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March 8, 2016

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

Attention: Ms. Tannis Braithwaite, Executive Director

Dear Ms. Braithwaite:

Re: Project No. 3698864

FortisBC Energy Inc. (FEI)

2015 Price Risk Management Application (the 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 – Scope B

On December 23, 2015, FEI filed the Application referenced above. In accordance with Exhibit A-8 setting out the Amended Regulatory Timetable for the review of the Application, FEI respectfully submits the attached response to BCOAPO Scope B 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

Attachments

cc: Commission Secretary
Registered Parties

1.0 Reference: Exhibit B-1, and Appendix A, page 14, 17, Medium-Term Hedging Metrics

The Application references metrics with respect to added criteria regarding applying a 24-month outlook (e.g., Appendix A, page 5) and criteria in respect of PRM objectives (e.g., Appendix A, page 17). FEI is, among other things, applying for approval of a medium-term hedging strategy in the Application.

1.1 Does FEI propose a set of metrics by which its hedging strategy proposal, if approved, could be evaluated after the fact to determine its effectiveness in achieving its stated goals? If so, please provide a list of such metrics that could be used for such evaluation (e.g., hedging costs, reduction in volatility, etc.) and how the inputs to such an evaluation could be determined. If not, please explain why not.

Response:

FEI has not proposed a specific set of metrics by which its hedging strategy proposal could be evaluated after the fact to determine its effectiveness. However, FEI has proposed an update report on an annual basis to discuss how the strategies have worked so far and if any refinements need to be made. The report would include a summary of realised hedging gains or costs, reduction in rate volatility achieved with and without hedging and achieved commodity rates relative to historical averages.

1.2 Would FEI be open to providing regular reports or updates to the BCUC regarding its hedging activities, status, etc., should FEI's hedging proposal be approved by the BCUC?

Response:

Yes. FEI would be prepared to provide regular reports or updates to the Commission regarding its hedging activities, and has proposed this in the Application.

2.0 Reference: Exhibit A-5, BCUC Scope B IR 1.2.3, Measure of Volatility

2.1 Does FEI believe that price volatility is an essential input into most option pricing models?

Response:

Yes. FEI believes that price volatility, implied volatility in particular, is an essential input into most option pricing models.

2.2 Does FEI believe that the standard deviation of historical prices is a reasonable measure of historical volatility? If not, please provide FEI's preferred measure of volatility.

Response:

Yes. FEI believes that standard deviation is a reasonable measure of historical volatility.

2.3 Does FEI believe that the historically, the volatility of commodity prices has been constant?

Response:

No. FEI does not believe that the historical volatility of commodity prices has been constant.

2.4 Does FEI believe that if, statistically, the volatility of commodity prices has not been constant, then the 'correct' pricing of options and derivatives may be in doubt when relying on standard pricing models?

Response:

No. FEI does not agree with the statement. This is because of the difference between historical volatility and implied volatility. Historical volatility is a measure of the volatility based on the actual price changes that have already occurred in the past. Implied volatility, on the other hand, is the estimated future volatility of prices as viewed by the marketplace that takes into account current and future market conditions and expectations and so is one of the factors in determining the price of standard market-traded financial options.

Standard pricing models in financial options generally use implied volatility instead of historical volatility. The implied volatility of an option contract is the value of the volatility of the underlying instrument, which when input in an option pricing model (such as Black–Scholes) will return a theoretical value equal to the current market price of the option.[1]

[1] http://www.asx.com.au/prices/pricing_models.htm.

3.0 Reference: Exhibit A-2-3, Appendix C, Workshop 3, Back-casting

The referenced appendix, provides some scenario simulations, using data from April 2010 to October 2014.

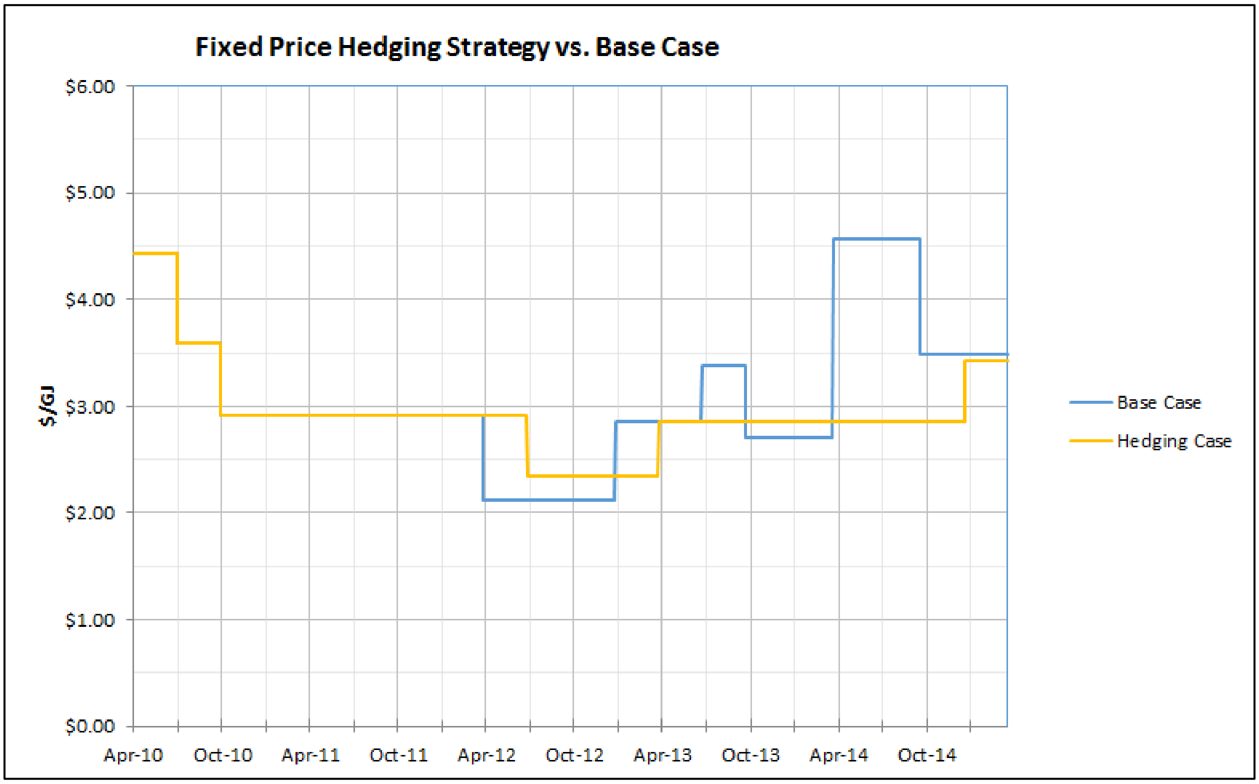
3.1 Please provide – if possible – in a table, the hedging cost and impact on commodity price volatility for sales customers, that the proposed hedging program would have had, had it been in effect in the April 2010 – October 2014 period, stating any necessary assumptions and making any required simplifications.

Response:

As discussed in the workshops, the proposed hedging program including the proposed hedging price targets would not have been implemented had it been in effect in the April 2010 to October 2014 period. This is because during that period the forward market prices did not fall to the level of the proposed hedging price targets. In other words, the hedging price targets were not achievable during that period. The proposed hedging price targets are more aligned with the now lower market price environment.

Section 3.1.5 of the Application discussed the potential hedging gains or costs that might occur if the hedging program is implemented in the future.

As discussed in Section 3.1.2 of the Application, during the stakeholder workshops, FEI explored the impacts of medium-term hedging strategies on commodity rates through the simulations performed by Aether. The simulations showed that a fixed-price hedging strategy could reduce the impact of market price volatility when compared to the current base case strategy without the use of hedging. In one of the simulations, Aether used a target price of $3.25/GJ for summer periods and $3.75/GJ for winter periods, given that significantly lower price targets would not have been achievable at the time. The volume hedge limit was 50% of the commodity supply portfolio. The hedging strategy resulted in fewer commodity rate changes, kept the commodity rate in a narrower band and also avoided the significant increase in the base case commodity rate due to the winter 2013/14 market price spike event.



Fixed Price Hedging Strategy vs. Base Case
$/GJ
$6.00
$5.00
$4.00
$3.00
$2.00
$1.00
$0.00
Apr-10
Oct-10
Apr-11
Oct-11
Apr-12
Oct-12
Apr-13
Oct-13
Apr-14
Oct-14
Base Case
Hedging Case

4.0 Reference: Exhibit B-1 and Exhibit A-2-3, General

4.1 Is the proposal for medium-term hedging dependent on current commodity prices, or does FEI believe that medium-term hedging (perhaps in a revised form) would be a benefit to ratepayers regardless of the level of commodity prices?

Response:

FEI believes that medium-term hedging, regardless of the level of commodity prices, would be a benefit to ratepayers in terms of mitigating the impacts of market price volatility on rates. This is illustrated in the response to BCOAPO Scope B IR 1.3.1. The proposed hedging targets, as discussed in Section 2 of the Application, are applicable to the current low market price environment and would not be achievable in a much higher market price environment.

As discussed in Section 1 of the Application, FEI had proposed a more comprehensive price risk management framework that included strategies which were responsive in different market price environments. For example, a fixed-price swap hedging strategy could target capturing low market prices while a low-priced premium call option strategy could help mitigate short-term market price spikes and their impacts on rates. This would position FEI with price risk management strategies before significant changes occurred in the level of market prices instead of having to react to market events after they have begun to take place. However, this outcome was not achieved as there was no support for such a framework. As a result, FEI is putting forward a limited number of requests for approval to the Commission.