FORTIS BC™

Diane Roy
Vice President, Regulatory Affairs

Gas Regulatory Affairs Correspondence
Email: gas.regulatory.affairs@fortisbc.com

Electric Regulatory Affairs Correspondence
Email: electricity.regulatory.affairs@fortisbc.com

FortisBC
16705 Fraser Highway
Surrey, B.C. V4N 0E8
Tel: (604) 576-7349
Cell: (604) 908-2790
Fax: (604) 576-7074
Email: diane.roy@fortisbc.com
www.fortisbc.com

April 6, 2018

British Columbia Public Interest Advocacy Centre
Suite 208 – 1090 West Pender Street
Vancouver, B.C.
V6E 2N7

Attention: Ms. Leigha Worth, Executive Director

Dear Ms. Worth:

Re: FortisBC Energy Inc. (FEI)

Project No. 1598917

2017 Price Risk Management Plan (PRMP) (the Application) and the 2018 PRMP (the Revised Application)

Response to the British Columbia Public Interest Advocacy Centre representing the British Columbia Old Age Pensioners' Organization, Active Support Against Poverty, Disability Alliance BC, Council of Senior Citizens' Organizations of BC, and the Tenant Resource and Advisory Centre *et al.* (BCOAPO) Information Request (IR) No. 1

On June 13, 2017, FEI filed the Application referenced above. On January 5, 2018, FEI filed the Revised Application. In accordance with the British Columbia Utilities Commission Order G-22-18 setting out the Regulatory Timetable for the review of the Application, FEI respectfully submits the attached response to BCOAPO IR No. 1.

If further information is required, please contact Mike Hopkins, Senior Manager, Price Risk & Resource Planning at (604) 592-7842.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachment

cc (email only): Commission Secretary
Registered Parties

1.0 Reference: Exhibit B1, Application and 2017 Price Risk Management Annual Report

1.1 Please confirm that FEI has neither adopted in the past nor suggested any metrics going forward for the purpose of making an objective assessment of their price risk management activities. If unable to so confirm, please explain.

Response:

FEI has not adopted any metrics for past hedging programs for the purpose of making an objective assessment of its price risk management activities. However, for the assessment of its current and future PRMPs, FEI has and will be producing an Annual Report which provides information for assessing price risk management activities. As provided in the Commission Decision regarding the approval of FEI's 2015 PRMP and as discussed in Section 7 of the 2018 PRMP, starting in 2017 FEI began filing an Annual Report with the Commission, which discusses the effectiveness of the hedging program in meeting the objectives. The Annual Report includes the following information in this regard:

- A financial summary of any gains or costs resulting from hedging activities.
- A description of the impact on rate volatility of any hedging activity as compared to what would have occurred had hedging not been undertaken.
- The commodity rates achieved relative to historical averages.
- An overall assessment of the effectiveness of any hedging activities undertaken and comments on potential improvements or changes.
- A description of the impact on rate volatility related to the implementation of the recent enhancements made to the commodity rate setting mechanism and comments on any issues arising.

2.0 Reference: Exhibit B1, Application

2.1 In a worst case scenario, e.g., with respect to counterparty risk, credit risk, failure to perform, adverse spot commodity price moves, etc., please provide an estimate of the maximum adverse impacts that could be visited on a typical residential system gas consumer in the event that the instant proposals are approved and fully implemented by FEI.

Response:

FEI reduces counterparty credit risk (e.g. credit risk, failure to perform) by only transacting hedges with sound, credit worthy counterparties such as A-rated or higher Canadian banks.

In a counterparty credit risk event where a hedging counterparty fails to perform (i.e. make payments owing to FEI) during a period of adverse spot market price movements, FEI's commodity gas costs could be higher than if the counterparty had performed its financial obligations. Assuming that FEI has hedged 50 percent of the portfolio at $2 per GJ and market prices have moved up to average $4 per GJ, the potential annual hedging gain would be in the order of $135 million[1]. For a single counterparty, the potential lost financial gain would be in the order of $23 million per year[2]. Based on the allocation of costs to residential customers in the following table using the approved FEI 2018 Annual Review volume and customer count, the annual cost for a residential customer would be about $15. The result of such a credit risk event would <u>not</u> be an additional hedging cost per customer, but would be foregone savings due to counterparty credit failure. In the absence of the hedge, the higher cost would have been incurred anyway.

	TJ Sales Volume	$000 hedge cost	$/GJ	Customers	Avg Use	Annual Cost for Average Use Customer
Residential	81,227.4	$ 13,845	0.170	911,429	89.1	$ 15.19
Other	53,713.9	$ 9,155	0.170			
Total	134,941.3	$ 23,000				

[1] 185 TJ per day hedged x 365 days x ($4 per GJ market price minus $2 per GJ hedged price) = $135 million.
[2] Assuming FEI has 6 hedging counterparties and the hedging is split evenly among them.

3.0 Reference: Exhibit B1, Application

3.1 Please provide FEI's definition of the difference between speculation and hedging.

Response:

Please refer to the response to BCUC IR 1.5.1.

3.2 Can FEI confirm that none of its hedging activities or other allowed activities under its price risk management plan could possibly be construed as speculation?

Response:

Confirmed. Please refer to the response to BCOAPO IR 1.3.1.

3.3 Does FEI use Value at Risk (VAR) or other statistical measures to assess the prudence of its hedging activities? If so, please elaborate; if not, why not.

Response:

No, FEI does not use Value at Risk (VaR) or other statistical measures to assess the prudence of its hedging activities. VaR is a means of measuring the amount of financial risk present in a specific commodity, such as forward market natural gas prices, rather than a measure for assessing prudence of hedging activities.

As discussed in the response to BCOAPO IR 1.1.1, FEI submits an Annual Report to the Commission to help assess the success of its hedging program in meeting the objectives.

3.4 Does FEI agree that the longer the term of instruments held, the greater the risk? Please discuss.

<u>Response:</u>

FEI has interpreted the word 'risk' in this question as referring to the possibility of hedging costs resulting from a hedging strategy and not referring to physical supply or counterparty risk.

FEI agrees, in general, that the longer the term of hedging instruments held, the greater the potential for hedging costs as well as hedging gains. FEI's experience with the nature of the natural gas marketplace suggests that there will be periods of time in the future when market prices may decrease as well as increase. However, as discussed in Section 3.1 of the 2018 PRMP, the natural gas market price environment continues to remain low with greater potential for upside rather than downside price moves.

4.0 Reference: Exhibit B1, Application and 2017 Price Risk Management Annual Report

4.1 There appears to be no information in the application or in the Annual Report with respect to volatility reduction due to hedging. Can FEI confirm that it has no evidence in support of its volatility reduction objective at this time?

Response:

Not confirmed. FEI has included information with respect to volatility reduction due to hedging in both the 2018 PRMP and the 2017 Annual Report. The 2017 Annual Report includes Figure 3 and provides a discussion of projected gas costs with and without hedging. Section 4.3.1 of the 2018 PRMP discusses how fixed price swaps are an effective way of locking in market prices to reduce the impacts of market price volatility on gas costs and commodity rates. Figure 4-5 in the 2018 PRMP shows the potential results of a hedging strategy, combined with the rate setting mechanism and deferral account, in mitigating commodity rate volatility as compared to one without the use of hedging. Furthermore, the results of the survey, discussed in Section 3.3 and provided in Appendix A of the 2018 PRMP, provide evidence of the preference by customers for bill stability.

4.2 With respect to Figure 3, page 10 of the Annual Report, can FEI confirm that the commodity costs under hedging include hedging costs?

Response:

Confirmed.

5.0 Reference: Exhibit B1, Application

5.1 Is FEI able to provide actual historical hedging costs per hedged GJ of commodity? If so, please provide this information.

Response:

The table below provides actual FEI historical hedging gains and costs on a total dollar basis and per hedged GJ of commodity. The values in black are hedging gains and values in red are hedging costs. Please note that FEI did not have any hedges in place for 2015 and 2016 due to FEI developing its 2015 PRMP, the Commission review of the 2015 PRMP and market prices not falling to the approved hedging price targets until after 2016.

Hedging Gains and Costs		
Year	$ / GJ	Gains / Costs
1998	($0.475)	($11,680,212)
1999	$0.296	$8,565,130
2000	$0.443	$25,096,270
2001	($0.690)	($55,722,987)
2002	($1.295)	($124,345,799)
2003	$0.216	$10,295,585
2004	$0.267	$13,592,188
2005	$0.942	$66,654,123
2006	($1.299)	($86,604,901)
2007	($1.969)	($138,448,207)
2008	($0.722)	($40,760,938)
2009	($2.922)	($163,773,210)
2010	($2.434)	($135,773,969)
2011	($2.554)	($103,471,971)
2012	($2.442)	($95,837,424)
2013	($1.097)	($17,393,172)
2014	($0.173)	($168,214)
2015	N/A	N/A
2016	N/A	N/A
2017	($0.080)	($936,435)

To provide context regarding the hedging gains and costs in the table above, FEI's previous hedging programs prior to 2014 were largely programmatic and not responsive to changes in market price conditions. Hedges were layered in periodically over time until a maximum hedge level of about 50 percent of the commodity supply portfolio was reached. Under this strategy, with the steady decrease in market prices as a result of the abundance of shale gas in North America since 2008, for example, the hedging program resulted in hedging costs. The dramatic decrease in market gas costs brought on by the shale gas revolution represented structural changes to the natural gas marketplace, the impacts of which were unprecedented and unforeseen by energy market participants. Hedging gains also occurred during periods where there were significant market price increases, such as during the active hurricane season of 2005.

As discussed in the 2015 PRMP and 2018 PRMP, FEI has proposed a limited version of a more dynamic hedging strategy based on consideration of market price conditions. This is in contrast to the previous programmatic hedging strategy and includes predefined hedging targets based on consideration of gas producer break-even costs, market prices and probability analysis, and FEI's commodity rate. This opportunistic approach enables FEI to capture low market prices only if they occur, thereby avoiding the potential for significant hedging costs for a sustained period of time.

As the table above shows, FEI did realize a low level of hedging costs in 2017 as market prices fell. Based on the lower producer break-even costs that enabled these lower market prices in 2017 and continuing into 2018, among other factors, FEI has further reduced its proposed hedging price targets in the 2018 PRMP.

At this point in time it is difficult to determine the effectiveness of FEI's most recent and proposed hedging strategies as outlined in the 2015 PRMP and 2018 PRMP. This is because FEI has only implemented a portion of the maximum hedging volume and only has actual results since April 2017 when the hedges became effective. FEI believes that a longer period is required to properly determine the effectiveness of the current opportunistic hedging strategy in meeting the price risk management objectives. However, FEI expects this hedging strategy to be more effective than the previous programmatic strategy as it is more responsive to market prices and includes lower hedging price targets.

5.2 Is FEI able to provide forecast hedging costs per hedged GJ of commodity should the instant proposals be approved? If so, please provide this information

Response:

Please refer to the response to BCUC IR 1.24.2.