPSO) Information Request (IR) No. 1

In accordance with the Regulatory Timetable set out for Stage 2 of the GCOC proceeding by Commission Order G-77-13, FEVI-FEW respectfully submit the attached response to BCPSO IR No. 1.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY (VANCOUVER ISLAND) INC. and
FORTISBC ENERGY (WHISTLER) INC.

Original signed:

Diane Roy

Attachments

cc (email only): Commission Secretary
Registered Parties

1.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, page 1

Preamble: The referenced page states:

The Commission recognized in the 2009 Terasen Gas Inc., Terasen Gas (Vancouver Island) Inc. and Terasen Gas (Whistler) Inc. Application to Determine the Appropriate Capital Structure and Return on Equity Decision (2009 Decision) that FortisBC Energy (Vancouver Island) Inc. (FEVI) and FortisBC Energy (Whistler) Inc. (FEW) are subject to

higher overall business risk and set the risk premia for FEVI and FEW at 50 basis points greater than the benchmark FEI. The Commission also noted:

"It [the Commission Panel] also notes that the evidence suggests that both TGVI and TGW have greater long-term business risk than TGI while possessing similar deferral mechanisms to enable them to earn their allowed ROEs in the short term. The Commission Panel further notes Ms. McShane's testimony that both utilities require greater equity thickness than 40%."

1.1 Please provide a list of deferral accounts approved for (i) FEVI (TGVI), (ii) FEVI (TGVI), and (iii) FEI (TGI) as approved in the 2009 Decision.

<u>Response:</u>

The Commission did not approve any new deferral accounts for FEI, FEVI or FEW specifically in the December 16, 2009 Return on Equity and Capital Structure Decision as approved through Order G-158-09. However, to provide a more fulsome answer, the FEU interpret this question as a request to provide a listing for the approved deferral accounts for each of FEI, FEVI, and FEW as of 2009 and, consequently, has provided the table below.

RATE BASE			
Margin Related	**FEI**	**FEVI**	**FEW**
Commodity Cost Reconciliation Account ("CCRA")	X		
Midstream Cost Reconciliation Account ("MCRA")	X		
Revenue Stabilization Adjustment Mechanism ("RSAM")	X		X
Interest on CCRA/MCRA/RSAM/Gas in Storage	X		
Revelstoke Propane Cost Deferral Account	X		
SCP Mitigation Revenues Variance Account	X		
Gas Cost Variance Account ("GCVA")		X	
Gas Cost Reconciliation Account ("GCRA")			X
Sales Margin Differential			X
Energy Policy Related			
Energy Efficiency & Conservation ("EEC")	X	X	
NGV Conversion Grants	X	X	
Non-Controllable			
Property Tax	X		X
Insurance Variance	X	X	
Pension & OPEB Variance	X	X	
BCUC Levies Variance	X	X	
Interest Variance	X		X
Tax Variance	X		
Accounting Change Related Deferrals	X	X	X
Application Costs	X	X	X
Other			
Earnings Sharing Mechanism	X		
PCEC Start Up costs		X	
Whistler Pipeline Conversion			X
Capital Contribution to FEVI			X
Residual Deferrals	X	X	X
NON-RATE BASE			
Thermal Energy Services Deferral Account ("TESDA")	X		
Commodity Unbundling	X		
Lochburn Land Sale	X		
IFRS Revenue Requirement Adjustment	X	X	X
2010-2011 Customer Service O&M and COS	X	X	X
Rate Stabilization Deferral Account ("RSDA")		X	
2009 Revenue Surplus		X	

1.2 Please provide a list of deferral accounts currently approved for (i) FEVI, (ii) FEVI, and (iii) FEI.

Response:

The table below summarizes the approved deferral accounts in rate base currently, or approved to be recorded in rate base beginning January 1, 2014, as of July 31, 2013 for each of FEI, FEVI and FEW. It also summarizes the currently approved non-rate base deferral accounts as of July 31, 2013. Note that FEVI does not have some of the mechanisms that FEI and FEW do, since it employs the RSDA mechanism that captures many of the same items as the other two utilities. In other cases, deferral accounts are restricted to one utility because they are specific to circumstances that exist in that utility (for example, deferrals related to CNG/LNG and Biomethane programs in FEI). Finally, as discussed in the Stage 1 evidence, a number of the items captured in the "Other" category result from changes in accounting policies, and capture items that had been recorded in 2009 as part of Property, Plant and Equipment.

RATE BASE			
Margin Related	**FEI**	**FEVI**	**FEW**
Commodity Cost Reconciliation Account ("CCRA")	X		X
Midstream Cost Reconciliation Account ("MCRA")	X		X
Revenue Stabilization Adjustment Mechanism ("RSAM")	X		X
Interest on CCRA/MCRA/RSAM/Gas in Storage	X		X
Revelstoke Propane Cost Deferral Account	X		
SCP Mitigation Revenues Variance Account	X		
Gas Cost Variance Account ("GCVA")		X	
Energy Policy Related			
Energy Efficiency & Conservation ("EEC")	X	X	X
NGV Conversion Grants	X	X	
Emissions Regulations	X	X	X
Biomethane Program Costs	X		
NGT Incentives	X	X	
Fuelling Stations Variance Account	X		
Rate Schedule 16 Cost & Recoveries	X		
Non-Controllable			
Property Tax	X		X
Insurance Variance	X	X	
Pension & OPEB Variance	X	X	
BCUC Levies Variance	X	X	
Interest Variance	X		X
Tax Variance	X		X
Depreciation Variance	X		X
Customer Service Variances	X	X	X
Accounting Related Changes	X	X	X
Vancouver Island HST Implementation		X	
Application Costs	X	X	X
Other			
2010-2011 Customer Service O&M and COS	X	X	X
Gas Assets Records Project	X	X	X
BC OneCall Project	X	X	X
Gains and Losses on Asset Disposition	X	X	X
Negative Salvage Provision/Cost	X	X	X
PCEC Start Up costs		X	
Whistler Pipeline Conversion			X
Capital Contribution to FEVI			X
Pipeline Contribution Costs Variance Account			X
Residual Deferrals [1]	X	X	X
NON-RATE BASE			
Thermal Energy Services Deferral Account ("TESDA")	X		
Biomethane Variance Account ("BVA")	X		
EEC Incentives	X		
EEC Incentives for AES/TES	X		
KORP Feasibility Costs	X		
On-Bill Financing Pilot Program	X		
Rate Stabilization Deferral Account ("RSDA")		X	
PEC Pipeline		X	

1 - In addition, the utilities have a number of "residual" deferral accounts that are no longer capturing variances but contain a residual balance to be amortized and then the accounts will be discontinued.

1

Other			
2010-2011 Customer Service O&M and COS	X	X	X
Gas Assets Records Project	X	X	X
BC OneCall Project	X	X	X
Gains and Losses on Asset Disposition	X	X	X
Negative Salvage Provision/Cost	X	X	X
PCEC Start Up costs		X	
Whistler Pipeline Conversion			X
Capital Contribution to FEVI			X
Pipeline Contribution Costs Variance Account			X
Residual Deferrals [1]	X	X	X
NON-RATE BASE			
Thermal Energy Services Deferral Account ("TESDA")	X		
Biomethane Variance Account ("BVA")	X		
EEC Incentives	X		
EEC Incentives for AES/TES	X		
KORP Feasibility Costs	X		
On-Bill Financing Pilot Program	X		
Rate Stabilization Deferral Account ("RSDA")		X	
PEC Pipeline		X	

1 - In addition, the utilities have a number of "residual" deferral accounts that are no longer capturing variances but contain a residual balance to be amortized and then the accounts will be discontinued.

1.3 In FEI's view has FEW become more risky relative to FEVI since 2009?

Response:

As stated in the Stage 2 Evidence, Exhibit B1-71, Appendix A, Page 27 states "In comparing FEW to FEVI, the overall business risk of FEW is somewhat higher primarily because FEW is much smaller than FEVI, and it has a more highly concentrated customer demographic and asset base". However, these factors have not fundamentally changed since 2009, so FEI would not conclude that FEW has become more risky relative to FEVI since 2009.

2.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendices D and E

2.1 Please confirm that neither of the credit rating agencies provided a rating for FEW.

Response:

Confirmed.

3.0 Reference: Exhibit B1-71. FEVI-FEW Evidence, General

3.1 In the event that the "Reconsideration Proceeding" results in approval of amalgamation and common rates, would FEI apply for a change to its benchmark rates? If so, would FEI rely on the evidence provided in this proceeding?

Response:

The FEU have recommended a weighted average Capital Structure and ROE of the pre-amalgamated entities for the amalgamated FEI. FEI pre-amalgamation would still be considered the benchmark utility. If a weighted average was adopted it should reflect the most recent evidence and decision, of which the Stage 2 GCOC decision would be the most recent evidence of FEVI and FEW cost of capital.

4.0 Reference: Exhibit B-3-1, Common Rates, Amalgamation and Rate Design Application, Appendix C-2

Exhibit B1-71, FEVI-FEW Evidence, Appendix B

Preamble: In the "Common Rates" Application filed on April 11, 2012, Ms. McShane filed evidence dated October 2011that included the following:

As between FEVI and FEW, they are similarly challenged from a competitive perspective. With respect to other utility-specific risks, they are not identical, but there are trade-offs. FEW is a much smaller utility than FEVI and has a more concentrated customer base, while FEVI's supply disruption risk is somewhat higher than FEW's. On balance, the level of long-term business risk faced by the two utilities is sufficiently comparable so that the same common equity ratio would be appropriate for both FEVI and FEW. (pp 15-16)

and

The utility-specific risks faced by FEVI and FEW are not identical, but, given the trade-offs among the different risks to which they are exposed, on balance, the level of long-term business risk faced by the two utilities is comparable. As a result, it would be reasonable to apply the same common equity ratio to both FEVI and FEW. (p. 26)

In the instant proceeding, in evidence dated July, 2013, Ms. McShane now states:

My recommendation is that the BCUC adopt a common equity ratio of 43.5% for FEVI. The 43.5% common equity ratio for FEVI retains the five percentage point differential with FEI adopted in the 2006 ROE Decision.

For FEW, I recommend a 45% common equity ratio to recognize its somewhat higher business risks relative to FEVI. Given FEW's higher business risks relative to FEVI, I would consider a 45% common equity ratio for FEW to be at the lower end of a reasonable range. (pp 21-22)

4.1 Please identify all material changes that have occurred since October 11, 2011, that led Ms. McShane to revise her opinion with respect to the level of long-term business risks faced by FEVI and FEW such that she now believes that the same common equity ratio for both FEVI and FEW is no longer appropriate

Response:

Ms. McShane's recommendations for a somewhat higher common equity ratio and equity risk premium for FEW than for FEVI in this proceeding are based on further refinement of the relative risk analysis and more consideration given to FEW's much smaller size than FEVI compared to the analysis and recommendations made in the amalgamation and common rates proceeding.

5.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix B, page 2

Preamble: Ms. McShane states:

The allowed and actual equity ratios of U.S. gas utilities are appropriate benchmarks for both FEVI and FEW and point to equity ratios in the 50% to 52% range.

5.1 Please explain why U.S. gas utilities provide an appropriate benchmark for any Canadian utilities with respect to common equity ratios.

Response:

Please refer to the responses to BCUC FEVI-FEW IR 1.20.1 and BCPSO FEVI-FEW IR 1.26.1.

6.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix B, page 26, Table 4

6.1 If the "Mid-point of Range of Benchmarks" were 43.5% (instead of 48%), can Ms. McShane confirm that under all three approaches that the "Basis Point Adjustment to ROE for Change in Common Equity Ratio Based on Approach" would be 0 for FEVI?

<u>Response:</u>

If, hypothetically, the mid-point of the range were 43.5%, in isolation, i.e., based solely on the capital structure analysis, the indicated equity risk premium would be zero. Please note, however, that the mid-point of the range is not 43.5% and the recommended risk premium is not based solely on the capital structure theory results.

7.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix B, General

7.1 Does Ms. McShane believe that regulated US gas distributors are, on average, more or less risky than regulated Canadian gas distributors? Please explain.

Response:

On average, Ms. McShane considers that U.S. gas utilities have somewhat higher regulatory risk than Canadian gas utilities as a group, but similar overall risk when capital structure (financial risk) is taken into account. Please note that Ms. McShane is not recommending capital structures or equity risk premiums for the benchmark utility, FEI, in Stage 2 of this proceeding, but for FEVI and FEW, both of which are of higher business risk than FEI.

7.2 On average, does Ms. McShane believe that the average common equity ratios that have been historically approved by Canadian regulators for gas distribution utilities are equal to the average common equity ratios that have been historically approved by U.S. regulators for gas distribution utilities?

Response:

No, on average the equity ratios approved for gas distribution utilities in the U.S. have been higher than for gas distribution utilities in Canada. Please note that Ms. McShane is recommending a common equity ratio for specific Canadian gas utilities, FEVI and FEW, and that the recommended equity ratios for both are lower than the average of U.S. utilities.

7.3 On average, does Ms. McShane believe that the ROEs that have been historically approved by Canadian regulators for gas distribution utilities are equal to the ROEs that have been historically approved by U.S. regulators for gas distribution utilities?

Response:

No, the ROEs that have been allowed in Canada for gas utilities are lower than have been allowed for U.S. gas utilities.

8.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix B, page 28

Preamble: The referenced page states:

For this purpose, although debt ratings are not a perfect proxy for equity risk, they do represent an objective measure of relative risk. I started with the universe of natural gas distribution and electric utilities that are covered by Value Line, which are rated by both Moody's and Standard & Poor's and have sufficient equity market price data to permit the calculation of five-year betas.

8.1 Can Ms. McShane confirm that in using this data to calculate betas and to produce the results shown in Tables 5 and 6, no distinction was made between small and large utilities?

Response:

It is confirmed.

8.2 Please provide a table showing the names, sizes (rate base), and types of utilities (gas, electric, generation, transmission, distribution) included in the group of utilities chosen by Ms. McShane for the purposes of Tables 5 and 6.

Response:

Please refer to Attachment 8.2 for the requested table. Rate base data were not readily available, so regulated assets were provided as a proxy.

9.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix B, page 30, Table 5

9.1 Can Ms. McShane confirm that the "Means" shown for the "Average Common Equity Ratio" are unweighted averages for the group?

<u>Response:</u>

It is confirmed.

10.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix B, pages 29-31, and Table 5

Preamble: Page 29 includes the following:

The first group, with both ratings in the A category, is intended to be a proxy for the benchmark utility, FEI, both of whose debt ratings are in the A category (A3 by Moody's, A by DBRS).

10.1 Please comment on the fact that the group which Ms. McShane takes as a proxy for FEI exhibits a much higher common equity ratio on average than that of FEI.

Response:

The implication is that, on average, the companies have somewhat higher business risk, offset by lower financial risk, and thus similar total risk.

10.2 Does CAPM theory make any distinctions among firm sizes?

Response:

No.

10.3 Does CAPM as used in Appendix B involve any considerations with respect to the sizes of firms?

Response:

No, as stated in Ms. McShane's testimony at page 32, lines 859-866.

10.4 Please provide a brief discussion of the strengths and weaknesses of the CAPM in theory and in practice.

Response:

The main strengths of the CAPM are that:

1. It has common sense appeal, i.e., that the equity return requirement is equal to a risk-free rate plus a risk premium that compensates for incremental risk, and further, the increment is a proportion of the risk premium applicable to an average risk equity;
2. The model is ostensibly easy to apply;
3. It is the only model that, in theory, provides a framework for the quantification of differences in equity return requirements among companies based on differences in risk;
4. The risk-free rate is observable; and
5. Data for long-run achieved risk premiums are easily accessible and can be easily calculated.

The weaknesses of the model were discussed in detail in Ms. McShane's testimony in Stage 1 (Exhibit B1-9-6, Appendix F) at pages 66-67, lines 1700 to 1762 and Appendix A.

11.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix B, pages 32-35, Size Premium

11.1 Please confirm that Ms. McShane does not rely on the material presented on the referenced pages to support her recommendations regarding equity thickness and risk premiums. If unable to so confirm, please explain fully.

Response:

Ms. McShane has not explicitly adopted any of the size premiums quantified in the studies referenced, but has taken account of the relevance of size as documented in those studies in her assessment of reasonable risk premiums for FEVI and FEW.

12.0 Reference: Exhibit B-1-71, FEVI-FEW Evidence, page 3

Preamble: The utilities write that "as natural gas utilities, customer perception of energy presents similar challenges for all three utilities for retaining and attracting customers even in the current lower natural gas price environment."

12.1 Have FEVI or FEW done any studies to establish a link between customer perceptions of natural gas and customer retention and growth? If so, please provide them.

Response:

The FEU have undertaken a number of studies which measure customer commitment to natural gas. The most recent study, the 2011 Energy Source Usage Preferences Study, measured perceptions of energy choices for home heating; the commitment to these fuels; preferred choices for energy in the future and the motivators for those choices.

The study showed that half of current FEU customers are uncommitted to natural gas and if given a choice of heating method in a new home a significant percentage (64%) of respondents would opt for a heat pump. This finding is reflected in 2010 Residential New Home Study which found that 18% of homes with a gas service, built between 2006 and 2010, had a heat pump as the primary space heating method. In FEVI, 38% of new homes with a gas connection had a heat pump as the primary space heating method.

12.2 Can FEVI or FEW quantify the effects of perception on customer retention and growth? Please explain.

Response:

The 2011 Energy Source Usage Preferences Study and the 2010 Residential New Home Study would indicate a link between perceptions of different fuels and the choice of fuels/heating methods in new homes. However, it is not possible to directly quantify the effects of perception on customer retention and growth.

13.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix A, page 3

Preamble: The utilities state, "The concentration of assets within a small service area makes it more difficult for FEVI and FEW to diversify their risk relative to FEI."

13.1 Please provide a reference or study that supports the utilities' claim that a small service area makes the diversification of risk more difficult.

<u>Response:</u>

Please refer to the response to BCPSO FEVI-FEW IR 1.27.1.

14.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix A, page 3

Preamble: The utilities state that "FEVI and FEW must compete against the same BC Hydro "postage stamp" electricity rates as FEI."

BCPSO would like to know more about the competition that FEVI and FEW face from BC Hydro.

14.1 Please provide a comparison, in graphical and tabular form, of BC Hydro's rates to FEVI"s and FEW's rates over time.

Response:

Please refer to the graphs and tables below that compare FEVI and FEW's rates with BC Hydro's rates from 2009 to present. It is important to note that for the graphs represented below, FEVI and FEW typical annual use rates have been used for comparison purposes. However, the specific consumption patterns of each FEVI and FEW residential premise defines if the natural gas rates would be compared with BC Hydro's Residential Conservation Rate Step 1 or Step 2.

In comparing FEVI rates with BC Hydro rates, it should be noted that historically there was a "soft-cap" rate mechanism in place for FEVI core market customers. Rates were set relative to the cost of alternative energy sources (electricity or fuel oil, whichever was lower), to address competitiveness with alternative energy providers. The margin above the cost of service was used to pay down the Revenue Deficiency Deferral Account (RDDA) balance. This methodology was approved by the Commission in its Decision and Order G-42-03, dated June 5, 2003 (effective January 1, 2003), of FEVI's (formerly Centra Gas) 2002 Rate Design Application, and was in place until the amortization and elimination of the RDDA balance at the end of 2009.

The 2010-2011 FEVI Revenue Requirements and Rate Design Application recommended and the Commission approved that rates be frozen for 2010 and 2011 for core market customers. The surplus revenue that resulted from this rate freeze was captured in a deferral account called the RSDA. The RSDA was intended to accumulate revenue that would later be used to offset the loss of Royalty Revenues and mitigate the impact of forecasted rate increases of approximately twenty percent for residential customers. The FortisBC Energy Utilities (FEU) 2012-2013 Revenue Requirements Application further proposed that Vancouver Island rates remain unchanged for 2012 and 2013; therefore FEVI residential rates have remained unchanged since April 1, 2008, with the exception of the British Columbia Provincial Government Carbon Tax changes.

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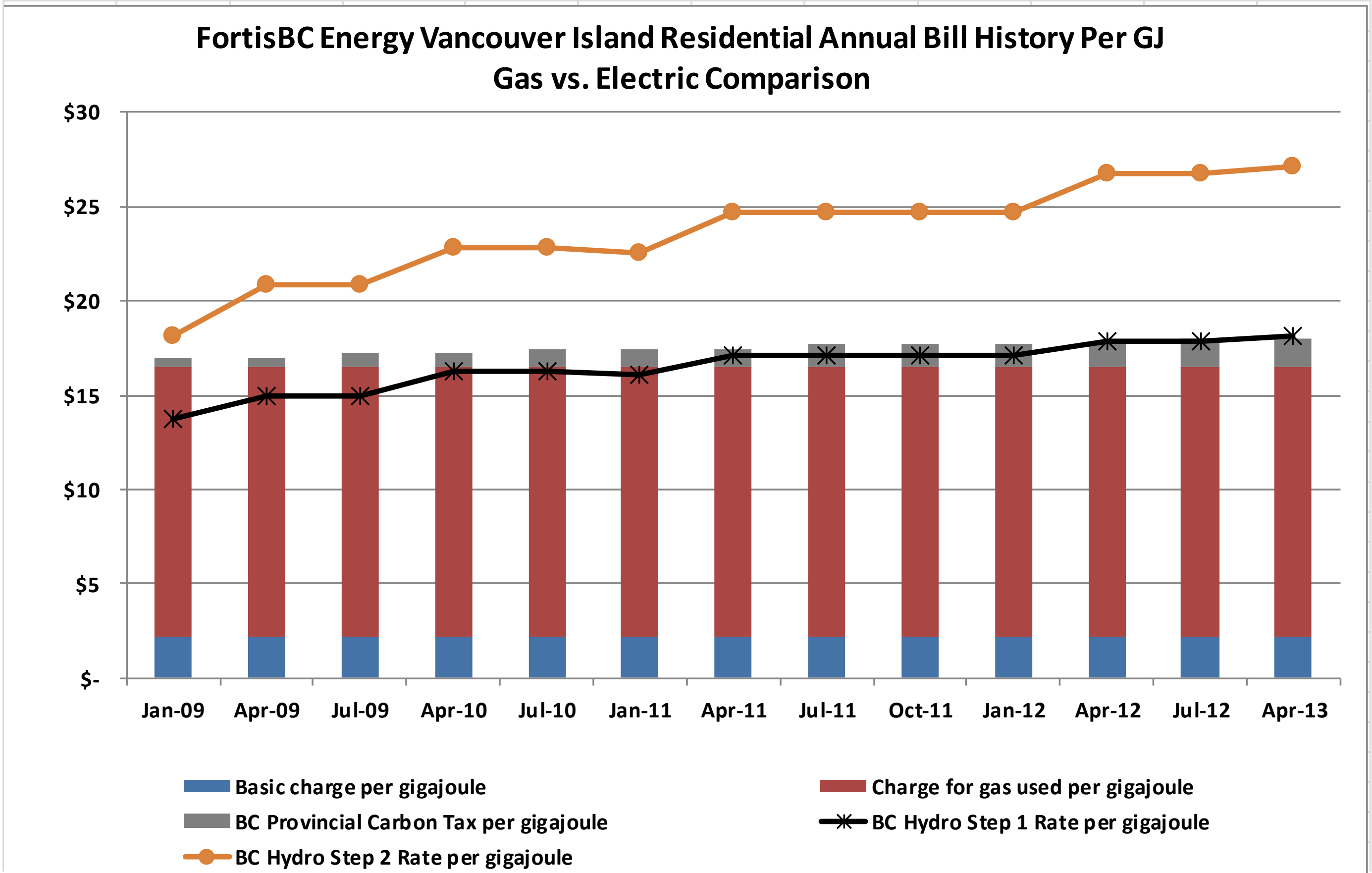


Assumptions:

Natural gas use of 59 GJ

Efficiency of gas equipment is 90% relative to 100% for electricity

FEVI amount includes the basic charge

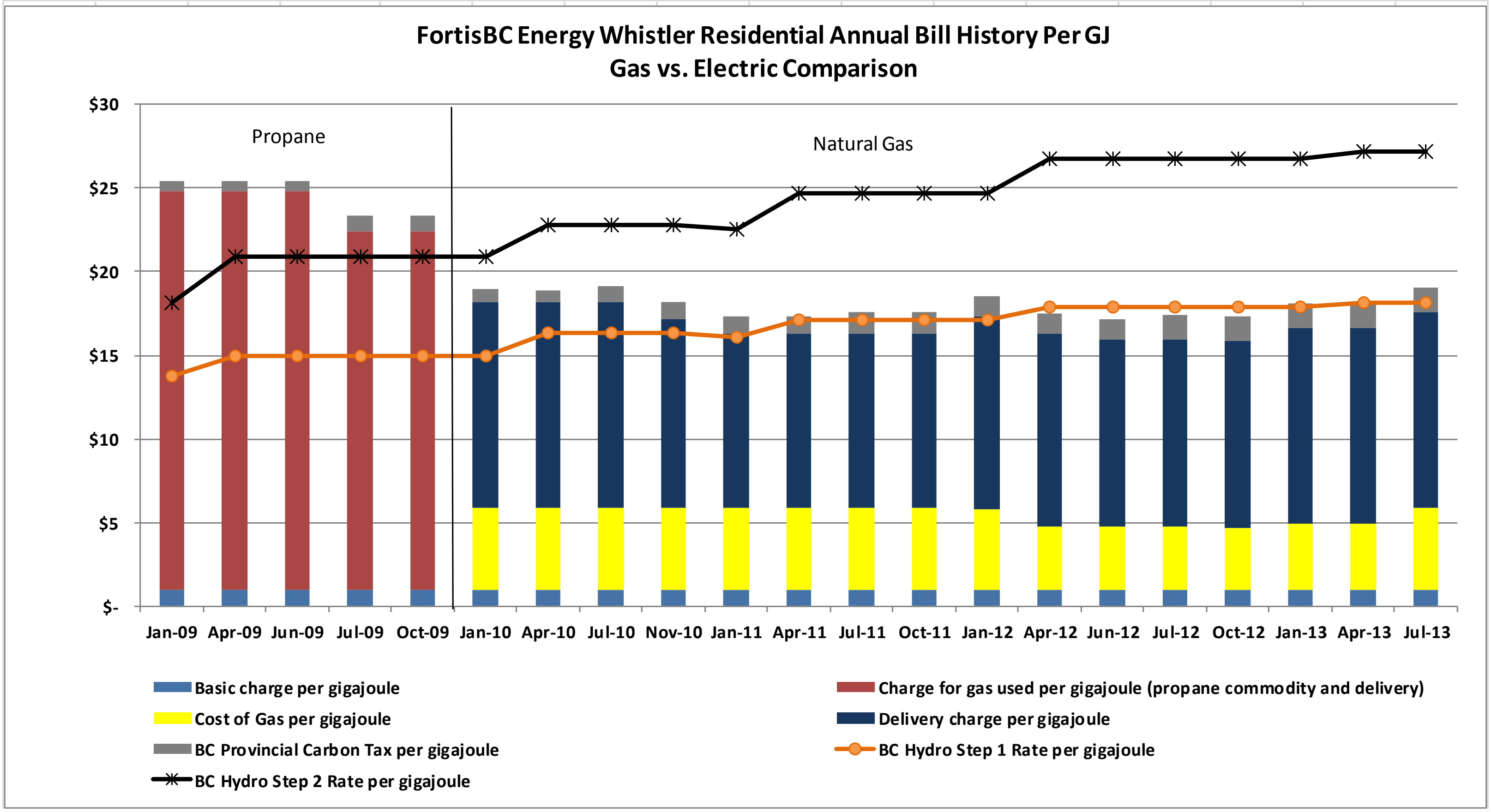
BC Hydro amount does not include basic charge since a household already pays the basic electric charge for non-heating use

	Date												
	Jan-09	**Apr-09**	**Jul-09**	**Apr-10**	**Jul-10**	**Jan-11**	**Apr-11**	**Jul-11**	**Oct-11**	**Jan-12**	**Apr-12**	**Jul-12**	**Apr-13**
FEVI Charges per Gigajoule													
Basic charge	$ 2.150	$ 2.150	$ 2.150	$ 2.150	$ 2.150	$ 2.150	$ 2.150	$ 2.150	$ 2.150	$ 2.150	$ 2.150	$ 2.150	$ 2.150
Charge for gas used	$ 14.325	$ 14.325	$ 14.325	$ 14.325	$ 14.325	$ 14.325	$ 14.325	$ 14.325	$ 14.325	$ 14.325	$ 14.325	$ 14.325	$ 14.325
BC Provincial Carbon Tax	$ 0.4966	$ 0.4966	$ 0.7449	$ 0.7449	$ 0.9932	$ 0.9932	$ 0.9932	$ 1.2415	$ 1.2415	$ 1.2415	$ 1.2415	$ 1.4898	$ 1.4898
Total charges	$ 16.972	$ 16.972	$ 17.220	$ 17.220	$ 17.468	$ 17.468	$ 17.468	$ 17.717	$ 17.717	$ 17.717	$ 17.717	$ 17.965	$ 17.965
FEVI Charges per Gigajoule													
BC Hydro Step 1 Rate	$ 13.725	$ 14.925	$ 14.925	$ 16.300	$ 16.300	$ 16.075	$ 17.100	$ 17.100	$ 17.100	$ 17.100	$ 17.850	$ 17.850	$ 18.125
BC Hydro Step 2 Rate	$ 18.125	$ 20.875	$ 20.875	$ 22.825	$ 22.825	$ 22.500	$ 24.650	$ 24.650	$ 24.650	$ 24.650	$ 26.750	$ 26.750	$ 27.150

Natural gas use of 59 GJ

Efficiency of gas equipment is 90% relative to 100% for electricity

BC Hydro amount does not include basic charge since a household already pays the basic electric charge for non-heating use



Assumptions:

Natural gas use of 90 GJ

Efficiency of propane and natural gas equipment is 90% relative to 100% for electricity

FEW was fully converted from a propane distribution system to natural gas effective January 1, 2013

FEW amount includes the basic charge

1 *BC Hydro amount does not include basic charge since a household already pays the basic electric charge for non-heating use*

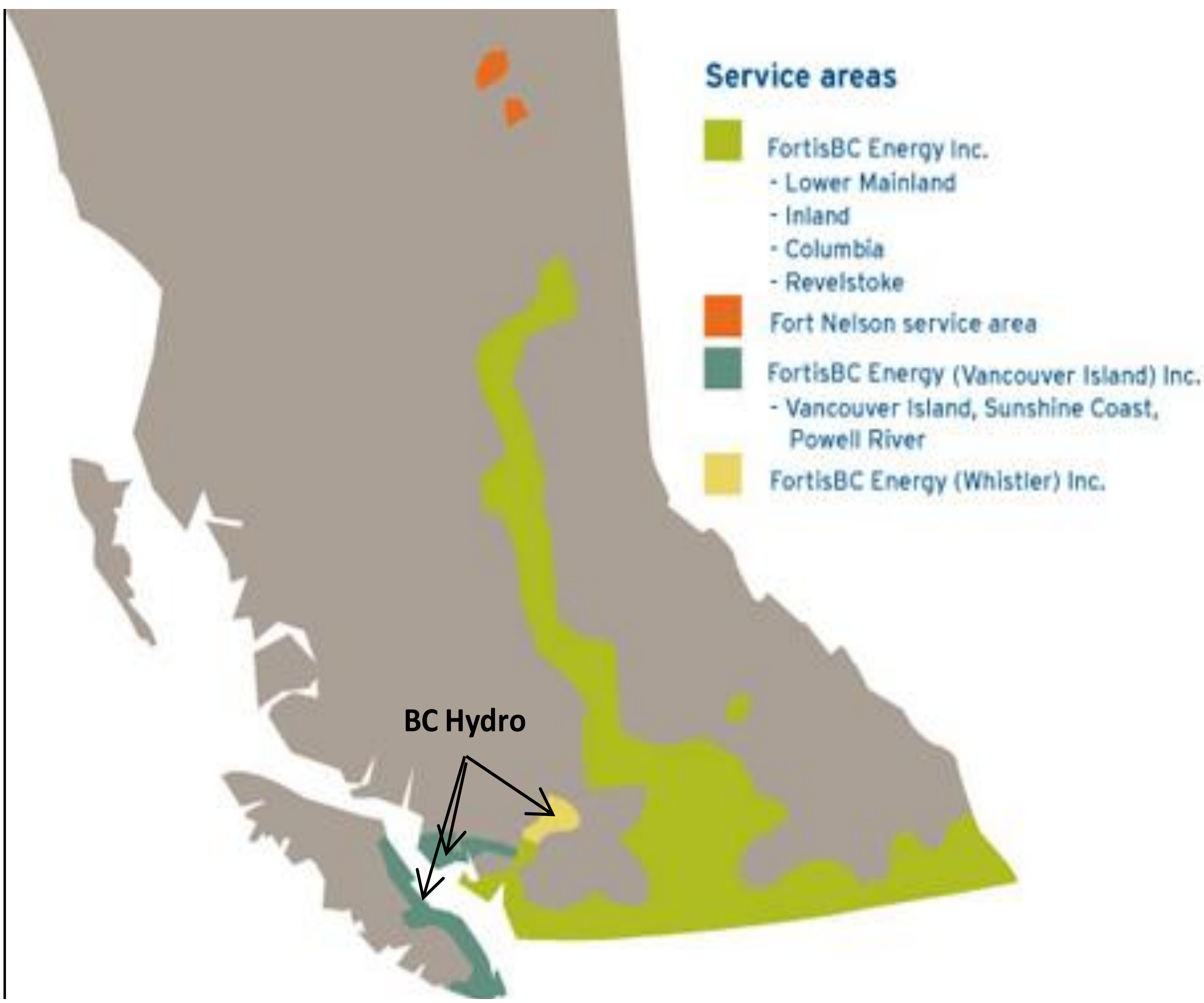
	Date																				
	Jan-09	**Apr-09**	**Jun-09**	**Jul-09**	**Oct-09**	**Jan-10**	**Apr-10**	**Jul-10**	**Nov-10**	**Jan-11**	**Apr-11**	**Jul-11**	**Oct-11**	**Jan-12**	**Apr-12**	**Jun-12**	**Jul-12**	**Oct-12**	**Jan-13**	**Apr-13**	**Jul-13**
FEW Charges per Gigajoule																					
Basic charge	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000	$ 1.000
Charge for gas used	$ 23.839	$ 23.839	$ 23.839	$ 21.430	$ 21.430	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Delivery charge	$ -	$ -	$ -	$ -	$ -	$ 12.310	$ 12.276	$ 12.276	$ 11.314	$ 10.440	$ 10.440	$ 10.440	$ 10.440	$ 11.503	$ 11.503	$ 11.162	$ 11.162	$ 11.162	$ 11.745	$ 11.745	$ 11.745
Cost of Gas	$ -	$ -	$ -	$ -	$ -	$ 4.874	$ 4.874	$ 4.874	$ 4.874	$ 4.875	$ 4.875	$ 4.875	$ 4.875	$ 4.801	$ 3.773	$ 3.773	$ 3.773	$ 3.700	$ 3.912	$ 3.912	$ 4.848
BC Provincial Carbon Tax	$ 0.6028	$ 0.6028	$ 0.6028	$ 0.9062	$ 0.9062	$ 0.7449	$ 0.7449	$ 0.9932	$ 0.9932	$ 0.9932	$ 0.9932	$ 1.2415	$ 1.2415	$ 1.2415	$ 1.2415	$ 1.2415	$ 1.4898	$ 1.4898	$ 1.4898	$ 1.4898	$ 1.4898
Total charges	$ 25.442	$ 25.442	$ 25.442	$ 23.336	$ 23.336	$ 18.929	$ 18.895	$ 19.143	$ 18.181	$ 17.308	$ 17.308	$ 17.557	$ 17.557	$ 18.545	$ 17.517	$ 17.176	$ 17.425	$ 17.352	$ 18.147	$ 18.147	$ 19.083
FEVI Charges per Gigajoule																					
BC Hydro Step 1 Rate	$ 13.725	$ 14.925	$ 14.925	$ 14.925	$ 14.925	$ 14.925	$ 16.300	$ 16.300	$ 16.300	$ 16.075	$ 17.100	$ 17.100	$ 17.100	$ 17.100	$ 17.850	$ 17.850	$ 17.850	$ 17.850	$ 17.850	$ 18.125	$ 18.125
BC Hydro Step 2 Rate	$ 18.125	$ 20.875	$ 20.875	$ 20.875	$ 20.875	$ 20.875	$ 22.825	$ 22.825	$ 22.825	$ 22.500	$ 24.650	$ 24.650	$ 24.650	$ 24.650	$ 26.750	$ 26.750	$ 26.750	$ 26.750	$ 26.750	$ 27.150	$ 27.150

Natural gas use of 90 GJ
Efficiency of gas equipment is 90% relative to 100% for electricity
BC Hydro amount does not include basic charge since a household already pays the basic electric charge for non-heating use

14.2 Please provide a map showing BC Hydro's, FEVI"s, and FEW's service areas indicating clearly where they do and do not overlap.

Response:

Please see the map below showing the FEU's service area as well as the overlapping areas with BC Hydro for the Vancouver Island and Whistler regions. The dark green coloured area represents FEVI and the yellow coloured area represents FEW. Neither FEVI nor FEW distribution service areas overlap each other. BC Hydro is the only electricity provider in the FEVI and FEW service areas and consequently overlaps the entire FEVI and FEW service areas.



15.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix A, page 3

Preamble: The evidence states that "FEVI captures a smaller proportion of the new housing market than FEI."

15.1 Please explain why FEVI captures a smaller proportion of the new housing market than FEI, given that both deliver natural gas.

Response:

Please refer to the response to BCPSO FEVI-FEW IR 1.17.2.

16.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix A, page 3

Preamble: The utilities write that "the less diverse customer base, and the concentration of customers in particular industry segments, make FEVI and FEW subject to greater throughput and revenue risks in response to events that affect specific customers and industries. As an example, FEW is heavily dependent on the tourism industry and energy profile of the customers and businesses that support this industry."

BCPSO would like to better understand the extent to which events affecting the tourism industry have affected FEW's throughput in the past.

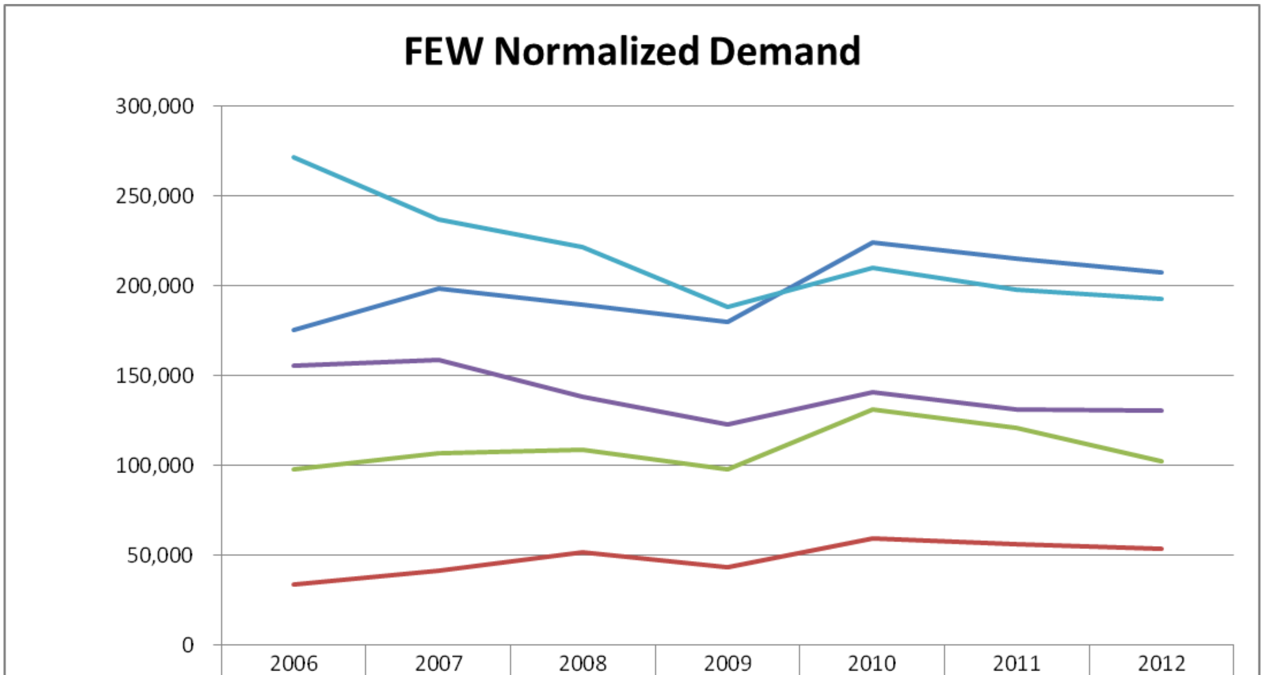
16.1 Please identify a historical example of an event that impacted the tourism industry in FEW's service area that also impacted FEW's throughput. Please clearly explain how the chain of events occurred, from the event itself, to its effect on the tourism industry, to its effect on FEW's throughput.

Response:

The Winter Olympics of 2010 provide an opportunity to examine the correlation of tourism and demand in Whistler.

The following chart shows the normalized actual demand from 2006 through 2012.

2010 stands out in all rate classes as the distinct uptick from the increased tourism activity resulted in an increased demand for natural gas. Following the Olympics the downward trend present prior to 2010 resumed.



	2006	2007	2008	2009	2010	2011	2012
SGS-1 RES	175,264	198,533	189,606	179,980	224,140	214,982	207,502
SGS-1 COM	33,634	41,490	51,720	43,493	58,949	55,982	53,397
LGS-1 COM	97,445	106,578	108,658	97,878	131,240	120,984	101,975
LGS-2 COM	155,766	158,446	137,877	122,847	140,932	131,016	130,310
LGS-3 COM	271,534	237,059	221,560	188,009	210,222	197,790	192,877

16.2 Please provide data in both graphical and tabular form that shows FEW's throughput following the event.

Response:

Please refer to the response to BCPSO FEVI-FEW IR 1.16.1.

17.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix A, page 8

Preamble: The evidence states that "FEVI's and FEW's high capital costs per customer reflect the significant investment in transmission infrastructure required to reach their small customer base and their lower market penetration relative to other natural gas Local Distribution Companies (LDCs)."

The BCPSO would like to better understand FEVI's and FEW's market position relative to other natural gas LDCs.

17.1 Please quantify the difference between FEVI's and FEW's market penetration and that of other natural gas LDCs, and detail the method used to quantify this difference.

Response:

Information on how other natural gas LDCs other than FEI quantify their market penetration is not available to the companies.

In general, FEVI and FEW experiences lower market penetrations than FEI. On aggregate, FEI's capture rates of new completed housing were 61% and 67% in 2011 and 2012 respectively. This compares to FEVI's 40% and 41%, and FEW's 23% and 43% for the same time period respectively.

These capture rates are based on the number of new housing completed in a given year that have a service line and gas meter installed.

17.2 Please explain why the differences in market penetration exist.

Response:

While differences in market penetration can be due to various factors such as the relative capital and installation cost as well as the complexity of installation, these factors can be assumed to be similar across FEVI's, FEW's and FEI's market places. One of the main contributors to the lower market penetrations experienced by FEVI and FEW relative to FEI is the higher natural gas rates charged by the two smaller utilities. These higher rates make it a challenging case for builders and developers to choose gas equipment over electricity, or over heat pumps which have an added advantage of providing both heating and cooling. These higher natural gas rates erode into the operating cost savings of natural gas appliances, and make it more difficult for builders and developers to justify to the ultimate occupant installing natural gas appliances that are already more expensive to install due to the higher capital and installation costs compared to alternatives such as electric equipment.

Secondarily, while natural gas has been on Vancouver Island for more than 20 years, it is still not as common an energy source compared to the mainland. This lack of familiarity also plays a role in the lower market penetration. When everyone has a product, potential new customers will be more likely to go with the most common product.

It should also be noted that while capture rate is an important component in quantifying market penetration, the use per new customer (UPC) is equally as important in that capture rates need to increase proportionately to offset the declining UPC experienced by all three utilities in order to maintain throughput levels. As both FEVI and FEW are already experiencing lower capture rates than FEI in capturing new customers in an environment of decreasing UPC for new customer additions, FEVI and FEW are subjected to increased business risks compared to FEI.

18.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix A, page 9

Preamble: "FEVI's largest industrial customer is BC Hydro for service to IG, whose contract demand accounts for 42 percent of total demand and 11 percent of delivery margin."

18.1 Why does FEVI contract with BC Hydro, a competitor, instead of with IG directly?

Response:

FEVI's understanding is that BC Hydro's energy purchase agreement with IG is effectively a tolling arrangement whereby BC Hydro is responsible for procuring the fuel gas and transporting it to the plant gate. In this scenario FEVI is providing firm transportation service to BC Hydro as a customer and not a competitor.

19.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix A, page 10

Preamble: The utilities state, "If BC Hydro were to terminate its contract, the remaining FEVI customers would be faced with a substantial delivery margin increase of approximately 11 percent, or over $12 million."

19.1 Please provide all supporting data and calculations, in fully functioning electronic spreadsheets, showing that FEVI's customers would be faced with a delivery margin increase of $12 million or 11 percent.

Response:

Please refer to Attachment 19.1.

The attached spreadsheet calculates at a high level the rate increases faced by FEVI customers if BC Hydro were to terminate its contract. The spreadsheet shows that FEVI customers would be faced with a delivery margin shortfall of $14 million which would translate into a required rate increase of 13 percent, based on the approved forecasts included in the 2013 revenue requirements for FEVI.

The original analysis presented was based on more recent (but not approved) forecasts, which showed that the delivery margin shortfall would be $12 million or 11 percent required rate increase.

20.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix A, page 11

Preamble: The utilities write that "the pulp and paper industry is cyclical, with the fortunes of the sector tied to the strength of export markets and the value of the Canadian dollar".

BCPSO would like to better understand the dynamics of the pulp and paper industry.

20.1 Please provide a reference or study that establishes the relationship between the pulp and paper industry's health and the strength of export markets and the value of the Canadian dollar.

Response:

The cited statement in the preamble reflects widely recognized relationships. The following are intended to provide a few supporting references.

The BC Competition Council Pulp & Paper Industry Advisory Committee in a January 2006 memorandum titled *Pulp & Paper Industry Advisory Committee Report* stated:

> *"Like the rest of the manufacturing sector in Canada, Pulp and Paper has been devastated by the appreciation in the Canadian dollar over the past few years. The impact of this appreciation has been aggravated by substantial increases in energy costs both directly and through increased chemical and transportation costs. With over 85% of the industry's output exported, high transportation costs put BC's industry in a weak position relative to domestic producers in export markets: both infrastructure issues and associated costs have negatively impacted the sector."*

In its November 2007 *Report on the Economic Impact of the BC Pulp and Paper Industry*, the BC Pulp and Paper Industry Tax Force stated:

> *"The profitability of the pulp and paper industry depends on the price of the end product. The BC industry tends to be profitable in years of higher prices and incur net losses in years of lower prices. Pulp and paper are global commodities, and as such, BC producers are price takers in the global market and have limited ability to influence prices."*

The standing Senate committee on agriculture and forestry in their December 2009 report entitled *The Canadian Forest Sector: Past, Present, Future* stated:

> *"The current problems in the forest system can be explained largely by the decreased demand for products made of Canadian wood, although the reasons for the reduction in demand vary from one product to another. The strong Canadian dollar, limited access to credit, and timber supply are among the factors that have exacerbated the problems caused by shrinking markets." Further, "The problems that Canadian pulp producers face can be explained mostly by increased competition from developing countries." Concerning the strength of the Canadian dollar, "The strength of the Canadian dollar over the last few years has exacerbated the forest industry's problems."*

Paul Tulloch in his April 2008 article for *The CCPA Monitor*, "Industry at a Crossroads", discussed the challenges for the forest industry:

> *"As if the steep rise in the dollar was not enough of a challenge for the forest industry, the other shoe to drop was the collapse of the U.S. housing market over the past several months. This has shrunk a once lucrative export market to a shell of its former size. Rubbing salt in the wound, this much lower American demand for lumber can now be easily met by the multinationals operating in Canada from their much-lower-cost mills located within the U.S. (due to the dramatic rise in the Canadian dollar)."*

The Natural Resources Canada, Canadian Forest Service website (cfs.nrcan.gc.ca/pages/52) states:

> *"Recent challenges include: a worldwide economic downturn; strengthening of the Canadian dollar against the currencies of our key competitors; a structural decline in North American newsprint demand; and increased competition from other forest product suppliers."*

Further:

> *"In recent years, Canada's forest industry has undergone an especially deep cyclical decline, coupled with structural changes in world markets. The industry has faced: a strengthening Canadian dollar, making Canadian products pricier and therefore less attractive to foreign purchasers; the collapse of the housing construction market in the U.S.; a substantial and permanent decline in North American demand for newsprint." When describing their export market, "The U.S. and Western Europe have long been the major markets for Canadian forest products. In recent years, however, Canada has been transforming its export markets by building on the strength of the sector's traditional high quality wood fibre products. Today, for example, China and other Asian*

> *countries have become increasingly significant new markets for these products. This has helped offset the declines seen in traditional markets over recent years."*

Pulp & Paper Canada's website (www.pulpandpapercanada.com) contains a 2008 article entitled *State of the Industry* which states:

> *"Unfortunately, the biggest obstacle to repositioning our industry competitively is one over which we have no control-the Canadian dollar." The article then quotes Craig Campbell, Partner in the Global Forest and Paper Practice of Price Waterhouse Cooper: " 'It remains the biggest impact,' Campbell confirms. 'Every cent the dollar appreciates knocks off $500 million in revenue.'"*

Finally, the investment industry recognizes the factors referenced in the preamble.

S&P's January 2013 *Key Credit Factors: Criteria For Rating Companies in the Global Forest Products Industry* outlined the major risks of the industry generally, including:

1. High industry cyclicality related to general economic conditions and changes in industry capacity. Demand for forest products fluctuates with changes in general macroeconomic conditions that affect new home construction and home renovation, industrial nondurable goods production, consumer nondurable activity, consumer spending, advertising activity, employment levels and consumer confidence;
2. Currency risks. Currency fluctuations can have a significant impact on the relative cost competitiveness among forest products companies located in different countries. For export oriented issuers, foreign exchange appreciation can meaningfully reduce profitability.
3.

In its June 2013 update to its Rating Companies in the Forest Products Industry, DBRS stated:

> *"The forest products industry is characterized by: (1) a high level of cyclicality and a high substitution risk for certain paper products being displaced by digital media, with frequent oversupply and shortage conditions in the industry further accentuating volatility; (2) commodity pricing subject to global demand and supply conditions and related currency risks; (3) increasing supply of fibre from advances in forest management techniques (higher yield, expanding growing regions, etc.) adding to competitive pressure; (4) high capital costs, sensitivity to capital utilization and limited control over high energy, transportation and labour costs; (5) regulation focused on safety, environmental concerns and preservation of wildlife; and (6) political risks related to protection through tariffs of local suppliers over foreign imports."*

DBRS further referenced the risk of currency exchange rates:

> *"Most forest products companies export a high percentage of their products, and the relative strength between the local currency (which affects production costs) and the U.S. dollar (which affects sales revenues) can have a major impact on profitability."*

20.2 Please provide any data, in electronic form, that demonstrate the relationship between the pulp and paper industry's financial health and the strength of export markets and the value of the Canadian dollar.

Response:

FEVI has neither collected nor analyzed data for the industry. Please refer to the response to BCPSO FEVI-FEW IR 1.20.1.

21.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix A, page 12

Preamble: The evidence states that "Tourism in general is a cyclical industry, whose fortunes are dependent on the availability of discretionary income, and thus on the economic strength of the markets from which it draws revenues. Tourism is also dependent on weather, exchange rates, cost of travel, and other external factors over which the industry has no control."

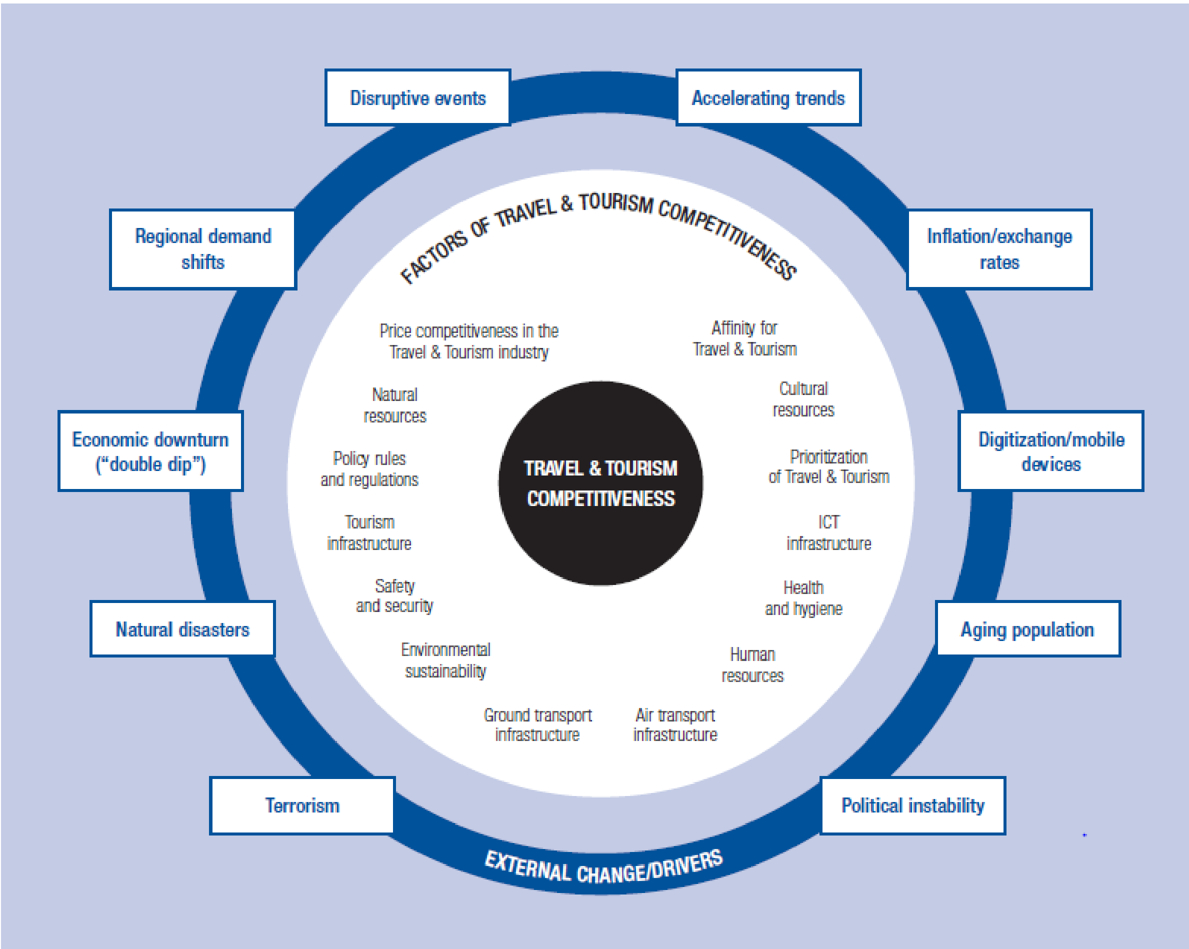
21.1 Please provide a reference or study that establishes the relationship between expenditures on tourism and the factors identified above.

Response:

The Travel and Tourism Competitiveness Report is published by the World Economic Forum (WEF) on a biannual basis. The report provides a cross-country analysis of the various drivers of the tourism industry. The most recent report, *The Travel & Tourism Competitiveness Report 2013: Reducing Barriers to Economic Growth and Job Creation*, was published in April 2013 and is available at http://www3.weforum.org/docs/WEF_TT_Competitiveness_Report_2013.pdf.

Figure 1 from the April 2013 report, shown below, lists the broad categories of "competitiveness enablers and change drivers" which influence the tourism industry globally. These factors include natural resources, exchange rates, price competitiveness, safety and security as well as various categories of infrastructure.

Figure 1: Travel & Tourism competitiveness enablers and change drivers



1 Source: Booz & Company.

22.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix A, page 15

Preamble: The evidence states, "A potential load growth opportunity for FEVI is providing natural gas transportation service to Pacific Energy Corporation to facilitate their proposed small scale LNG project at the former Woodfibre mill site. However, it is still very early days and it is premature to consider this project as a source of new future load. PEC has just commenced its assessment of the viability of the facility. FEVI must also still complete its feasibility study and preliminary development work for the pipeline expansion project before any determination can even be made as to the viability of the LNG project."

22.1 When does FEVI expect that, should a deal with PEC be made, it would start providing service? Please explain.

Response:

FEVI and PEC have entered into a Development Agreement to perform the development work including a feasibility study, engineering and seeking of regulatory and other approvals required for any expansion of FEVI's system required to provide a firm natural gas transportation service to PEC based on a target in-service target date of April 1, 2018. This would require PEC to complete its feasibility and engineering studies and make a decision to proceed with its small scale LNG export project at the Woodfibre site by December 2015.

At PEC's request, FEVI is currently assessing the feasibility of advancing the pipeline expansion to support an option of an earlier in-service date. This assessment is on-going; however FEVI expects the earliest in-service date it would be able to start providing service is Q4 2016 which would require PEC to make a final investment decision by June 2015.

23.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix A, page 18

Preamble: The evidence states that "As mentioned in Section 3, FEW recently converted its system from propane to natural gas. As a result, FEW experienced a one-time significant increase in rate base. Although conversion to natural gas reduced rates for customers when compared to propane rates, FEW's high rate base to customer ratio creates a challenge for the utility to set competitive rates."

23.1 Please confirm that FEW's rates are more competitive after the conversion to natural gas than they were when FEW provided propane. If not, please explain.

Response:

Confirmed. One of the justifications supporting the 2005 CPCN application for converting the FEW distribution system from propane to natural gas was that lower natural gas commodity prices relative to propane would more than offset the higher fixed costs. In the 2009 FEW RRA Decision (Order G-35-09), the Commission reduced FEW's ROE from 60 basis points premium over the benchmark to 50 basis point stating that natural gas utility should have a lower ROE than a propane utility. The Commission, however, acknowledged that *"while TGW's supply risk may be reduced following conversion, its business risk will have increased by virtue of the fact that its rate base will have doubled as a result of the conversion while its customer base remained largely unchanged."* (page 52).

While the conversion from propane to natural gas has improved the competiveness of FEW's rates, FEW still has higher rates and rate base per customer than the benchmark (FEI), and remains competitively challenged.

24.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix A, pp 22-23

Preamble: Figures 11, 12, and 13 are graphs showing use per customer and net customer additions for FEI, FEVI, and FEW.

24.1 Please provide the underlying data for Figures 11, 12, and 13 in working electronic spreadsheets.

<u>Response:</u>

Please refer to Attachment 24.1 for the working electronic spreadsheets.

25.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix B, page 2

Preamble: Ms. McShane writes that "the historical five percentage point difference between the equity ratios of FEI and those of FEVI and FEW suggest, in isolation, an equity ratio for both of 43.5%.**"**

25.1 Please explain why Ms. McShane considers the historical spread between FEI and FEVI and FEW's equity ratios to be relevant at the present time.

<u>Response:</u>

The Commission's 2006 Decision endorsed a five percentage point difference for FEVI. In 2009, the Commission increased the common equity ratio of FEI to 40%, the same as FEVI had been, and expressed the view that on the evidence FEVI and FEW have greater long term business risk than FEI while possessing similar deferral mechanisms (see lines 99-109). It referenced Ms. McShane's evidence. The relevance is that there has been no material change in the relative business risks of FEI and FEVI and FEW since the 2009 Decision that would provide an obvious basis for the Commission to now reach a different conclusion on the relative business risk. Please see page 16, lines 446-465 of Ms. McShane's testimony.

26.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix B, page 2

Preamble: Ms. McShane states that "the allowed and actual equity ratios of U.S. gas utilities are appropriate benchmarks for both FEVI and FEW and point to equity ratios in the 50% to 52% range."

BCPSO would like to understand Ms. McShane's rationale in selecting U.S. gas utilities as benchmarks.

26.1 Please explain why the use of U.S. gas utilities as benchmarks is appropriate.

Response:

Ms. McShane provides the following response.

The relevance of U.S. utilities as benchmarks for establishing a Canadian utility's capital structure depends on the specific risk characteristics of the Canadian utility and of the U.S. utilities used as benchmarks. Using U.S. gas utilities as benchmarks for establishing the capital structure for FEVI was considered appropriate because:

1. In Ms. McShane's view, the combined business and regulatory risks of U.S. gas distributors generally are not materially higher than those of the major Canadian gas distributors;
2. The U.S. gas distribution utility industry as a whole is rated in the A category;
3. FEVI is a higher business risk gas utility than the major Canadian gas utilities, including FEI;
4. Moody's has indicated that it considers FEVI to be of higher business risk than "most LDCs";
5. If FEVI is of higher risk than "most LDCs", it follows logically that, even if, on average, U.S. gas utilities face somewhat higher business risk than FEI, it cannot be equally true for FEVI, as U.S. gas utilities make up a significant proportion of the global gas distribution utilities that Moody's rates;
6. Even if FEVI is of somewhat lower regulatory risk than the typical or average U.S. gas utility, its offsetting higher fundamental business risk make U.S. gas utilities a reasonable benchmark. As FEW is of somewhat higher business risk than FEVI, U.S. gas utilities would also be an appropriate benchmark for FEW.

The risk factor that is sometimes viewed as differentiating Canadian and U.S. utilities is the degree of regulatory support provided. In Stage 1 of the proceeding, Ms. McShane performed her own analysis of the regulatory mechanisms available to the gas utilities contained in her sample of U.S. utilities, and found that they had been afforded a significant number and variety of supportive cost recovery mechanisms, e.g., decoupling, rate stabilization mechanisms, infrastructure cost recovery mechanisms, and bad debt cost recovery mechanisms, not unlike those available to Canadian utilities. She also found that, more generally, U.S. regulatory jurisdictions were increasingly adopting such mechanisms, which had narrowed the difference in regulatory support between Canadian and U.S. regulatory jurisdictions in the aggregate (Exhibit B1-9-6, Appendix F, Testimony of Ms. McShane, Appendix B and Exhibit B1-20, FBCU-BCUC-IR1-54 and Exhibit B1-32, Rebuttal Testimony of Ms. McShane, page 26). With specific regard to BC versus the U.S., the June 2013 Moody's reports for FEI, FBC and FEVI all consider the BC regulatory environment to be similar to a strong U.S. regulatory jurisdiction. This, in Ms. McShane's view, confirms the conclusion at page 26 of her rebuttal evidence (Exhibit B1-32) that "Moody's considers that there are regulatory jurisdictions in the U.S. that it would view as similarly supportive as those in Canada, and, by extension, that there are U.S. utilities that are of comparable regulatory risk to Canadian utilities." Moody's explicit recognition of comparability of the regulatory environment in BC with some regulatory environments in the U.S. supports the use of U.S. gas utilities as benchmarks for FEVI and FEW.

Please note that, while Ms. McShane is using the common equity ratios of U.S. gas utilities as benchmarks, i.e., to establish a range of reasonable equity ratios, she is not recommending a common equity ratio for either FEVI or FEW equal to the average maintained by or allowed for U.S. gas utilities.

26.2 Please discuss any differences between these benchmark U.S. gas utilities and FEVI and FEW.

<u>Response:</u>

Please refer to the response to BSCPO FEVI-FEW IR 1.26.1.

27.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix B, page 8

Preamble: Ms. McShane writes that "A small utility cannot diversify its risks to the same extent as larger utilities whose assets, geography and economic bases are less concentrated. Negative events are likely to have greater impact on the earnings or viability of a smaller company."

BCPSO would like to know more about the challenges facing small utilities.

27.1 Please provide a reference or study that verifies small utilities cannot diversify their risks as well as larger utilities.

<u>Response:</u>

Please refer to Attachment 27.1.

27.2 Please provide a reference or study that verifies that negative events are likely to have greater impact on the earnings or viability of a smaller company.

<u>Response:</u>

This conclusion was not based specifically on a study or a document. It is a logical, common sense inference. For example, a small company that operates in a single geographic area will likely be harder hit financially if that geographic area suffers economically than a larger company which has operations in multiple areas. If there is an economic downturn in one region served by the larger firm, that larger firm has a greater probability of also serving areas that are economically more stable.

28.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix B, page 20

Preamble: Ms. McShane writes, "As noted above, the most recent Moody's credit opinion for FEVI states that FEVI's high cost of service and small size cause its market position to be weaker than most gas LDCs. As Moody's rates utilities globally, "most LDCs" would include U.S. natural gas distribution utilities. In that context, the common equity ratios maintained by U.S. gas utilities would be a relevant benchmark for FEVI."

28.1 Please provide any independent analysis, besides interpreting Moody's credit opinion, that Ms. McShane has to show that U.S. natural gas distribution utilities are a relevant benchmark for FEVI. Please explain exactly how this additional analysis led Ms. McShane to this conclusion.

Response:

Ms. McShane has employed her expert judgment to the issue, considering a number of factors and not limiting her analysis to simply interpreting a credit opinion as is suggested in the question. Please refer to the response to BCPSO FEVI-FEW IR1.26.1.

29.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix B, page 25

Preamble: Ms. McShane argues that "capital structure theory can be used to estimate the approximate difference in the cost of equity that arises from setting FEVI's common equity ratio at the recommended 43.5% equity ratio and setting it at the 48% mid-point of the range of benchmarks. The estimated difference between the cost of equity at the recommended 43.5% equity ratio for FEVI and the 48% mid-point of the range of equity ratio benchmarks represents one estimate of a reasonable incremental equity risk premium for FEVI above the ROE for the benchmark utility."

29.1 Please explain why Ms. McShane has chosen the midpoint of the benchmark utilities' equity ratios instead of the average, or some other measure.

Response:

The capital structure benchmarks, which are included in Table 3 on page 21 of Ms. McShane's testimony, do not lend themselves to the calculation of an average or even a median. First, the debt rating reports suggest a common equity ratio higher than 40%, but nothing more precise than that. Second, the five Canadian utility benchmarks are, to a large extent, derived from the same data and represent somewhat different ways of interpreting overlapping data. Third, the U.S. benchmarks are summarized into three numbers, but, in fact, represent a significantly larger number of observations than are included in the Canadian data. Ms. McShane considered that the low and high ends of the range merited equal weight and that the mid-point of the range was thus an appropriate measure of the central tendency in these circumstances.

30.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix B, page 32

Preamble: Ms. McShane writes, "To illustrate, the median 2012 market capitalizations of the BBB+/Baa1 and the BBB/Baa sample were both slightly above $5 billion. By comparison, if FEVI were publicly traded, its market capitalization would be much smaller, likely in the approximate range of $550-600 million. FEW would have a market capitalization under $30 million"

30.1 Please explain how the market capitalization estimates of $550 to $600 million for FEVI and of less than $30 million for FEW were calculated, and provide any supporting work in electronic form.

Response:

A likely range of market capitalizations was estimated for FEVI by applying a range of Price/Earnings (P/E) ratios to a range of earnings (net income). The range of earnings was based on the book value of the equity component of rate base, estimated using the 2012 rate base ($779) multiplied by the 43.5% proposed common equity ratio ($339 million). A range of earnings rates (ROEs) was applied to the equity base, ranging from 8.75% to 9.75%, which produced a range of earnings, from approximately $30 to $33 million.

As regards the price/earnings ratios to be applied to the range of earnings, the recent (past two years, from mid-2011 to mid-2013) price/earnings ratios of Value Line's group of natural gas utilities were reviewed, along with the corresponding price/earnings ratios of the two relatively pure-play publicly-traded Canadian utilities, Emera and Fortis. The data indicated likely P/E ratios ranging from 15 to 22. The range of estimated earnings was multiplied by the range of P/E ratios to arrive at a range of market capitalizations ($445 to $725 million) with the central tendency in the approximate range of $550 to $600.

With respect to FEW, please note that the citation from Ms. McShane's evidence contains a typographical error. The sentence should have stated that FEW would have a market value under $40 million. The estimates made for FEW used the 2012 rate base of $42 million, the requested 45% common equity ratio and the same range of ROEs. The indicated range of net income was $1.65 to $1.84 million. The same range of P/E ratios used for FEVI was used for FEW, which produced estimates in the range of $28 to $40 million, with a central tendency of approximately $30 to $32 million.

Please refer to Attachment 30.1 for Calculations for both FEVI and FEW and the P/E data.

31.0 Reference: Exhibit B1-71, FEVI-FEW Evidence, Appendix B, Expert Opinion of Kathleen C. McShane, Schedules to Accompany Expert Opinion

31.1 Ms. McShane attaches several schedules to her evidence. Please provide electronic copies (Excel spreadsheets) of all of her attached schedules.

<u>Response:</u>

Please refer to Attachment 31.1 for the requested electronic version of the schedules.

Attachment 8.2

Table 5 and 6 Utilities					
	Regulated Utility Assets ($000)	Has Gas Distribution	Has Electric Distribution	Has Electric Transmission	Has Regulated Generation
AGL Resources Inc.	11,320,000	X			
ALLETE Inc.	2,962,400		X	X	X
Alliant Energy Corp.	9,253,600	X	X	X	X
Ameren Corp.	20,325,000	X	X	X	X
American Electric Power Co. Inc.	51,477,000		X	X	X
Atmos Energy Corp.	7,375,704	X			
Avista Corp.	3,894,821	X	X	X	X
Black Hills Corp.	2,845,148	X	X	X	X
CenterPoint Energy Inc.	14,392,000	X	X	X	
CH Energy Group	1,660,367	X	X	X	X
Cleco Corp.	3,871,729		X	X	X
CMS Energy Corp.	15,439,000	X	X		X
Consolidated Edison Inc.	39,551,000	X	X	X	X
Dominion Resources Inc.	44,500,000	X	X	X	X
DTE Energy Co.	21,814,000	X	X	X	X
Duke Energy Corp.	98,162,000	X	X	X	X
Edison International	41,731,000		X	X	X
El Paso Electric Co.	2,669,050		X	X	X
Empire District Electric Co.	2,183,213	X	X	X	X
Entergy Corp.	35,438,130	X	X	X	X
Exelon Corp.	80,438,000	X	X	X	
FirstEnergy Corp.	31,927,000		X	X	X
Great Plains Energy Inc.	9,647,300		X	X	X
Hawaiian Electric Industries Inc.	5,108,793		X	X	X
IDACORP Inc.	5,215,711		X	X	X
Integrys Energy Group Inc.	8,487,500	X	X	X	X
Laclede Group Inc.	1,758,952	X			
MGE Energy Inc.	1,173,912	X	X	X	X
New Jersey Resources Corp.	2,005,520	X			
NextEra Energy Inc.	34,853,000		X	X	X
NiSource Inc.	13,170,700	X	X	X	X
Northeast Utilities	26,952,400	X	X	X	X
Northwest Natural Gas Co.	2,511,288	X			
NV Energy Inc.	11,879,408	X	X	X	X
OGE Energy Corp.	7,222,400		X	X	X
Otter Tail Corp.	1,226,145		X	X	X
Pepco Holdings Inc.	12,149,000		X	X	
PG&E Corp.	50,822,000	X	X	X	X
Piedmont Natural Gas Co. Inc.	3,475,640	X			
Pinnacle West Capital Corp.	13,347,000		X	X	X
PNM Resources Inc.	5,250,136		X	X	X
PPL Corp.	16,693,000	X	X	X	X
Public Service Enterprise Group	19,223,000	X	X	X	X
SCANA Corp.	11,281,000	X	X	X	X
Sempra Energy	23,815,000	X	X	X	X
South Jersey Industries Inc.	1,786,459	X			
Southern Co.	58,600,000		X	X	X
Southwest Gas Corp.	4,204,948	X			
TECO Energy Inc.	6,063,900	X	X	X	X
UIL Holdings Corp.	1,994,291	X	X	X	
Vectren Corp.	4,046,800	X	X	X	X
Westar Energy Inc.	9,265,231		X	X	X
WGL Holdings Inc.	3,516,046	X			
Wisconsin Energy Corp.	13,988,100	X	X	X	X
Xcel Energy Inc.	32,121,366	X	X	X	X

Attachment 19.1

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Attachment 24.1

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Attachment 27.1

Equity and the small-stock effect
Annin, Michael
Public Utilities Fortnightly; Oct 15, 1995; 133, 19; ABI/INFORM Global
pg. 42

Financial News

By Michael Annin

Equity and the Small-Stock Effect

The capital asset pricing model shows risk inherent in return on equity. But something goes wrong when it's used for small-sized companies.

Does the size of a company affect the rate of return it should earn? If smaller companies should earn a higher return than larger firms, then small utilities, because of their size, should be allowed to adjust the rates they charge to customers.

By far the most notable and well-documented apparent anomaly in the stock market is the effect of company size on equity returns. The first study focusing on the impact that company size exerts on security returns was performed by Rolf W. Banz. Banz sorted New York Stock Exchange (NYSE) stocks into quintiles based on their market capitalization (price per share times number of shares outstanding), and calculated total returns for a value-weighted portfolio of the stocks in each quintile. His results indicate that returns for companies from the smallest quintile surpassed all other quintiles, as well as the Standard & Poor's 500 and other large stock indices. A number of other researchers have replicated Banz's work in other countries; nevertheless, a consensus has not yet been formed on why small stocks behave as they do.

One explanation for the higher returns is the lack of information on small companies. Investors must search more diligently for data. For small utilities, investors face additional obstacles, such as a smaller customer base, limited financial resources, and a lack of diversification across customers, energy sources, and geography. These obstacles imply a higher investor return.

The Flaw in CAPM

One of the more common cost of equity models used in practice today is the capital asset pricing model (CAPM). The CAPM describes the expected return on any company's stock as proportional to the amount of systematic risk an investor assumes. The traditional CAPM formula can be stated as:

$$R_s = [\beta_s \times RP] + R_f$$

where:

R_s = expected return or cost of equity on the stock of company "s"

β = the *beta* of the stock of company "s"

RP = the expected equity risk premium

R_f = expected return on a riskless asset.

Table 1: The Size Premium in CAPM
(By Decile Portfolio in NYSE, 1926-94)

Decile	*Beta*	Arithmetic Mean Return	Actual Return in Excess of Riskless Rate**	CAPM Return in Excess of Riskless Rate**	Size Premium (Return in Excess CAPM)
1	0.90	11.01%	5.88%	6.33%	-0.44%
2	1.04	13.09	7.97	7.34	0.63
3	1.09	13.83	8.71	7.70	1.01
4	1.13	14.44	9.32	7.98	1.33
5	1.17	15.50	10.38	8.22	2.16
6	1.19	15.45	10.33	8.38	1.95
7	1.24	15.92	10.79	8.75	2.05
8	1.29	16.84	11.72	9.05	2.67
9	1.36	17.83	12.71	9.57	3.14
10	1.47	21.98	16.86	10.33	6.53

**Betas* are estimated from monthly returns in excess of the 20-year government bond income return, January 1926-December 1994.
**Historical riskless rate measured by the 69-year arithmetic mean income return component of 20-year government bonds.
Source: SBBI 1995 Yearbook

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Table 2: CAPM vs. CAPM w/ Size Premium

(By Percentile for Electric, Gas, and Sanitary Services Utilities)

	CAPM	CAPM with Size Premium
90th Percentile	16.42%	18.92%
75th Percentile	12.56%	14.72%
Median	10.89%	12.58%
25th Percentile	9.86%	11.39%
10th Percentile	8.63%	10.65%

(Weighted by Market Capitalization)

	CAPM	CAPM with Size Premium
Industry Composite	11.76%	12.33%
Large Company Composite	12.05%	12.07%
Small Company Composite	13.93%	17.95%

Source: Cost of Capital Quarterly '95 Yearbook by Ibbotson Associates
Note: Public utilities include electric, gas, and sanitary services companies.

Table 1 shows *beta* and risk premiums over the past 69 years for each decile of the NYSE. It shows that a hypothetical risk premium calculated under the CAPM fails to match the actual risk premium, shown by actual market returns. The shortfall in the CAPM return rises as company size decreases, suggesting a need to revise the CAPM.

The risk premium component in the actual returns (realized equity risk premium) is the return that compensates investors for taking on risk equal to the risk of the market as a whole (estimated by the 69-year arithmetic mean return on large company stocks, 12.2 percent, less the historical riskless rate). The risk premium in the CAPM returns is *beta* multiplied by the realized equity risk premium.

The smaller deciles show returns not fully explainable by the CAPM. The difference in risk premiums (realized versus CAPM) grows larger as one moves from the largest companies in decile 1 to the smallest in decile 10. The difference is especially pronounced for deciles 9 and 10, which contain the smallest companies.

Based on this analysis, we modify the CAPM formula to include a small-stock premium. The modified CAPM formula can be stated as follows:

$$R_s = [\beta_s \times RP] + R_f + SP$$

where:

SP = small-stock premium.

Because the small-stock premium can be identified by company size, the appropriate premium to add for any particular company will depend on its equity capitalization. For instance, a utility with a market capitalization of $1 billion would require a small capitalization adjustment of approximately 1.3 percent over the traditional CAPM; at $400 million, approximately 2.1 percent, and at only $100 million, approximately 4 percent.

Again, these additions to the traditional CAPM represent an adjustment over and above any increase already provided to these smaller companies by having higher *betas*.

Implications for Smaller Utilities

These findings carry important ramifications for relatively small public utilities. Boosting the traditional CAPM return by a full 400 basis points for small utilities translates into a substantial premium over larger utilities.

Table 2 shows the results of an analysis of 202 utility companies that calculated cost of equity figures. Composites (arithmetic means) weighted by equity capitalization were also calculated for the largest and smallest 20 companies. The results show the impact size has on cost of equity.

For the traditional CAPM, the large-company composite shows a cost of equity of 12.05 percent; the small company composite, 13.93 percent. However, once the respective small capitalization premium is added in, the spread increases dramatically, to 12.07 and 17.95 percent, respectively. Clearly, the smaller the utility (in terms of equity capitalization), the larger the impact that size exerts on the expected return of that security. ▼

Michael Annin, CFA, is a senior consultant with Ibbotson Associates, specializing in business valuation and cost of capital analysis. He oversees the Cost of Capital Quarterly, *a reference work on using cost of capital for company valuations.*

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