Diane Roy
Director, Regulatory Affairs - Gas
FortisBC Energy Inc.

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

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

March 25, 2011

British Columbia Utilities Commission
Sixth Floor
900 Howe Street
Vancouver, B.C.
V6Z 2N3

Attention: Ms. Erica M. Hamilton, Commission Secretary

Dear Ms. Hamilton:

Re: FortisBC Energy Inc. ("FEI") and FortisBC Energy (Vancouver Island) Inc. ("FEVI")[1] (collectively the "Companies")
Price Risk Management Review of Objectives and Hedging Strategy and FEI 2011-2014 Price Risk Management Plan ("PRMP")

Response to the British Columbia Utilities Commission ("BCUC" or the "Commission") Information Request ("IR") No. 1

On January 27, 2011, the Companies filed the Application as referenced above. In accordance with Commission Order No. G-23-11 setting out the Regulatory Timetable for the review of the Application, the Companies respectfully submit the attached response to BCUC IR No. 1.

If there are any questions regarding the attached, please contact Mike Hopkins at (604) 592-7842.

Yours very truly,

FORTISBC ENERGY INC.

Original signed by: Brian Noel

For: Diane Roy

Attachment

cc (e-mail only): Registered Parties

---

[1] Formerly Terasen Gas Inc. and Terasen Gas (Vancouver Island) Inc. respectively.

1.0 Reference: Past Hedging

Exhibit B- 1, Section 2.4, pp. 8-12

1.1.1 Please complete the following table for past hedging activity:

FortisBC Energy Inc.

Year	Total Annual Hedging Losses (A)	Total Commodity Purchased (B)	Gain/(Loss) as a percentage of Total Commodity Purchased (A/B)
2000			
2001			
2002			
2003			
2004			
2005			
2006			
2007			
2008			
2009			
2010			

FortisBC Energy (Vancouver Island) Inc.

Year	Total Annual Hedging Losses (A)	Total Commodity Purchased (B)	Gain/(Loss) as a percentage of Total Commodity Purchased (A/B)
2000			
2001			
2002			
2003			
2004			
2005			
2006			
2007			
2008			
2009			
2010			

Response:

As requested, the following tables include past hedging activity for FEI and FEVI.

FortisBC Energy Inc.

Year	Total Annual Hedging Gains/(Costs) ($millions) (A)	Total Commodity Purchased ($millions) (B)	Gain/(Cost) as a percentage of Total Commodity Purchased (A/B)
2000	$26.4	$574.5	4.60%
2001	$(56.3)	$763.7	(7.37%)
2002	$(123.9)	$626.9	(19.77%)
2003	$8.6	$721.8	1.19%
2004	$15.6	$675.8	2.30%
2005	$66.2	$773.5	8.56%
2006	$(88.1)	$758.0	(11.62%)
2007	$(136.8)	$804.5	(17.01%)
2008	$(40.9)	$825.7	(4.96%)
2009	$(163.1)	$620.1	(26.29%)
2010	$(133.8)	$491.5	(27.23%)

* Total Commodity Purchased is based on the annual commodity costs including hedging gains/costs, net storage activity, and commodity resale.
* Total Commodity Purchased includes Lower Mainland, Inland, and Columbia service areas.
* Figures are provided on a calendar-year basis.

FortisBC Energy (Vancouver Island) Inc.

Year	Total Annual Hedging Gains/(Costs) ($millions) (A)	Total Commodity Purchased ($millions) (B)	Gain/(Cost) as a percentage of Total Commodity Purchased (A/B)
2000	n/a	$44.2	n/a
2001	n/a	$66.6	n/a
2002	$0.3	$49.2	0.57%
2003	$4.3	$70.9	6.09%
2004	$2.6	$71.9	3.66%
2005	$5.2	$94.3	5.49%
2006	$(5.0)	$93.0	(5.35%)
2007	$(6.3)	$92.3	(6.87%)
2008	$(1.8)	$103.1	(1.70%)
2009	$(19.7)	$82.0	(24.04%)
2010	$(15.1)	$67.9	(22.22%)

* Hedging activity for FEVI began in 2002.
* Total Commodity Purchased is based on the annual commodity costs including hedging gains/lcosts, net storage activity, and peaking gas resale.
* Figures are provided on a calendar-year basis.

2.0 Reference: Executive Summary

Exhibit B-1, Section 1.2, p. 3

2.1 The Application does not appear to be structured in a way that identifies the key commodity gas cost risks for the Utilities, an analysis of alternatives to address those risks, and the proposed solution that best mitigates those risks.

Please provide a detailed analysis on the risk issue, criteria that addresses the issue, the various alternatives, the pros and cons of the alternatives, and the reasoning for the preferred alternative that best mitigates the risk.

Response:

It is the Utilities view that the Application has identified the key commodity cost risks as well as a discussion of alternatives to address those risks and the proposed solution that best mitigates those risks. Section 3 and Appendix D of the Review Report regarding the Natural Gas Market Overview describe the uncertainty with respect to future market natural gas prices (i..e market risk). The commodity gas cost risks related to competitiveness, rate volatility and regional price disconnections are discussed in detail in Sections 4.4, 4.5 and 4.6 of the Review Report, respectively. In addition to the recommended hedging strategy, the use of gas cost deferral accounts and recovery mechanisms and the use of storage, which also help to mitigate these risks to some degree, are discussed in Sections 5 and 6 of the Review Report, respectively. Failure to appropriately manage these risks at a reasonable cost could result in customer migration away from natural gas to other sources of energy, such as electricity. This would result in both higher natural gas and electricity rates, as discussed in Section 4.4.1 of the Review Report.

The recommended enhanced hedging strategy, as discussed in Sections 7 and 8, in combination with the use of deferral accounts and storage, is the proposed solution that best mitigates these risks.

2.2 Is it the Utilities' belief that Hedging is the only alternative to address the risks identified in this Application?

Response:

Please refer to the response to BCUC IR 1.2.1.

3.0 Reference: Executive Summary

Exhibit B-1, Section 1.2, 7.1.2, pp. 3, 83

3.1 *“A greater use of options than in past hedging programs is recommended as these instruments provide effective upside cost mitigation while also reducing the potential out-of-the-money outcomes.”*

3.1.1 Please explain what “reducing potential out-of-the money outcomes” means and provide an example of an option that would allow for this described outcome.

<u>Response:</u>

Options play a key role in an effective price risk management strategy. Options, when used as defensive hedging instruments, may help to reduce out-of-the-money outcomes. Out-of-the-money outcomes occur when the effective hedge price of the instrument settles higher than the market price, resulting in a payment from the purchaser of the instrument to the selling counterparty. As options allow for downside market price participation, unlike fixed price swap instruments, they are an effective hedging instrument in meeting the objectives of the PRMP in a highly volatile price environment.

While both call options and costless collars are effective in providing upside price protection and downside price participation, call options are recommended in the enhanced hedging strategy as they potentially provide greater downside market price participation.

Figures 1 and 2 below help to illustrate the function of call options and costless collars relative to fixed price swaps and unhedged, or market, price movements.

Figure 1: Call Option vs. Fixed Price vs. Unhedged Price

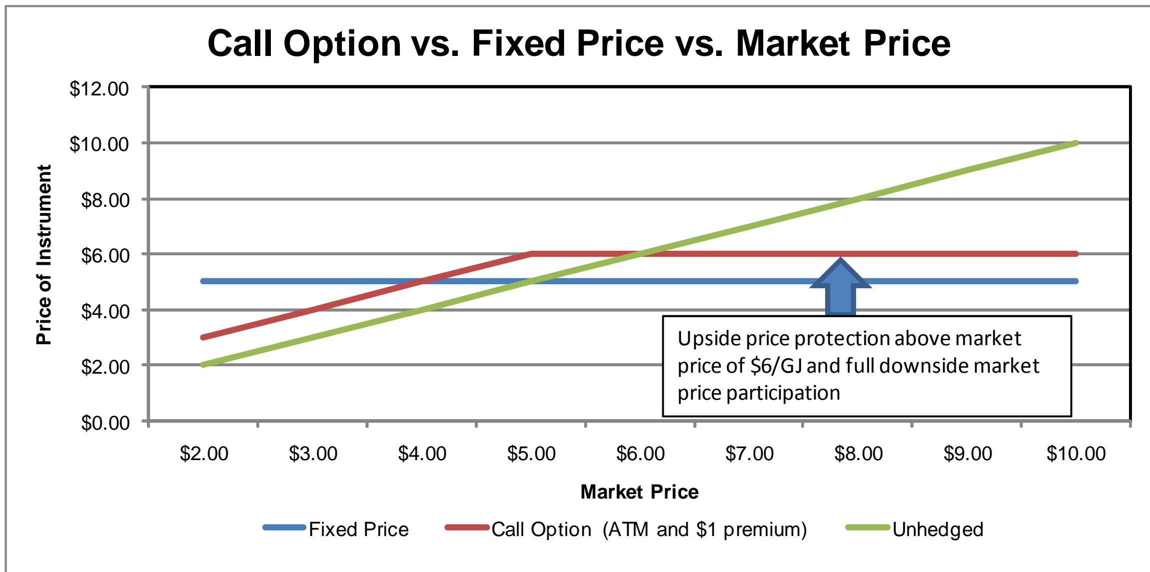
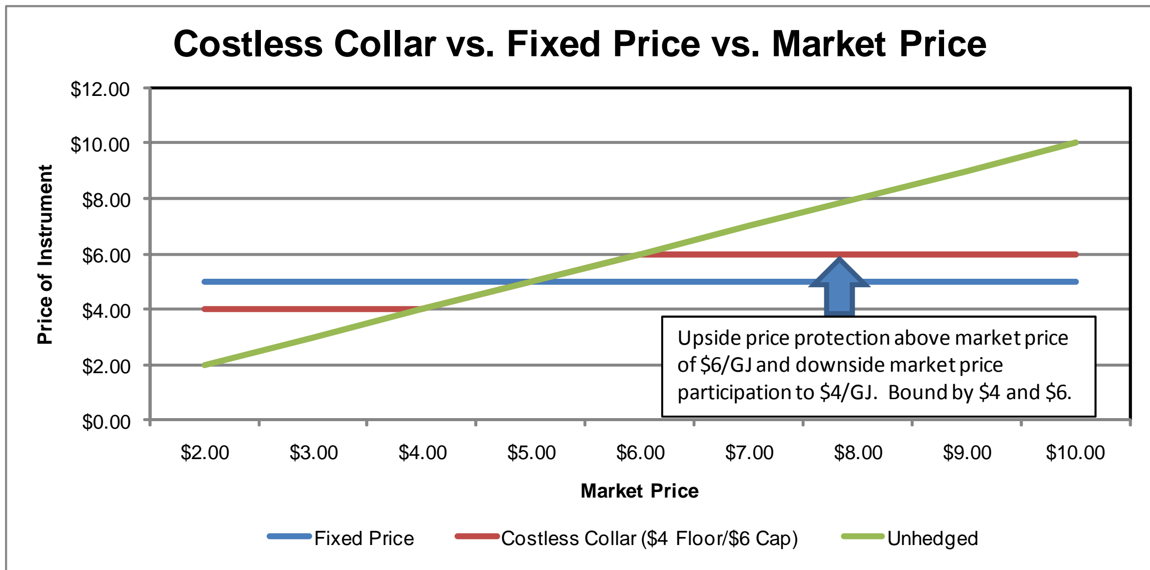


Figure 2: Costless Collar vs. Fixed Price vs. Unhedged Price



FEI has proposed the use of at-the-money call options as a defensive hedging strategy when forward prices, including market price volatility, breach predefined hedging price targets. By

doing so, FEI will be able to realize protection against run ups in market prices while at the same time allowing for full participation should market prices decline, as shown in the first figure above.

3.1.2 What is the downside risk of such options? Please explain and provide an example.

Response:

Options, when used as part of an effective hedging program, help reduce the risks associated with adverse movements in market prices. The downside risk of options is minimal. Options limit upside market price movements through the use of a strike price and also allow for downside market price participation if prices decline in the future. The recommended hedging program includes using call options as part of the defensive hedging strategy, implementing options only when market prices and volatility increase. The Companies would not generally favor options in a relatively low market price environment since potential downside in market prices is limited.

As stated in the response to BCUC IR 1.3.1.1, options play a key role in an effective price risk management strategy. Options, when used as defensive hedging instruments, may help to reduce out-of-the-money outcomes. Examples of options are provided in the response to BCUC IR 1.3.1.1.

The Companies have promoted a greater use of options in past PRMPs but have been limited by the Commission on the maximum percentage of options that the Utilities are able to utilize. The Companies feel that a greater use of option instruments as part of the defensive hedging component of the proposed PRMP can also help reduce hedging costs while achieving the objectives of the PRMP.

3.1.3 Have the Utilities constructed a list of proposed specific options which it would like permission to use? If so, are the Utilities willing to provide a policy listing such options including a definition and other parameters that would govern these instruments?

Response:

Although the Utilities have not constructed a specific list of proposed options, the use of call options with deferred premiums are recommended as discussed in Section 8.2 on Page 90 of the "Review Report". Please also see the response to BCUC IR1.3.1.4 for further discussion on the types of options the Utilities expect to employ.

The use of these instruments is governed by the Utilities' Derivatives Instrument Policy which provides the basis for the Utilities' internal financial derivatives control mechanism and is consistent with the Utilities' prudent and sound approach to price risk management. Please also see the response to BCUC IR1.3.1.5.

3.1.4 Would the Utilities be willing to restrict option uses to a small selection of well-defined and controlled option types rather than to all options in general? If so, what might those option types be?

Response:

The Utilities would be willing to restrict option uses to a defined selection of option types rather than to all options in general provided that the selection is flexible enough to enable response to changes in market conditions. In general the Utilities expect to limit the use of options to call options and costless collars.

As discussed in Section 8.2 on Page 90 of the "Review Report", FEI has recommended the use of call options with deferred premiums within the defensive hedging strategy. These call option instruments provide greater downside price participation than costless collars. Call option instruments provide effective upside cost mitigation while also reducing the potential out-of-the-money outcomes.

However, if market conditions changed such that FEI felt that costless collars were more effective for the defensive hedging strategy and meeting the objectives of the hedging program, then FEI would like the flexibility to select such instruments. Call options include a specific strike price, above which the purchaser of the instrument is protected from market price movements. Below this strike price, the effective hedge price floats, or moves, with market prices. A premium is paid for this upside protection and potential downside price participation. Costless collars, on the other hand, include a similar upper strike price but also a bottom floor price, below which the purchaser does not benefit from market price movements. No premium is paid for this instrument due to the limited downside price participation.

Recent indicative prices for these instruments are provided in Section 8 of the FEI-FEVI 2011-2014 Price Risk Management Plan.

3.1.5 Please provide corporate governance and treasury management policies which would govern the use of options in each of the Utilities.

Response:

All commodity hedging activities are subject to prior approval of the price risk management plans by the Commission and are governed by the FortisBC Holdings Inc. (formerly Terasen Inc.) Derivative Instrument Policy which is approved by the Board of Directors. Public disclosure of this policy document could materially prejudice or disadvantage the Utilities' ability to engage these hedging activities. The policy is therefore being provided in a separate confidential filing of Attachment 3.1.5.

3.1.6 How would the Utilities manage the use of Options to ensure that option trading was in accordance with the stated policies and did not take on excessive risks for ratepayers?

Response:

As discussed in the response to BCUC IR 1.3.1.3, the Derivatives Instrument Trading Policy contains guidelines for the use of financial derivatives, including options, for the purpose of managing risk. This document provides the basis for the Utilities' internal financial derivatives control mechanism and is consistent with the Utilities' prudent and sound approach to price risk management.

It should be noted that the use of options does not create risk for ratepayers. Indeed, the principle purpose is to reduce ratepayers risk with respect to natural gas commodity prices. For example, with call options, a premium that is set by the market is paid by the Utilities to a counterparty. If market prices remain below the option strike price then no financial payments occur between the Utilities and the counterparty. If market prices move above the option strike price, then the counterparty pays the difference to the Utilities.

3.1.7 Please clarify if "effective upside cost mitigation" could be accomplished using other hedging instruments excluding options?

Response:

Effective upside cost mitigation could be accomplished using other hedging instruments. For example, fixed price swaps can also provide effective upside cost mitigation. However, fixed price swaps do not also provide downward price participation if prices eventually declined. Options do provide a balance of both upside cost mitigation as well as downward price participation. Therefore, the Utilities have recommended an increased use of options for the defensive hedging component of the proposed price risk management strategy. This defensive hedging applies in situations where price volatility increases the risk that portfolio commodity prices will exceed certain competitive benchmarks and customers' tolerances for bill increases. The defensive hedging strategy is described by RiskCentrix in Section 7.1.2.2 of the Review Report and the discussion of the determination of the defensive hedging price triggers is within Section 8.2 of the Review Report.

3.1.8 If other non-option type hedges could manage "effective upside costs mitigation", please explain why the Utilities believe options are also needed. Provide a working example of hedging instruments to illustrate the Utilities' position.

Response:

As discussed in the response to BCUC IR 1.3.1.7, option instruments provide both effective upside cost mitigation as well as downward price participation, while non-option type instruments, such as fixed price swaps, do not. A working example to illustrate this difference between fixed price swaps and call options has been provided in Attachment 3.1.8.

3.1.9 How are the fees to purchase these sort of options calculated and what is the average expected transaction cost on such an option? Provide a working example to illustrate.

Response:

The purchase of call options, as recommended in the proposed hedging strategy, includes the components of a set strike price and the option premium or fee. The price of the option

premium is calculated by taking into consideration a number of market factors and an option valuation model is used to determine the pricing. In general, standard option valuation models (typically Black-Scholes is the most basic and common model) depend on the following factors: the current market price of the underlying commodity (natural gas in this instance), the strike price of the option, particularly in relation to the current market price of the underlying commodity, the time to expiration, and an estimate of the future volatility of the underlying commodity's price over the life of the option.

In general, an out-of-the-money call option (i.e. higher strike price than current market price) will have a lower associated premium than an at-the-money call option (i.e. strike price equal to current market price) since the probability of market prices breaching the strike price of an out-of-the money call option are much lower than an at-the-money call option. For illustrative purposes, Table 1 below presents current indications of option strike prices and associated premiums for the Nov11-Mar12 period for an at-the-money and $1 out-of-the money call option with a fixed price swap at $3.91 CDN/GJ.

Table 1: Call Option Indications for the Nov10-Mar11 Period

Term	ATM Call Option		$1 Out-of-the Money Call Option	
	Strike	Premium	Strike	Premium
Nov11-Mar12	$3.91	$0.45	$4.91	$0.17

There are no explicit transaction costs associated with purchasing options as the Utilities transact for these instruments over the phone with a counterparty rather than on a centralized exchange. The seller of the instrument, whether it is an option or a fixed price swap, will typically embed their cost or profit into the price of the instrument. This method of pricing instruments is standard industry practice.

As stated in the response to BCUC IR 1.3.1.1, FEI has proposed the use of at-the-money call options as a defensive hedging strategy when forward prices, including market price volatility, breach predefined hedging price targets. By doing so, FEI will be able to realize protection against run ups in market prices while at the same time allowing for full participation should market prices decline.

4.0 Reference: Price Risk Management Objectives

Exhibit B-1, Section 2.1, p. 5

4.1 *"The primary objectives of the PRMP have been to:*

- *Improve the likelihood that natural gas remains competitive with other sources of energy, primarily electricity at this time;*
- *Moderate the volatility of market gas prices and their effect on rates for customers; and*
- *Reduce the risk of regional price disconnects."*

4.1.1 Please clarify what is meant by the first point. Specifically, explain the inclusion of "at this time"?

Response:

One of the primary objectives of the PRMP has been to improve the likelihood that natural gas remains competitive with other sources of energy, and as discussed in the Application, "*at this time*" the primary alternative source of energy is electricity. The Utilities recognize that, currently, electricity and natural gas are the most common sources of energy for space heating, domestic hot water heating, cooking, etc. in British Columbia. And given that one source of energy can be replaced for another by consumers the Utilities believe that competitiveness with electricity is appropriate in today's energy marketplace. More specifically, as discussed in Section 4.4.5 of the Review Report, the Utilities are significantly challenged with hot water heating, even based on currently depressed market natural gas prices. The capital cost differences between natural gas and electricity for this application add to the challenge of attracting new customers. However, as discussed in Section 4.4 of the Review Report, energy consumers in the Province will increasingly have more options in the future, such as ground source heat pumps. If these alternative energy sources become significant in the future, the Utilities may consider appropriate strategies to maintain competitiveness.

4.1.2 If hedging was approved and shortly after natural gas commodity prices were to climb to $10 GJ on a permanent basis, please specify how long hedging would allow natural gas to remain competitive with other sources of energy? This strategy does not appear to address this objective on sustained basis?

Response:

If hedging was approved and natural gas commodity prices climbed to $10/GJ on a permanent basis, the competitiveness of natural gas would depend on a number of factors. As discussed in Section 4.4 of the Review Report, in addition to natural gas prices, future electricity rates, the carbon tax and capital cost differences between natural gas and electricity all influence the competitiveness of natural gas. As the proposed hedging horizon extends out three years in time, its effectiveness in managing competitiveness is short term in nature. Ultimately, over the long run, the natural gas marketplace and electricity rates will determine the competitiveness of natural gas. Government policy and public perception towards energy and the role of natural gas in B.C. will also determine competitiveness over the long run.

4.1.3 Might there be other alternatives to keep gas competitive with other sources of energy for a comparable time period? If so, what might those alternatives be?

Response:

The Utilities have assumed that a comparable time period is referring to a permanent increase in market gas prices as described in the previous BCUC IR 1.4.1.2 question and not referring to the hedging horizon of three years per the proposed hedging program.

The Utilities acknowledge that there are alternatives to hedging to potentially maintain longer term rate stability and competitiveness. One alternative to keeping natural gas competitive with other sources of energy over the longer term would be longer term natural gas hedging. By increasing the term of hedges to years or even decades, the Utilities could potentially preserve some degree of competitiveness over the long run. However, there are risks associated with longer term hedging, including significant changes in natural gas prices, electricity rates, counterparty risk, and changing energy consumption and government policy. Furthermore, this would not provide the appropriate balance of managing gas costs, meeting the objectives and providing consumers with appropriate price signals.

Another alternative that would potentially provide rate stability and competitiveness over the longer term is ownership of producing reserves of natural gas.

4.1.4 Please explain what "moderating the volatility of gas prices" means and define what management believes is an acceptable amount of volatility?

Response:

One of the key objectives of the Utilities' PRMP is to moderate the volatility in gas prices. Reducing or tempering the volatility in gas prices helps to reduce dramatic swings in resultant rates that customers pay and it has been indicated that customers do value rate stability. As discussed in section 4.5.1.1 of the Review Report, the Utilities engaged a research company to survey customers regarding their tolerance for rate volatility. The results of the Residential Customer Price Volatility Preferences Study indicated that customers prefer rate stability. The study revealed that, on average, residential customers could tolerate annual bill increases of 16%. As discussed in Section 8.2 of the Review Report, this rate volatility tolerance was used in the determination of the defensive hedging price triggers. While value hedging and some programmatic hedging will help reduce rate volatility, the defensive hedging strategy is implemented when market prices threaten to increase rate volatility above customers' tolerances.

4.1.5 If a customer is sensitive to gas price volatility, are there other alternatives already available to those customers? For example, customer choice programs that offer fixed prices for up to 5 years?

Response:

If a FEI customer is sensitive to gas price volatility, there are other alternatives available to those customers. For those customers that prefer absolute rate certainty there is the Customer Choice Program that enables Marketers to offer fixed rates on commodity supply for up to 5 years. However, this alternative would appeal only to those customers who wish to enter into a longer term fixed rate with no, or limited, potential for any decrease in rates if market prices subsequently declined. The Customer Choice Program is currently not available for customers of FEVI or FEW.

In addition, for those natural gas customers that wish to reduce their exposure to gas price or bill volatility, the Energy Efficiency and Conservation programs offered by the Utilities can help the customer upgrade their natural gas appliances that could allow them to improve efficiency and therefore decrease energy bills over time.

4.1.6 Does management see hedging as a way for the Utilities to compete with fixed price contracts offered by gas marketers?

Response:

No. Management supports hedging as a means to meet the PRMP objectives, including competition with other sources of energy, at a reasonable cost for customers, while still providing them with appropriate market price signals. The Utilities are not in competition with the marketers in providing commodity supply and the Utilities do not earn any profit from pursuing this endeavour. It should be noted that the inability to maintain competiveness and subsequent migration of customers to other sources of energy impacts all remaining natural gas consumers through higher delivery rates, regardless if they receive their commodity supply through marketers or from the Utilities' variable rate offering.

Please also see the response to BCUC IR 1.4.1.5.

4.1.7 If a customer was significantly concerned about gas price volatility, does management accept that these customers would already be customers of a gas marketer?

Response:

Management is not aware of any evidence which suggests that if a customer was significantly concerned about gas price volatility that these customers would already be customers of a gas marketer.

4.1.8 Have any gas marketers in B.C. expressed concern that the Utilities' proposed hedging program will interfere or have a negative impact on the sales efforts of the Gas Marketers?

Response:

The Utilities are not aware of any concerns expressed by the Gas Marketers regarding the proposed hedging program or any previous plans approved by the Commission. It should also be noted that no marketers have registered as interveners or interested parties in this proceeding.

4.1.9 If adopted, does the proposed gas hedging program bring the Utilities' natural gas management strategy more or less in line with the practices of the Gas Marketers?

Response:

No, the Utilties do not believe that the proposed gas hedging program brings the natural gas management strategy in line with the practice of the gas marketers. The Utilties natural gas management strategy includes the use of deferral balances and rate recovery mechanisms, the use of storage and the hedging program, which is designed to meet the objectives at a reasonable cost to customers. The Utilties believe this strategy provides an appropriate balance of rate volatility mitigation, competitiveness and price signals for consumers, whereas the marketers provide longer term fixed rate offerings. Furthermore, the marketers include a profit margin within their fixed rate offerings, while FEI does not, passing only those costs incurred onto customers.

For clarity, the Utilities are not privy to the specific natural gas management strategies the marketers employ to support their fixed price offerings, however recognize that the marketers participate in the same markets and have the same instruments available to them to manage risk and exposure. While the Annual Contracting Plans and Price Risk Management Plans of the Utilities are reviewed by the Commission on an annual basis, those of the marketers are not. However, in the end, the marketers provide a different product to customers than what is provided by the Utilities.

4.1.10 If adopted, does the proposed gas hedging program move the Utilities' natural gas management strategy further away from a policy of charging gas customers market values for natural gas?

Response:

No. The proposed gas hedging program does not move the Utilities' natural gas management strategy further away from a policy of charging gas customers market values for natural gas. However, the Utilities believe that the proposed hedging program is an improvement over the previous program in terms of reducing the potential out-of-market hedging costs. The proposed program continues to protect customers from adverse market price movements with defensive hedging but allows for greater favourable downside market price movements with the greater use of options and value hedging. As discussed in the previous response to BCUC IR 1.4.1.9, the Utilities continue to provide an appropriate balance of rate volatility mitigation,

competitiveness and price signals for consumers. As always, the Utilities will continue to pass through gas costs without any mark-up or profit margin to customers.

4.1.11 If approved, how do the Utilities intend to explain the new gas hedging strategy to its customers?

Response:

The Utilities currently use a number of tools to educate customers about the cost of gas, such as through information provided on the FortisBC website, pamphlets, bill inserts and press releases associated with quarterly rate filings, and would not expect to change this approach if the new gas hedging program was approved. The Utilities recognize that many customers would not understand the more technical aspects of a hedging program, being generally unfamiliar with derivative instruments and hedging strategies, and therefore the description of the purchase and hedging activities that help the Utilities to manage the cost of gas are more general in nature.

The link to the information provided on the website is:
http://www.fortisbc.com/NaturalGas/AboutNaturalGas/Pages/Cost-of-gas.aspx

Copied below is a sample of the information posted on the website.

> *FortisBC doesn't mark up the cost of gas. You pay what we pay. Natural gas is a commodity traded on the open market like other commodities such as oil, coffee or lumber. As with most commodities, the price is dictated by supply and demand. When demand is high, the price rises. When supply is high, the price drops.*
>
> *FortisBC buys natural gas from producers, and then charges you exactly what we paid for it. We don't mark up the cost of gas. That means you pay what we pay. We do charge for the delivery service, which is how we make our money.*
>
> *FortisBC is the largest distributor of natural gas in British Columbia. We don't explore for or produce natural gas. Essentially, we are a delivery service, bringing natural gas to more than 930,000 residential, institutional commercial and industrial customers across BC.*

FortisBC works to minimize price fluctuations

We work to get the best value for our customers, and protect them from market fluctuations through our purchasing strategies which include:

- *purchasing gas from a variety of sources*
- *purchasing gas based on daily and monthly pricing structures*
- *locking in the price of gas through the use of futures contracts (hedging)*
- *purchasing a portion of the supply from the spot market*

These strategies help FortisBC provide natural gas at rates that are competitive with other sources of energy, such as electricity.

The end result is a reliable, cost-effective natural gas supply for our customers.

4.1.12 It appears that business risks have been comingled with commodity gas cost risk; is this the case and if so please explain the rational and justification.

Response:

As a natural gas utility, business risks and commodity gas cost risks are ultimately tied together. Ineffective management of natural gas commodity costs can result in greater volatility in natural gas rates and a decline in competitiveness which can ultimately result in customer migration away from natural gas to other sources of energy. This, in turn, increases the business risk of the Utilities. Therefore, the lack of policies and strategies to effectively manage gas costs can increase commodity gas cost risk as well as business risk.

4.2 *"There are indications that natural gas rate volatility is a concern for many Terasen customers. Evidence of this is provided in Section 4.5 of this report. While market prices are currently depressed and price volatility is low, there is the potential for price volatility to return to the marketplace in the future (as described in Section 3). The enhanced hedging program recommended within*

this report is the most effective way to mitigate market price volatility and its impacts on customers' rates."

4.2.1 If the Utilities' customers are concerned about natural gas rate volatility, why don't they enter into a fixed rate gas supply contract for between 1-5 years with a licensed gas marketer?

Response:

FEI natural gas customers concerned about natural gas rate volatility have the ability to enter into a fixed rate gas supply contract for 1 to 5 years with a licensed gas marketer. This option would appeal to those customers who are willing to pay a premium to have all market risk transferred to a marketer in order to achieve no variability in their rates over the selected term, even if market prices eventually decline. The FEI standard rate offering protects customers from significant amounts of market price volatility while still providing appropriate price signals at a reasonable cost for customers with no profit mark-up.

4.2.2 Do the gas supply contracts with Gas Marketers provide lesser, equal or greater certainty of natural gas rates to gas customers as compared to those of offered by the Utilities?

Response:

In absolute terms, fixed price gas supply contracts with gas marketers provide greater certainty of natural gas commodity rates to gas customers as compared to the commodity rates offered by FEI.

4.2.3 Why is the proposed hedging strategy the most effective way to mitigate price volatility and its impact on customer rates? Specifically, why is it more effective then entering a supply agreement with a gas marketer?

Response:

The Utilities intend that "most effective way" refers to cost effectiveness in meeting the objectives of the PRMP. The proposed hedging strategy enables FEI to effectively mitigate (but not eliminate) price volatility and its impact on customer rates while still providing appropriate price signals at a reasonable cost for customers.

The Utilities acknowledge that from a customer’s perspective, a more “effective” way to eliminate commodity price volatility all together could be to enter into a supply agreement with a gas marketer. Gas marketers will also be seeking to recover all costs incurred in managing the risk associated with supplying fixed price contracts and also include a profit margin within their fixed rate offerings whereas FEI passes through only incurred costs. In this situation, the Customer would be making the decision to trade off cost effectiveness against cost certainty. The Utilities are not proposing to eliminate commodity price volatility with its hedging strategy.

It is the Utilities belief that customers that do not contract with Marketers for their commodity supply still expect the Utilities to manage the price of gas and the impacts on gas costs prudently on their behalf. In addition to hedging, the Utilities employ a number of strategies to cost effectively manage gas costs for its customers (e.g. gas portfolio contracting strategy, deferral accounting, quarterly rate reviews).

It must also be understood that if a customer chooses to leave the system because of the lack of real or perceived competiveness due to high volatility, or reluctance to contract with a marketer and pay the costs to eliminate that risk, the reduction in load will impact all remaining customers in higher delivery rates regardless of who provides the commodity supply.

4.2.4 Are the Utilities indifferent to whether their customers buy gas from the Utilities or a Gas Marketer?

Response:

As the Utilities do not make any profit on the natural gas commodity it provides to customers, they are indifferent as to whether customers buy gas from the Utilities or a gas marketer based on this consideration. However, the Utilities are concerned about the competitiveness of natural gas service in general, whether the commodity is supplied by a gas marketer or the Utilities. If natural gas service is not competitive with other sources of energy, migration of customers increases the business risk for the Utilities and for the marketers over the long run.

4.2.5 Do the Utilities recommend that customers who are concerned about price volatility consider purchasing natural Gas from a Gas Marketer?

Response:

FEI is concerned with ensuring customers have the best information available to help them make informed choices about their commodity supply options, however does not provide recommendations to customers. Ultimately, how customers choose to buy their gas must be their own choice. The link to the Customer Choice Program provided on the FortisBC website is provided here:

http://fortisbc.com/NaturalGas/Homes/CustomerChoice/Pages/default.aspx.

4.2.6 Please identify publicly available information on the Utilities' website that encourages customers to consider using Gas Marketers as a way to reduce gas price volatility should that be a concern of the customer. Provide a web address if possible.

Response:

The reference to "encouraging" suggests that FEI shares a responsibility to persuade or motivate customers to select fixed rate products from independent Gas Marketers. FortisBC Energy Inc. facilitates Customer Choice on behalf of Gas Marketers, and believes that the Company's primary role with respect to the program is to ensure that customers can access the information they need to make an informed purchase decision. FEI remains neutral with respect to which option customers choose. The responsibility to "educate" customers about Customer Choice is consistent with the objectives set out in BCUC Order No. G-181-08, dated December 12, 2008. In this Order, the BCUC defined the objectives of Customer education as follows:

- *Inform gas customers that there is a value distinction between a variable rate and a fixed rate for the gas commodity and provide them with information concerning the issues they could consider to determine which rate plan represents best value in their circumstances.*
- *Identify the gas commodity marketplace as a competitive market and provide information on where and how the various product offerings may be compared*[1]*.*

In support of these objectives, FEI provides consumers with considerable information about fixed rate products on its website. The information can be accessed from the gas division's homepage or at the following link:

[1] BCUC Order No. G-181-08, December 12, 2008, page 3.

www.fortisbc.com/NaturalGas/Homes/CustomerChoice/BuyingFromAGasMarketer/Pages/default.aspx.

The history of the regulated variable rate available from the Company, and a selection of current gas marketer rates are also available by visiting www.fortisbc.com/choice.

The decision to choose a Consumer Agreement from an independent Gas Marketer should be weighed carefully by consumers. The financial obligations associated with fixed rate Consumer Agreements typically involve thousands of dollars over the life of a contract. Termination clauses can be onerous and vary by company and contract. Although FEI believes that competitive Consumer Agreements are available, the Company refrains from actively promoting Customer Choice products. It is in the consumers' best interest to approach potential agreements with caution; ensuring they are equipped with appropriate questions and information that will ensure their purchase is prudent.

4.3 *"An underlying objective has been to meet these primary objectives at a reasonable cost. The Company believes these objectives continue to be appropriate given the potential for future price volatility in the North American natural gas marketplace as well as the unique regional marketplace in which Terasen operates, as discussed within this report."*

4.3.1 Please provide a complete list of all costs involved with maintaining a hedging program.

Response:

The costs involved with maintaining a hedging program are related to several components. These primarily include price risk management, credit and compliance, legal, regulatory, market information and any applicable consultant work and are described below. As the Utilities do not track specific administrative or management costs involved with maintaining a hedging program, exact costs for each component cannot be determined. The costs associated with these components can vary from year to year, depending upon changes within the price risk management plan, changes in counterparty credit, any incremental financial counterparties or contracts and required consultant work or review and the regulatory review process. However, an approximate allocation of the costs for 2010 has been provided here. These costs are included as part of the Core Market Administration Expense which is subject to review by the Commission and recovered from customers in the cost of gas.

Price risk management includes work performed by the Manager, Commodity and Price Risk as well as the Price Risk Analyst in developing the Price Risk Management Plans and the execution of hedging transactions. These roles are responsible for general commodity and

market analysis and risk management and providing energy management services to other utilities (such as physical gas purchasing and daily load management for Pacific Northern Gas Ltd.) and therefore are not wholly allocated to hedging activity. Price risk management also includes oversight by the internal Price Risk Management Committee ("PRMC"), which reviews commodity risk and quarterly gas cost filings as well as hedging activity. This typically occurs within meetings on a quarterly basis. The total costs associated with these functions of the Manager, Commodity and Price Risk, Price Risk Analyst and PRMC are in the order of $100,000 per year.

Credit and compliance includes the work of the Compliance Analyst in ensuring hedging transactions are executed according to internal policies and monitoring of counterparty credit ratings to ensure counterparties are sound. This role is responsible for monthly and quarterly reporting of hedging activity to the PRMC and the Commission. The compliance role also oversees physical transaction activity which involves significantly more transactions and counterparties than that related to hedging activity. The estimated costs associated with these functions are in the order of $55,000 per year.

Some legal work is required on a periodic basis if a new counterparty is required and financial derivatives contracts need to be reviewed. The costs associated with these functions would be in the order of $20,000 per year.

The regulatory group is required for the review and preparation of filings related to price risk management to the Commission. The costs associated with these functions would be in the order of $14,000 per year.

Market information includes subscriptions related to North American natural gas market information and data services that are required for both physical and financial transactions. These resources would still be required in the absence of hedging activity and so there are no costs specifically allocated to the hedging program.

Consultant work is required from time to time, but not on an annual basis. This work typically involves the use of an independent consultant to provide an assessment of the Utilities price risk management and recommendations for enhancements. For example, the work performed by RiskCentrix for the Utilities which began in September 2010 as part of the review of the price risk management objectives and hedging program as directed by the Commission was in the order of $130,000.

Transaction costs have not been listed as a component of hedging activity. The Utilities do not incur any transaction costs when executing hedging transactions, as these transactions are done over the phone and not through a central exchange mechanism. While the Utilities would pay premiums for call options, these are considered part of the price of the option, along with the strike price, and so are distinct from transaction costs.

The following table summarizes the estimated costs for these components of managing a hedging program for 2010. As discussed, these costs can change from year to year and consultant work is typically not required each year.

Summary of Estimated Costs	
Price Risk Management	$ 100,000
Credit and Compliance	$ 55,000
Legal	$ 20,000
Regulatory	$ 14,000
Consulting	$ 130,000
	$ 319,000

4.3.2 Please complete the following table for historical costs for each of the Utilities:

Year	Transaction Costs for Hedging Program	Internal resource costs for program management	Legal costs to conduct Hedging	Other costs greater than $100,000 (please provide a list of details below)
2000				
2001				
2002				
2003				
2004				
2005				
2006				
2007				
2008				
2009				
2010				

Response:

Please refer to the response to BCUC IR 1.4.3.1.

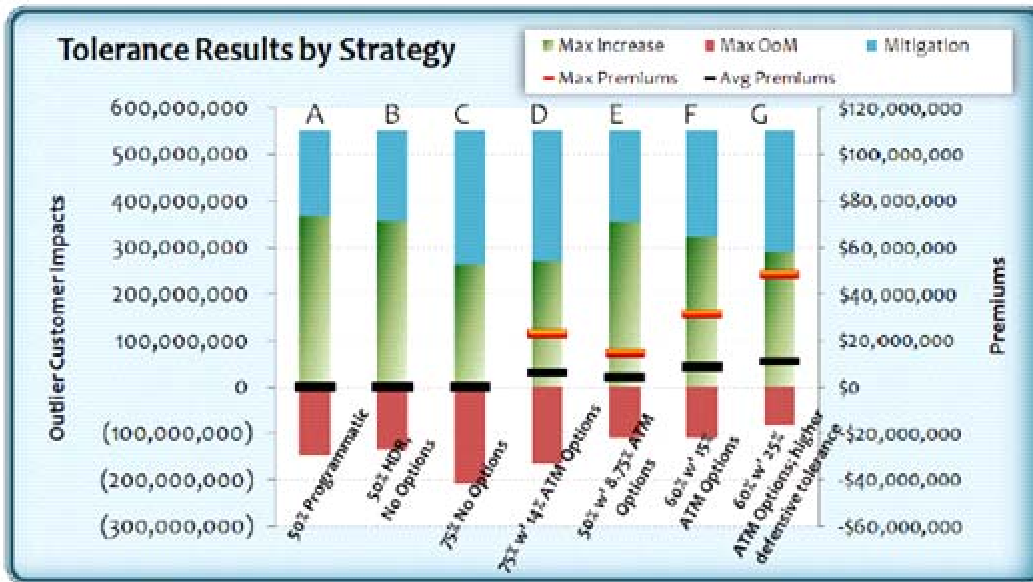
4.3.3 In the table bellow, please define the ranges of reasonable costs (to the nearest $100,000) based on management's planning and evaluation of the proposed Hedging Program for the following hedging proposals. If no estimate is available, please provide the upper limit to reasonable cost or explain how the hedging portfolio costs could be analyzed / evaluated if management has not established an expectation of costs in the planning process:

Hedging Item	Bottom of range of reasonable external costs based on planning	Top of range of reasonable external costs based on planning	Frequency that actual costs will be compared or analyzed against this expectation based on the Utility's internal policies
Programmatic			
Defensive Hedging			
Value Hedge			
Basis Swaps			

Response:

FEI is not able to provide the ranges of reasonable costs for the indicated hedging proposals. The costs associated with the programmatic, defensive, value and basis hedging will depend on market price movements and where market prices ultimately settle. However, the consultant RiskCentrix tested the recommended hedging strategy as a whole (including the programmatic, defensive, value and basis hedging) against some representative simulated market price paths in order to determine the effectiveness of the overall strategy. These price paths included both high and low market price movements and periods of high price volatility. This helped to ensure that the recommended strategy meets the objectives in various price environments with a high degree of probability. The results are provided and discussed in Section 7.1.3 of the Review

Report and more details are provided in the RiskCentrix report in Appendix A. A summary of the results in terms of cost mitigation, maximum out-of-market costs and option premiums per Table 18 on Page 88 is presented again here.



As discussed within Section 7.1.3 of the Review Report, RiskCentrix recommends hedging strategies towards the right hand side of this graph, as they provide the best balance of cost mitigation in high market price environments with the lowest potential out-of-market hedging costs in low market price environments in achieving the objectives. Based on these results, FEI has recommended RiskCentrix strategy G as the proposed hedging strategy, discussed in Section 8 of the Review Report.

4.3.4 As hedging losses will be fully passed along to the customer, these amounts may also become a program cost. In the table below, please define the ranges of reasonable hedging losses (to the nearest $100,000) based on management's planning and evaluation of the proposed Hedging Program for the following hedging proposals. If no estimate is available, please provide the upper limit to reasonable cost or explain how the hedging portfolio costs could be

analyzed/evaluated if management has not established an expectation of costs in the planning process:

Hedging Item	Top of range of reasonable losses based on planning	Frequency that actual losses will be compared or analyzed against this expectation based on the Utility's internal policies
Programmatic		
Defensive Hedging		
Value Hedge		
Basis Swaps		

Response:

Please refer to the response to BCUC IR 1.4.3.3.

4.3.5 Has the Utility's board of directors been briefed on the proposed hedging strategy and have they approved this strategy. If so, please note the date of such approval.

Response:

All commodity price risk management activities are subject to prior approval of the price risk management plans by the Commission and are governed by the FortisBC Holdings Inc. (formerly Terasen Inc) Derivative Instrument policy which is approved by the Board of Directors. The most recent update to this policy was approved by the Board on April 28, 2009.

Pursuant to the policy, a Price Risk Management Committee must be established for any deriviatives program and such committee is responsible for the review and approval of all risk management and gas trading programs which make use of financial derivative instruments. In particular, the policy states that "All individual risk management programs using derivatives must be approved by all of the following Terasen Inc executive officers: the Chief Executive Officer, Chief Financial Officer and Treasurer". Provided that such risk management plan is

compliant with the Derivative Instrument policy, no further approval of the Board of Directors is required.

Management briefed the Audit and Risk Committee of the Board of Directors on the status of the commodity price risk management plan on the November 2, 2010. The Committee was updated on the progress of the review report following the Commission's July 22, 2010 decision and the work being done by RiskCentrix to review and recommend enhancements to the previous hedging strategy. No approvals by the Committee were sought.

The Price Risk Management Committee, including the Chief Executive Officer, Chief Financial Officer and Treasurer, reviewed the Review Report and the proposed hedging strategy and approved the proposed 2011-2014 Price Risk Management Plan at a special meeting of the Committee on January 25, 2011. The Review Report and proposed Price Risk Management Plan were filed with the Commission on January 27, 2011.

5.0 Reference: Price Risk Management

Exhibit B-1, Section 2.3, p. 7

5.1 *"The measure of success of a hedging program should not be whether hedging gains or costs were realized but rather whether the objectives, reflecting the interests of customers, were achieved."*

5.1.1 Is it the Utilities' belief that an objective of customers IS NOT obtaining natural gas at the lowest possible price?

Response:

The Utilities believe that cost is an important objective of customers. As such, an underlying objective of the Utilities is to provide price risk management at a reasonable cost to customers. However, this objective must be balanced with providing competitive rates and reducing rate volatility for customers. As discussed in Section 4.7 of the Review Report, it would be difficult for the Utilities to obtain the lowest possible price and incur no hedging costs each year, given the volatility in the natural gas marketplace, while still managing competitiveness and volatility. Ultimately, the hedging program should provide an appropriate balance of volatility reduction, energy competitiveness, risk reduction of regional price disconnections, and cost effectiveness to create value for customers.

5.1.2 Is it the Utilities' belief that customers are more concerned with stable rates than low price gas?

Response:

It is the Utilities' belief that customers are concerned with both stable rates as well as low gas rates. As discussed in the response to BCUC IR 1.5.1.1, the hedging program should provide an appropriate balance of volatility reduction, energy competitiveness, risk reduction of regional price disconnections, and cost effectiveness to create value for customers. The Annual Contracting Strategy which determines the physical supply resources, including the use of storage, helps in this regard by meeting the objectives of supply reliability, diversity and cost effectiveness, as discussed in Section 6.2 of the Review Report. Furthermore, the deferral account balances and quarterly rate adjustment mechanism also support these objectives related to rate stability and cost effectiveness for customers.

5.1.3 If the objectives are stabilized rates that are competitive with other energy sources, isn't utilizing gas marketing contracts an alternative to the hedging program?

Response:

FEI natural gas customers can contract for their commodity supply with a gas marketer as an alternative to the utility standard rate offering. However, while gas marketer contracts can provide customers rate stability through fixed rate contracts for 1 to 5 years, the ability of marketers to provide rates that are competitive with other energy sources depends on a number of other factors. These include but are not limited to market conditions, changes in electricity rates, capital cost differences between natural gas and electricity, changes in delivery and midstream rates, and overall supply and demand. It should also be acknowledged that marketers will engage in hedging activities to reduce the exposure of their portfolio to changes in market prices and mitigate the impact of entering into fixed rate contracts and therefore have similar types of costs. Marketers must also earn a profit on the supply of natural gas, while the Utilities do not earn on the cost of gas in commodity rates.

Regardless of the ability for marketers to offer fixed rate contracts, the Utilities have an obligation to the majority of the customers (those that have chosen not to contract with a marketer) to manage their energy costs prudently and cost effectively on their behalf. In addition, some customers may desire some rate stability but not wish to be locked in with a marketer offering for an extended period of time. Furthermore, maintaining competiveness will help to retain and attract customers on the system, which in turns benefits delivery rates for all customers regardless who they choose as their commodity provider.

5.1.4 Wouldn't a 5 year gas marketing contract meet the stated objectives of the hedging portfolio for a more extended period of time than the proposed hedging strategy?

Response:

A 5 year gas marketer contract may not meet the stated objectives of the hedging portfolio for a more extended period of time than the proposed hedging strategy. As discussed in the responses to the previous BCUC IRs 1.5.1.1 to 1.5.1.3, the hedging program, physical resource portfolio defined by the Annual Contracting Plan, deferral accounts and quarterly rate adjustment mechanism all work together to meet the objectives of reliable, relatively stable, competitive and cost effective rates for customers. Customers who are only looking for absolute rate stability over the longer term may find value in the marketer offerings. The Utilities' hedging

program includes the objectives of both rate stability and competitiveness while the rate setting mechanism provides customers with appropriate market price signals.

6.0 Reference: Price Risk Management

Exhibit B-1, Section 2.3, p. 7

6.1 At the following link, the Utility discusses the following:

http://www.fortisbc.com/NaturalGas/Homes/CustomerChoice/BuyingFromAGasMarketer/WhoAreMarketers/Pages/How-marketers-make-money.aspx

"How FortisBC differs

FortisBC uses buying strategies similar to those of the gas marketers. However, unlike the gas marketers, FortisBC operates under regulations set out by the BCUC and does not include a markup on the price of gas. Our profit is earned from delivery charges. These regulations also prevent FortisBC from offering long-term, fixed-rate contracts or different prices to customers in the same rate class."

6.1.1 In this paragraph, the Utility indicates that it uses similar buying strategies to those of gas marketers. Please define the buying strategy of typical of gas marketers. Note if these marketers typically use options and value add hedging. If so, indicate the gas marketers using these instruments.

Response:

The Utility and the natural gas marketers operate within the same natural gas marketplace and so the same physical supply and financial hedging strategies are available to both groups. This includes purchasing physical supply from natural gas producers or marketers for delivery at the specific market hubs of Station 2, Huntingdon/Sumas, and AECO/NIT as specified under the Customer Choice Program. This physical supply is typically purchased at index prices, which are set by the market on a daily or monthly basis. Once this physical supply is procured, FEI and the gas marketers have the ability to layer on hedges on a portion or all of this physical supply. While FEI hedges according to the strategies and mix of instruments as defined within the annual Price Risk Management Plans, the gas marketers may utilize different hedging strategies and mix of instruments depending upon their views about future natural gas prices, forecast customer enrolments, and tolerance for risk. These gas marketer hedging strategies are not publicly available and the Utilities do not have any specific or exact knowledge of how they manage their fixed price offerings through hedging programs.

6.1.2 Does this quote indicate that the Utility is using a similar buying strategy by including the usage of proposed hedges or is it similar without the usage of hedges proposed in this Application?

Response:

Please refer to the response to BCUC IR 1.6.1.1.

6.1.3 Does the above quote indicate that Utilities are not allocating any internal costs, such as the purchase of gas or the management of the hedging portfolio, to the cost of gas? Have any such costs been allocated to the price of gas in the past?

Response:

No. As discussed in the response to BCUC IR 1.4.3.1, these costs are included as part of the Core Market Administration Expense which is subject to review by the Commission and recovered from customers in the gas cost recovery rates.

6.1.4 Does management believe that an average customer would consider transaction costs and hedging losses a "mark-up" above the commodity price? Would the Utility be prepared to better explain what is included in the price of gas if this Application is approved. Please provide a sample communication that could be included on the Utilities' website if this Application is approved.

Response:

The term "mark-up" as it is used in this paragraph refers to the application of a profit margin above the costs to provide natural gas commodity supply to customers. Management does not believe that an average customer would consider transaction costs and hedging losses a "mark-up" above the commodity price. It is important to distinguish between the costs related to the management of price risk activities, hedging losses, transaction costs and what is generally considered a "mark-up" above the commodity price. The costs related to the management of price risk activities, as described in the response to BCUC IR 1.4.3.1, are those incurred for the prudent management of costs on behalf of customers. These costs, which are recovered from customers through the cost of gas, are subject to review by the Commission. Hedging losses

are also recovered from customers through the cost of gas while hedging gains are refunded to customers through the cost of gas. A "mark-up", on the other hand, refers to profit above these costs recovered from customers. The Utilities do not charge customers any form of "mark-up". Gas Marketers under the Customer Choice Program, on the other hand, do charge their customers a "mark-up" or profit above the commodity price and incurred costs to manage their hedging programs.

As discussed in the response to BCUC IR1.4.1.11, the Utilities currently use a number of tools to educate customers about the cost of gas, such as through information provided on the FortisBC website, pamphlets, bill inserts and press releases associated with quarterly rate filings, and would not expect to change this approach if the new gas hedging program was approved.

The information currently provided on the website is appended and can also be viewed at the following link: http://www.fortisbc.com/NaturalGas/AboutNaturalGas/Pages/Cost-of-gas.aspx

6.1.5 In management's opinion does the Price Risk Management Plan take away its commodity customer's choice by removing the variable price option?

Response:

Management does not consider that the Price Risk Management Plan removes the variable price option for customers. The standard rate offering will continue to be largely influenced by market gas prices, with the proposed hedging strategy mitigating any adverse market price movements. The proposed hedging program provides customers with a balance of appropriate market price signals and protection from significant market price volatility at a reasonable cost. The quarterly review of commodity rates and the use of deferral account balances and recovery mechanisms will continue with the hedging program to provide value to customers who do not wish to enter into longer term fixed rate contracts with gas marketers under the Customer Choice Program.

It should also be noted that the Utilities have been engaging in hedging activities pursuant to Commission approved price risk management plans over the past several years. In the past, price risk management plans have largely been based on programmatic hedging with a minimal use of options. The proposed 2011-2014 plan employs more of a monitor and respond approach using a number of different strategies, including less programmatic hedging and potentially a greater use of options. While continuing to protect the customer during periods of

high volatility or increasing prices, the proposed program will reduce the amount of fixed price hedging the variable price option relative to previous plans.

7.0 Reference: Customer Volatility

Exhibit B-1, Section 2. 4, p. 9

7.1 *"Natural gas utility customers have indicated that they desire some level of stability in natural gas rates and implicit protection from the volatility in market prices. Customer complaints and media attention increases when natural gas rates increase as many customers on fixed incomes struggle to make bill payments. In February 2005, TGI engaged a research company to survey customers regarding their tolerance for volatility. The results of the Residential Customer Price Volatility Preferences Study, conducted in February 2005 by Western Opinion Research Inc., indicated that customers prefer price stability. The survey results confirmed that while customers will tolerate some volatility it is certainly less than the volatility that has occurred in the recent past, and could occur in the future, in the natural gas market. The results of a more recent focus group supported these survey findings."*

7.1.1 Have the Utilities seen a corresponding trend towards an increase in customers locking in rates with Gas Marketers? If not, please explain.

Response:

Customer Choice for residential customers launched in November 2007. Participation rates grew steadily from rollout through mid 2009. Participation rates have declined since that time. Please refer to Figure 25 in Section 4.5.1.6 of the Review Report that shows recent customer enrolments, and to the response to BCUC IR 1.7.1.4 and 1.7.1.5 for further clarification.

7.1.2 Did the market research indicate that customers are unwilling to pay an increased cost for price certainly?

Response:

The market research did not indicate that customers are unwilling to pay an increased cost for price certainty. As discussed in Sections 4.5.1.1 and 4.5.1.2 of the Review Report, the majority of participants in the study and focus group were supportive of efforts to control rate fluctuations due to market price volatility and were willing to accept lower rate decreases, than a completely variable rate, if lower rate increases were achieved. The reasons participants gave for this included dislike for large bill increases or surprises from one period to the next, helpful for household bill budgeting and the potential for future rate decreases if market prices declined in the future.

7.1.3 At what pricing or rate of volatility are customers no longer willing to pay for price certainty?

Response:

Although the Utilities cannot predict at what pricing or rate of volatility customers are no longer willing to pay for price certainty, it could be reasonably expected that the lower the annual bill or rate volatility the lower the amount customers are willing to pay for price certainty. Evidence of this is provided by the recent net declines in customer enrolments with gas marketers under the Customer Choice Program available for FEI customers. As discussed in Section 4.5.1.6 of the Review Report, many natural gas customers have migrated from gas marketer offerings to the FEI standard rate offering as natural gas market prices have declined since 2008.

The FEI proposed enhanced hedging strategy takes this into consideration by being more responsive to market conditions than previous plans that have been approved by the Commission. The defensive hedging strategy provides increased levels of hedging only when market prices increase in order to protect customers when prices and volatility increases. When market conditions are relatively stable and price volatility is low, the enhanced hedging strategy calls for lower levels of hedging than had been the practice in previous PRMPs approved by the Commission.

7.1.4 Is the low participation in the Customer Choice program a result of customers not willing to pay a potentially higher gas price for the price of certainty?

Response:

It is FEI's belief that the decline in program participation is largely a reflection of customers not willing to pay significant premiums over market prices in order to achieve absolute rate certainty. Adding to this pressure is what FEI perceives as erosion in consumer confidence in the Customer Choice program, most specifically trust in the Gas Marketers themselves. This was highlighted in findings from a focus group conducted by Ideba in November 2010. The results of this focus group were presented in the Customer Choice Program 2010 Program Summary and Recommendations, Appendix J, submitted to the BCUC on November 23, 2010.[2] During

[2] The report referenced is available at www.fortisbc.com/About/RegulatoryAffairs/GasUtility/NatGasBCUCSubmissions/Documents/101123_TGI_Customer_Choice_2010_Program_Summary_Recommendations.pdf

the research customers voiced specific concerns regarding Gas Marketer sales practices. These concerns are illustrated in the following quotations from several research participants:

> *"I felt pressured by the gas marketers that came to the door, who said that Terasen Gas rates were going to double."*
>
> *"All your neighbors have signed up. This will be the best rate for you moving forward... That led me to believe that they offered the best rates."*
>
> *"I didn't get options for one or five years. They automatically signed me up for 5 years. They used scare tactics as to how much the prices were going to go up."*
>
> *"They told me I'd save money in the long run."*[3]

This and other feedback captured during the focus group, led the moderator to conclude that, "Customers of gas marketers were originally attracted by the promise of long-term savings and rate stability."[4] However, "All felt pressured into signing contracts by marketers, who used the fear of future price increases and aggressive sales pitches to get them to sign multi-year contracts."[5] FEI is of the opinion that these sales tactics were short sighted and designed to garner immediate market share, rather than ongoing commitment to either the product, the program or the Gas Marketer's business. "Interaction with Gas Marketers (those that had signed up and those that had not) clearly tainted customer perceptions of fixed rates. Many were left with the understanding that ultimately the customer will pay a higher price overall, as neither Terasen Gas (now FortisBC Energy Inc.) nor the Gas Marketers would knowingly lose money on supplying natural gas at a fixed rate."[6]

While customers generally prefer price stability, many are not willing to pay for certainty at any cost. Furthermore, customers expect to deal with reputable organizations that offer fair products, quality service and ongoing value. When delivery on any of these elements is compromised, consumers seek alternative offers.

7.1.5 Does the low participation in Customer Choice program indicate that customers are more concerned with purchasing low price natural gas than with achieving billing certainty?

---

[3] Customer Choice and Commodity Pricing, Qualitative Research Findings, November 2010.
[4] Ibid
[5] Ibid
[6] Ibid

Response:

The net enrolments for residential and commercial customers in the Customer Choice Program have been declining since mid 2009. During this period, natural gas market prices and FEI residential rates have declined. It is FEI’s belief that this recent negative growth in enrolments is a reflection of customers not willing to pay significant premiums over market prices in order to achieve absolute rate or bill certainty. In other words, some customers are not willing to pay for rate certainty at any cost.

8.0 Reference: Rates

Exhibit B-1, Figure 1, pp. 10, 11

8.1 TGI seems to be more exposed to upward rate shifts than downward rate shifts. Please explain this trend.

Response:

FEI (formerly TGI) rates have been influenced by both upward and downward market price movements. Customers have benefitted from the hedging program during market price spikes and also when market prices have fallen. FEI has experienced more rate increases than decreases from 2003 to mid 2008 as market prices generally steadily rose during that period. However, since mid 2008 when market prices have generally fallen, FEI has experienced more rate decreases than increases. As market prices have currently fallen to their lowest levels in years, so too has the FEI commodity rate fallen to its lowest level in years. The FEI portfolio approach to managing gas costs, including hedging, storage and floating, or unhedged, gas, enables dampening of market price movements while still providing rates that generally move with the market. It is important to also note that there will be a lag between market price movements and FEI commodity rates due to the use of deferral accounts and the quarterly rate adjustment mechanism, discussed further in the response to BCUC IR 1.8.3.

FEI believes that the proposed enhanced hedging strategy, and in particular the increased use of options, will provide greater downward market price participation going forward than in the past.

8.2 Please indicate where 1 to 5 year gas marketer supply agreements would fall on this graph based on current market prices at the time of the response. For example would they typically lie under the electrical equivalent at 90% efficiency?

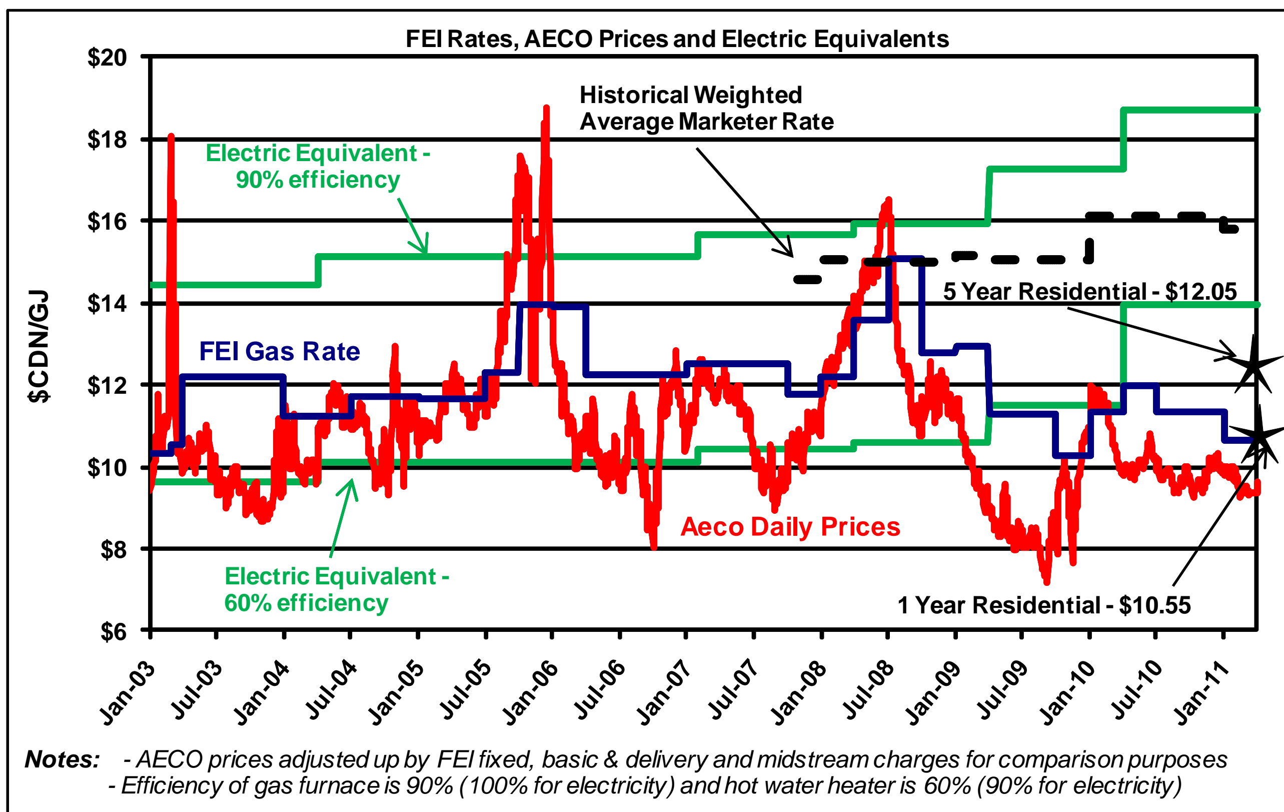
Response:

FEI maintains a price repository of all current marketer fixed price offerings on its website that is available for access by all customers. The price repository can be found at the following link:
www.fortisbc.com/NaturalGas/Homes/CustomerChoice/PriceComparison/Pages/default.aspx

Figure 1 below is the same as Figure 1 from the Review Report but updated with more current prices and also displays the historical weighted average marketer rate, and current one and five year fixed price offerings from marketers. Note that the one and five year fixed price marketer rates are not actual rates being offered by marketers exactly but a composite of rates from a

number of different marketers to provide a range of fixed price contracts, presently. These rates have been grossed up to include FEI's fixed basic and delivery charges and midstream charge to provide a comparable comparison to electric equivalent rates. Historically, the weighted average price of all marketer offerings has averaged about $9.75/GJ from November 2007 to March 2011 (excluding the average $5.65/GJ total for FEI's fixed basic and delivery charges and midstream charge). The natural gas prices in the figure have been adjusted up to include FEI's fixed basic and delivery charges and midstream charge to provide a comparable comparison to electric equivalent rates.

Figure 1: FEI Rate Compared to Market Gas Prices and Electric Equivalents and Marketer Fixed Price Offerings



At present, current marketer fixed rate offerings for one and five years are below both the 90% and 60% efficient electric equivalents but still above the current FEI burner tip rate when grossed up for FEI fixed basic and delivery and midstream charges. Currently, one year marketer fixed price offerings are about $4.50/GJ and five year offerings are about $6/GJ compared to the current FEI CCRA rate of $4.568/GJ.

Historically, the weighted average price of all marketer fixed price offerings has averaged about $9.75/GJ (excluding the fixed basic and delivery charges and midstream charge) which puts this price below the 90% efficient electric equivalent but above the 60% efficient electric equivalent.

8.3 Do the Utilities currently have mechanisms, other than hedging to moderate rate impact for natural gas customers such as deferral accounts or billing smoothing. If so, please list these mechanisms and explain why they are not sufficient to manage customer rates.

Response:

The Utilities do use other mechanisms which compliment hedging in moderating rate impacts for natural gas customers. FEI and FEVI have different mechanisms which are discussed separately below.

FEVI rates are currently frozen for the two year revenue requirements period effective January 1, 2010, as established through the 2010-2011 Revenue Requirements and Rate Design Negotiated Settlement, and approved by the Commission. While hedging provides greater certainty regarding gas costs in anticipation of the pending expiry of the royalty revenue arrangement with the Province, residential natural gas rates have been held relatively constant for the past few years.

For FEI, gas deferral accounts and the quarterly rate adjustment mechanism, and the Equal Payment Plan ("EPP") compliment the hedging program in moderating rate impacts for customers. The two gas cost deferral accounts utilized by FEI include the Commodity Cost Reconciliation Account ("CCRA") and the Midstream Cost Reconciliation Account ("MCRA") as discussed in Section 5 of the Review Report. These deferral accounts capture variances between the actual gas costs and the forecast gas costs as recovered in rates and the deferral mechanisms, which are reviewed quarterly enable these variances to be recovered from, or refunded to, customers as part of future rates forecast over a twelve month period. These deferral accounts ensure that 100% of the actual gas costs are borne by customers, including any costs above or lower than those forecast. Currently, FEI uses a quarterly rate adjustment review mechanism to effectively manage the deferral account balances from becoming too large, as well as providing appropriate price signals. Significantly high deferral account balances can impact FEI's financial borrowing capacity and ultimately its risk profile, as discussed in Section 5.1 of the Review Report. Furthermore, these deferral accounts do not affect or help manage the underlying commodity prices embedded in the cost of gas, which will eventually flow through to customers. The hedging program, on the other hand, does impact the underlying commodity prices and so directly manages gas costs.

The EPP also provides some degree of volatility mitigation for customers, as discussed in Section 4.5.1.5 of the Review Report. The EPP provides customers with equal monthly bill payments for a twelve month period, based on their previous year's consumption volumes. While this acts to smooth customers' consumption via stable bill payments it does not affect underlying gas prices as per a price risk management program. In other words, under the EPP alone, consumers are artificially protected from market price volatility as they will ultimately have to pay the rate impacts of any market price fluctuations. Furthermore, under the EPP, the equal twelve month payment installments are reviewed every three months and adjusted if necessary to reflect changes in weather, gas usage or gas rates. This is done to avoid significant billing adjustments at year end caused by large changes in weather related consumption or quarterly rates. So, during periods of extremely volatile market prices and subsequent quarterly rate changes, EPP customers may also be subject to quarterly, rather than annual, rate changes. As such, FEI believes that the EPP is not a substitute for active price risk management but rather a way to smooth consumption and payments for customers.

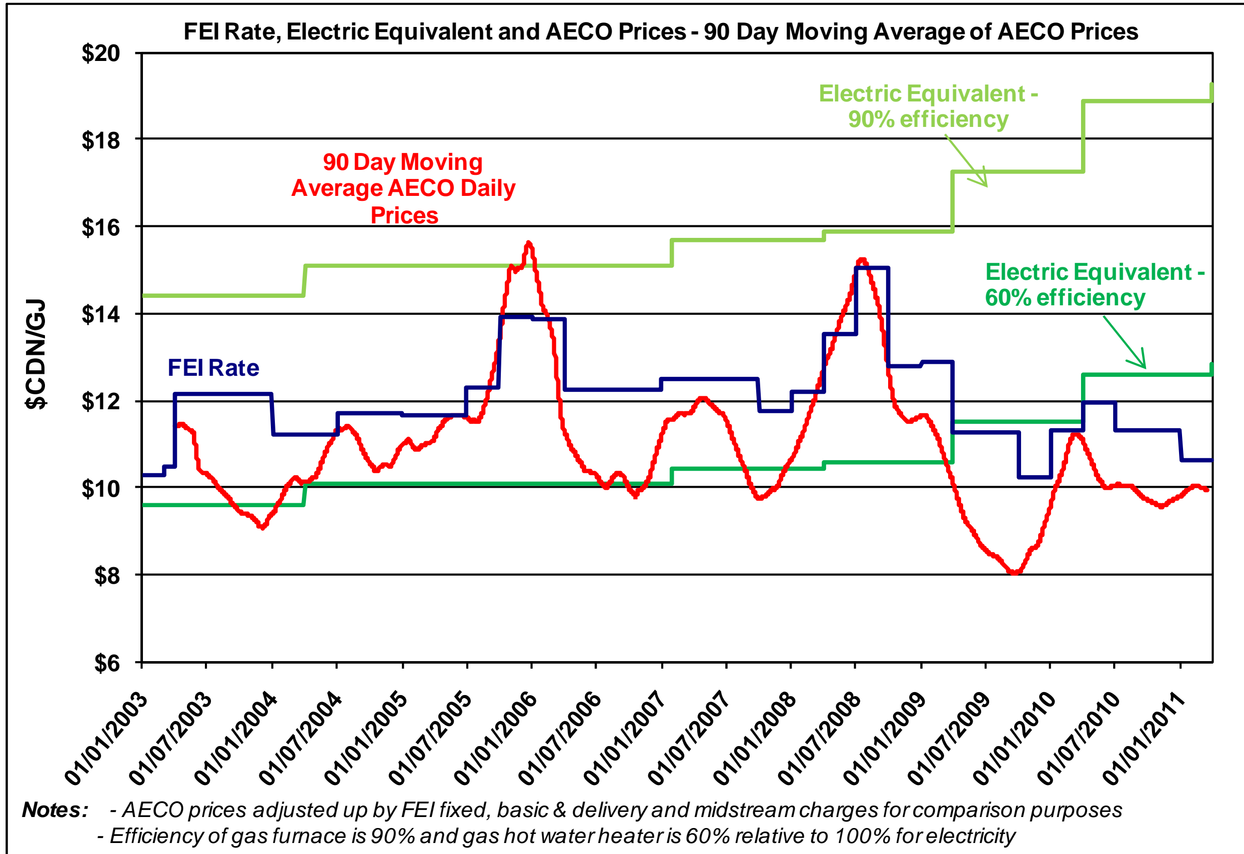
The hedging program, unlike the deferral accounts and EPP, directly mitigates market price volatility by affecting the underlying commodity cost of gas which is flowed through to customers via rates. The hedging program accomplishes these objectives through the programmatic, defensive, value and basis hedging strategies. As such, FEI believes that the deferral account balances and quarterly rate adjustment mechanisms and EPP work in a complimentary manner to the hedging program but not as substitutes for hedging.

8.4 Figure 1 on page 10 shows AECO Daily Prices. Please provide another graph based on Figure 1 that instead uses the 90 day moving average AECO Daily Prices.

Response:

Figure 1 below replaces the daily AECO price settles in Figure 1 from the Review Report with a 90 day moving average. The natural gas prices in Figure 1 have been adjusted up to include FEI's fixed basic and delivery charges and midstream charge to provide a comparable comparison to electric equivalent rates.

Figure 1: 90 Day Moving Average AECO Daily Price Compared to FEI Rate and Electric Equivalents



9.0 Reference: Options

Exhibit B-1, Section 2.4.1 and 4.1, pp. 11, 229-30

9.1 *"The greater use of option instruments will also help reduce hedging costs while achieving the objectives. TGI has promoted greater use of options in past Price Risk Management Plans but has been limited by the Commission on the maximum percentage of options. Terasen believes this is due to the costs associated with options, either implicitly with costless collars (via a limited floor price) or explicitly with call options (via an upfront or deferred premium). However, it is important to recognize that there is an implicit cost associated with fixed price swap instruments when market prices decline. Options should be an important part of a hedging program that meets the objectives in different price environments. The use of options provide protection against unforeseen price spikes yet allow for downward market price participation if such adverse price movements do not materialize. Therefore, hedging costs are reduced compared to fixed price swaps and can be significantly less depending on the call premium or costless collar floor price".*

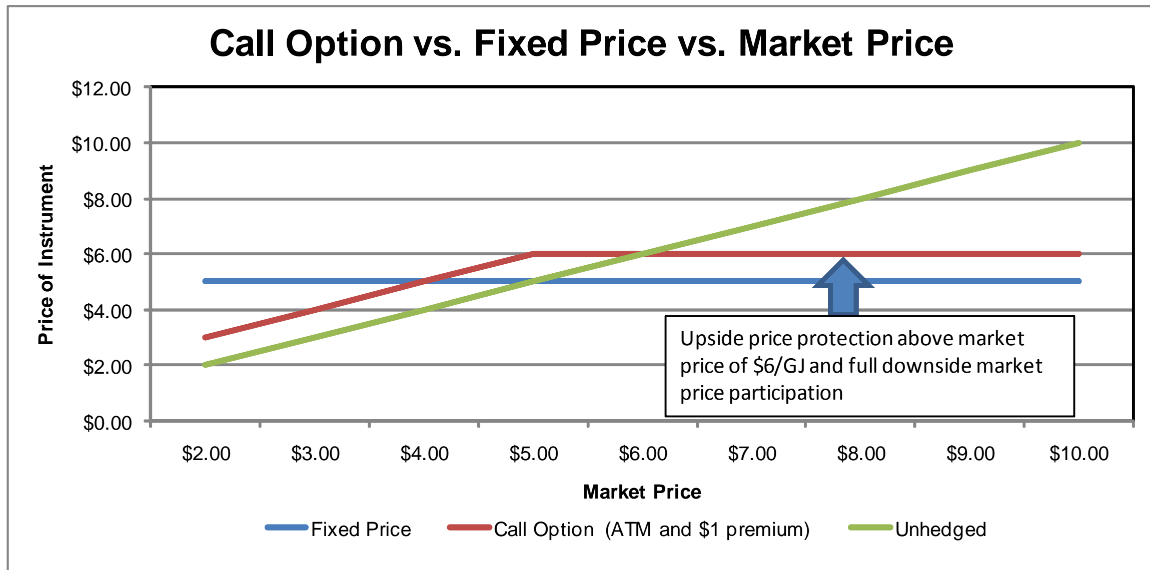
9.1.1 Please provide a working example demonstrating how this is accomplished. However, also provide the outcome that would have been experienced if the market moved in the opposite direction and the option was not effective.

<u>Response:</u>

Please refer to the response to BCUC IR 1.3.1.1 for discussion regarding the use of call options and costless collars and the effect of market prices on the use of each instrument.

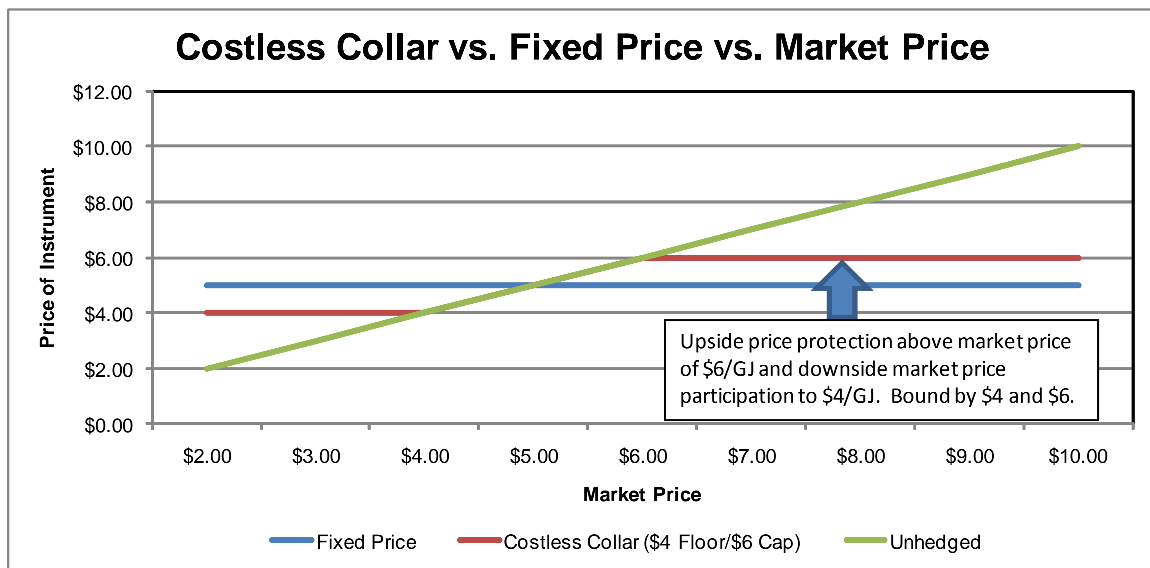
In terms of a working example, Figures 1 and 2 below can be used to provide an illustrative example of various price movements.

Figure 1: Call Option vs. Fixed Price vs. Unhedged Price



In Figure 1 above, the current market price is assumed to be $5 CDN/GJ. An at-the-money call option is assumed to cost $1 CDN/GJ. Therefore any market price at or above $5 CDN/GJ yields an effective hedge price of $6 CDN/GJ to account for the $1 premium. For this call option to be considered in-the-money, the market price would have to settle at or above $6 CDN/GJ. Note that upside price protection is granted with a call option and that if market prices do decline it allows for downside price participation as well.

Figure 2: Costless Collar vs. Fixed Price vs. Unhedged Price



Similarly, costless collars operate similar to call options in that they provide protection against upside market price movements but the key difference is that the participation in downside market price movements is limited to the floor of the costless collar. Another key difference between costless collars and call options is that costless collars do not have an associated premium attached to them like a call option. However, the tradeoff is that participation in downside market price environments is limited by the floor of the collar.

FEI has proposed the use of at-the-money call options as a defensive hedging strategy when forward prices, including market price volatility, breach predefined hedging price targets. By doing so, FEI will be able to realize protection against run ups in market prices while at the same time allowing for full participation should market prices decline, as shown in the first figure above.

9.1.2 Do any regulated gas utilities across Canada use a hedging program similar to the program in this Application? If so, identify who they are and provide an overview of their policy as it compares to the Utilities.

Response:

Several other major Canadian natural gas utilities use hedging programs, as discussed in Section 4.1.1 of the Review Report, in order to reduce rate volatility. These include SaskEnergy Incorporated ("SaskEnergy"), Manitoba Hydro, and Gaz Metro Limited Partnership ("Gaz Metro").

Based on conversations with SaskEnergy and Gaz Metro, these utilities engage in hedging activity that is similar to the proposed hedging program of FEI. Their hedging horizons are three to four years and include hedging a significant portion of their portfolio price exposure with a mix of instruments. They have the flexibility to choose the mix of hedging instruments they utilize and generally prefer to use fixed price swaps in low price environments and more options in high price environments, which is consistent with the FEI proposed enhanced hedging strategy. In terms of instrument limitations, while SaskEnergy is limited in terms of total budgeted costs for call option premiums, Gaz Metro is not limited on the use of options (please also see the table provided in the response to BCUC IR 1.9.1.3).

Manitoba Hydro does not have a hedging program similar to that of FEI for their default service offerings. Manitoba Hydro is able to offer fixed rate programs to its customers and does engage in hedging activity to support those offerings. As the utility is able to offer fixed rate services, Manitoba Hydro has been directed to wind down their hedging program related to the quarterly

standard variable rate offerings out to July 2011 and cease any hedging for periods beyond this month.

9.1.3 Do any regulated gas utilities across Canada have regulatory consent to use Options to hedge the price of gas? If so, in table format below, provide a list of other utilities that have such approval, what percentage of option use is permitted, note if there are any limitations on the use of hedges/option types. Also, below the table indicate if any of the utilities are located in a province that has gas marketers similar to those in B.C.

Utility Name	**Hedging Approved**	**Options Permitted**	**Max % of Options approved for use**	**List any restrictions on Options approved for use**

Response:

The Utilities are aware of two major Canadian natural gas utilities that use options to hedge the price of gas. They are presented in the table below and the information is based on conversations with those utilities.

Utility Name	**Hedging Approved**	**Options Permitted**	**Max % of Options approved for use**	**List any restrictions on Options approved for use**
Gaz Metro	Yes	Yes	30% summer and 50% winter	Can theoretically hedge up to maximum allowable hedge limits with all options if desired
SaskEnergy	Yes	Yes	70% summer and 90% winter subject to $15M in call option premiums (unlimited use of costless collars)	Limited to $15M in call option premiums (this figure is subject to revision by regulator)

Both of these utilities operate in provinces (Quebec and Saskatchewan) where independent third party natural gas marketers are able to offer commodity supply contracts to customers at fixed rates.

10.0 Reference: Use Per Customer

Exhibit B-1, Section 2.7, pp. 14-15

10.1 *"If Terasen is able to provide cost effective rates then customer base will grow which helps to maintain or improve cost effectiveness for all customers; a virtuous circle. If Terasen does not effectively manage costs and rates and greater volatility and reduced competitiveness results, customer migration away from natural gas to other forms of energy is likely, increasing the cost base for remaining customers; the death spiral scenario."*

10.1.1 Please define cost effective rates as used in this statement.

Response:

Cost effective rates as used in this statement refers to rates that provide value to customers. This includes rates that are competitive with other sources of energy, relatively stable and, over the long run, do not differ significantly than average market natural gas prices. This also includes cost effectiveness in terms of secure and reliable sources of supply required to meet customers' energy requirements as defined in the Annual Contracting Plan ("ACP"). It also includes prudent and appropriate costs related to the administration of the ACP and hedging program.

10.1.2 If the Utilities don't effectively manage costs related to the natural gas commodity only, don't customers have a choice to seek gas supply elsewhere?

Response:

FEI customers currently have the choice to purchase their natural gas supply from FEI or gas marketers under the Commodity Choice Program. Also, for some customers, selecting transportation service only from FEI but choosing a marketer for their supply is an option. If FEI does not effectively manage gas commodity costs, in terms of mitigating market price volatility or competitiveness, customers could migrate to gas marketers provided that the gas marketer offerings provide value to those customers. If marketer fixed rate offerings are higher than those of FEI or customers do not perceive value, customers may be more likely to migrate to other sources of energy.

10.1.3 If customers can purchase gas supply from gas marketers, why would these customers migrate away from natural gas?

Response:

Please see the response to BCUC IR 1.10.1.2.

10.1.4 Do the Utilities have the ability to manage rates for Natural Gas if the market value commodity price rises? If so, how long can Hedging allow the Utility to manage this risk before the price of hedging instruments will reflect the new market prices?

Response:

Please refer to the response to BCUC IR 1.4.1.2.

10.1.5 Is hedging an effective way to manage the long-term risk (greater than 3 years) of a permanent increase in the cost of natural gas?

Response:

Please refer to the response to BCUC IR 1.4.1.2.

10.1.6 Is hedging the only tool that Utilities have identified to manage the long-term risk of permanent rate increases?

Response:

Please refer to the response to BCUC IR 1.4.1.3.

11.0 Reference: Government Policy

Exhibit B-1, Section 4.4.2, p. 35

11.1 *"On the other hand, the carbon tax, introduced in 2008, is applicable to natural gas and not electricity and increases each year until 2012 after which time there is uncertainty regarding the amount. Not only does this tax effectively add a cost to natural gas rates but also adversely influences public perception regarding the use of natural gas relative to other sources of energy. This serves to increase the challenge for natural gas competitiveness in the future. Furthermore, government policy aimed at curbing greenhouse gas emissions and reducing fossil fuel consumption in B.C. serves to adversely influence public perceptions about natural gas. This will also contribute to the competitive challenge for Terasen in the future."*

11.1.1 As listing government policy as one of the reasons supporting the need for a hedging program, are the Utilities stating that hedging will overcome challenges resulting from current government policy and legislation.

Response:

No, the Company does not believe that a hedging program can overcome the long term challenges resulting from current government policy and legislation. Government policy can lead to a decrease in the competitiveness of natural gas relative to other energy forms by impacting the relative price of natural gas to other energy forms, or by shaping public perception that reduces demand for natural gas. The hedging program, by reducing rate volatility and maintaining price competitiveness can help mitigate the impact of policy, but this mitigation would only be in the short term, as the hedging program cannot improve either pricing differentials or public perception over the long term.

11.1.2 Is it management's belief that the Commission should approve the proposed hedging strategy, amongst other reasons, to reduce some competitive challenges faced by Utilities? If so, would this change the Utilities' risk profile and the appropriate return on equity for the Utilities?

Response:

It is management's belief that the Commission should approve the proposed hedging strategy because it is in the best interests of customers. The proposed hedging strategy will help to

mitigate certain competitive challenges, among other things, and reduce the potential impact to customers' rates. The hedging program benefits natural gas customers in terms of valued rate stability and the avoidance of costly rate spikes and thus helps to retain and attract customers to the system. As discussed in Section 4.4.1 of the Review Report, customer migration to other sources of energy results in increasing pressure on delivery rates for remaining customers further reducing competiveness and ultimately increasing the business risk of the Utilities and the appropriate return on equity.

11.1.3 Is it management's belief that it is within the Commission's jurisdiction to approve the hedging policy, amongst other reasons, to overcome the current government policy which serves "adversely influence public perception about natural gas".

Response:

It is within the Commission's jurisdiction to approve the proposed hedging strategy and it should do so based on the merits of the plan. The proposed hedging strategy provides the benefits of rate stability and avoidance of significant rate spikes. Customers have indicated that they desire stability in rates which can be most effectively provided through the enhanced hedging program. The proposed hedging strategy also provides near term competitiveness which is critical to maintaining natural gas load for the Utilities. As discussed in Section 4.4.1 of the Review Report, if natural gas is viewed as being uncompetitive with electricity rates, customer and load migration from natural gas to electricity will lead to upward pressure on both natural gas delivery and electricity rates. For these reasons, and not to overcome government policy, it is within the Commission's jurisdiction to approve the proposed hedging strategy.

12.0 Reference: Customer Survey

Exhibit B-1, Section 4.5.1.2, p. 65

12.1 *"However, the majority of respondents favoured a controlled rate and were willing to accept less downside rate participation than the variable rate if upside rate increases were also limited. The desire for some rate stability and less bill surprises (i.e. significant bill increases from one month to the next) were cited as reasons for selecting this controlled rate."*

12.1.1 Were participants asked why they favored controlled rates over fixed rates? If so, what reason did they provide given that reasons for supporting a controlled rate were rate stability and less billing surprise- notably features of a fixed rate contract?

Response:

During the November 2010 focus group, most participants favoured the controlled variable rate over the true variable rate or the fixed rate. These participants were asked why they favoured controlled variable rates over fixed rates. The reason provided included the belief that they would ultimately end up paying more with a fixed rate than with the controlled variable rate. In other words, participants are not willing to obtain greater rate stability with fixed rate offerings than that provided by the controlled variable rate at any cost.

12.1.2 Please provide details of the pros and cons that participants were given for each of the options given (ie fixed rates, variable rates and controlled rates). This should include materials distributed or speaking notes provided to the market research group.

Response:

Participants were not given details of the pros and cons for each of the options given in the focus group. Participants were presented with three rate scenarios in the form of a graph. These included a fixed rate, a variable (or market) rate and a controlled rate (one limited within a tighter range than the variable rate) in order to assess their preferences. The graph that was shown to participants is provided in Section 4.5.1.2 of the Review Report.

12.1.3 Were participants asked if they favored a one year controlled rate over a five year controlled rate contract? If so, what did they indicate?

Response:

Participants were not asked if they favoured a one year controlled variable rate over a five year controlled variable rate. They were only presented with the graph provided in Section 4.5.1.2 of the Review Report.

12.1.4 During this research, were respondents told that fixed rates resulted in higher rates?

Response:

During this research, respondents were not told that fixed rates resulted in higher rates. As per the response provided to BCUC IR 1.12.1.1, the participants that did not favour the fixed rate did believe that they would ultimately end up paying more with a fixed rate than with the controlled variable rate.

12.1.5 During this research, was there any discussion of natural gas price outlook? If so, what was the nature of that discussion?

Response:

During this research there was some general discussion of natural gas prices and rates but not any specific discussions of natural gas price outlooks. Participants were aware that natural gas rates had fluctuated up and down in the past but there was no discussion about whether natural gas prices or rates would increase or decrease in the future.

12.1.6 During this research, were respondents told that fixed rates could result in lower rates if gas prices rise?

Response:

During this research, respondents were not told that fixed rates could result in lower rates if gas prices rise. Participants were merely presented the graph provided in Section 4.5.1.2 of the Review Report and left to provide their own opinions about their preferences for rate stability.

12.1.7 Did researchers ask participants if they were really interested in a smoothed rate vs. a hedged rate?

Response:

For the purposes of responding to this question, the Utilities have interpreted a 'smoothed' rate to mean including some form of hedging, deferral account balances and a periodic rate adjustment mechanism to dampen market price volatility while a 'hedged' rate is a fixed rate offering.

During this research, participants were not asked if they were really interested in a 'smoothed' rate versus a 'hedged' rate. As per the response to BCUC IR 1.12.1.2, participants were presented with three rate scenarios in the form of a graph. These included a fixed rate, a variable (or market) rate and a controlled rate (one limited within a tighter range than the variable rate) in order to assess their preferences. There were no questions related to preferences for a 'smoothed rate' versus a 'hedged' rate.

12.1.8 Did researchers ask participants if they would expect that the actual gain and losses on a controlled rate would be approximately equal to each other over time?

Response:

During this research, participants were not asked if they would expect the actual gains and losses on a controlled rate would be approximately equal to each other over time. As per the response to BCUC IR 1.12.1.2, participants were presented with three rate scenarios in the form of a graph. These included a fixed rate, a variable (or market) rate and a controlled rate (one limited within a tighter range than the variable rate) in order to assess their preferences. There were no questions related to hedging or gains and losses.

12.1.9 Did researchers inform participants that a controlled rate meant that participants may pay MORE for gas than if a variable rate was applied?

Response:

During this research, participants were not informed that a controlled rate meant that participants may pay more for gas than if a variable rate was applied. However, participants who favoured the controlled variable rate stated their preference for smaller rate decreases if rate increases were also limited as compared to the true variable rate.

12.1.10 In this study, were participants asked if they still favored a controlled rate if they would also need to pay costs to maintain the program?

Response:

In responding to the question, the Utilities have interpreted the 'costs to maintain the program' as those related to the management and administration of the hedging program rather than hedging costs or losses.

In this study, participants were not asked if they still favoured a controlled rate if they would also need to pay costs to maintain the program. Nevertheless, as discussed in the response to BCUC IR 1.4.3.1, the costs related to management and administration of the hedging program are not significant on a per customer basis.

12.1.11 In this study were participants asked what pricing cost level/deviance from market rates they would no longer favor a controlled rate? If not, how was the market researcher able to assess the value participants placed on a "controlled rate" or the point that having a "controlled rate" was no longer reasonable?

Response:

In this study, participants were not asked at what pricing cost level/deviance from market rates they would no longer favour a controlled rate. The participants formed their opinions and

provided their preferences based on the graph presented to them as provided in Section 4.5.1.2 of the Review Report.

12.1.12 Would it be reasonable to assume that based on your market research, the commodity rate of a one year fixed rate gas supply contract exceeds the tolerance for cost customers are generally willing to pay for rate stability or predictable gas bills?

Response:

Based on the market research, it is not possible to conclude that the commodity rate of a one year fixed rate gas supply contract exceeds the tolerance for costs customers are generally willing to pay for rate stability or predictable gas bills. While the majority of research participants indicated that they preferred the controlled variable rate over the fixed rate or true variable rate in general, they did not provide any indication of their tolerance related specifically to one year fixed rate contracts.

13.0 Reference: Customer Survey

Exhibit B-1, Section 4.5.1.2, p. 66

13.1 *"The study is included in Appendix C. The study focused on residential and small commercial customers to assess their sensitivity to rate volatility and preferences for risk management strategies. The results of the study are as follows:*

- *In general, most customers believe it more important to maintain a steady rate than obtain the lowest possible rate."*

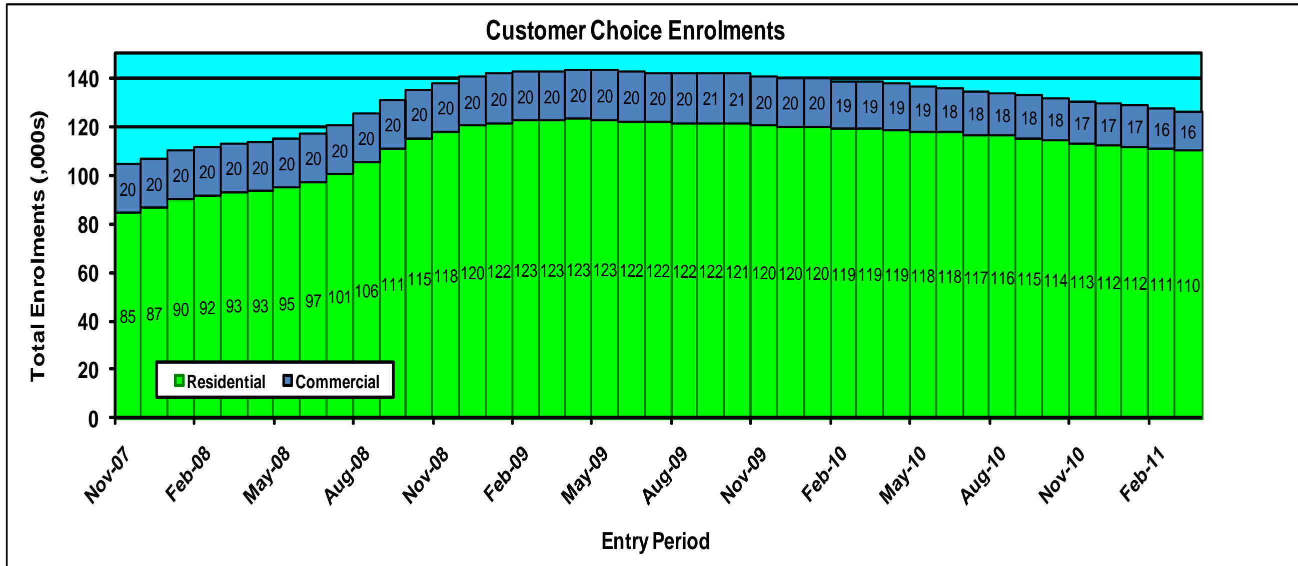
13.1.1 Is it the Utilities' experience that most customers participate in the customer Choice program that allows customers to lock in rates given that this option has been available for years? What has been the average annual participation in the Customer Choice program for the past 5 years for each of the Utilities?

Response:

The Customer Choice program is only available to customers of FEI and not currently available to customers of FEVI.

It is not the Utilities experience that most customers participate in the Customer Choice program. Presently, only about 15% of the total eligible residential customers that are able to sign up with marketer fixed price offerings have done so. As presented in the response to BCUC IR 1.8.2 marketer fixed price offerings have historically averaged above the FEI CCRA rate and FEI believes that most customers are not willing to pay a material premium for 100% price certainty. Figure 1 below illustrates the level of participation in the Customer Choice program for both residential and commercial customers since its introduction to residential customers in November 2007. The annual participation rate in the Customer Choice program for FEI residential customers peaked at about 17% in early 2009 but has since declined to its current level of about 15%. The commercial participation rate peaked at about 25% in late 2009 but has since declined to its current level of about 20% of all small and large commercial customers. Before November 2007 participation of small and large commercial customers hovered around 20% of total eligible small and commercial customers.

Figure 1: Total Customer Choice Enrolments



13.1.2 If the majority of the Utilities' customers do not participate in the customer choice program, based on this research does that indicate that customers in BC are not adequately aware of the Customer Choice program and its benefits?

Response:

Research conducted in June 2010 suggests that approximately 75% of eligible customers, "…know that they could buy gas from companies other than Terasen."[7] FEI believes that most customers choose not participate in the Customer Choice program for two primary reasons. Firstly, customers appear unwilling to pay for rate certainty at any cost. Customers may choose to pay extra for the security of a guaranteed rate, but there is little interest in paying a significant premium over market rates. Secondly, as noted in the response to BCUC IR 1.7.1.4, FEI believes that the sales tactics employed by some Gas Marketer sales representatives have inadvertently eroded consumer confidence in the Customer Choice program.

[7] Terasen Gas: Customer Choice, July 2010, Conducted by TNS, page 7.

13.1.3 Does the Company believe this marketing study is more relevant than actual experience with fixed pricing programs? Explain your response.

Response:

The Company believes that this study provides insight into customers' preferences for rate volatility and that it is consistent with actual experience with fixed pricing programs. The study revealed that customers preferred some degree of rate stability, as compared to truly variable rates where they might achieve the lowest possible cost. The study showed that the vast majority of consumers wanted Enbridge to help manage the potential risk for large fluctuations in commodity prices. However customers were generally split between fixing prices at current levels, purchasing instruments that protect against price increases (like insurance) or creating a high/low price band around the current price. So while many customers prefer the absolute rate stability provide by natural gas marketers, the majority of customers prefer the controlled variable rate of Enbridge to mitigate market price fluctuations. This provides them with a balance of some degree of market price signals and relatively stable rates (as compared to the market).

13.1.4 Based on the most recently available information, what is the current price for FortisBC Energy's customers per GJ and what is the price range of natural gas for a one year fixed rate for commercial and residential customers as offered by gas marketers based on information available on the Utilities' website?

Response:

Presently the current CCRA rate for a FortisBC Energy Lower Mainland Rate Schedule 1 residential customer is $4.568/GJ.

One year gas marketer offerings for residential customers include a wide range of prices ranging from a low of about $4.57/GJ to a high of about $8.79/GJ.

Commercial one year rate offerings range from $4.95/GJ to $5.60/GJ as listed on the website address below.

A more comprehensive list of prices can be obtained at the following link on FortisBC's website:

http://www.fortisbc.com/NaturalGas/Homes/CustomerChoice/PriceComparison/Pages/default.aspx

14.0 Reference: Reasonable Cost

Exhibit B-1, Section 4.7, p. 73

On page 73 it states: "Hedging is frequently compared to the use of insurance to protect against uncertain events. For example, homeowners typically purchase home insurance to protect their home and belongings against unforeseen or uncertain events such as fires or earthquake. The insurance analogy is appropriate because it reflects the desire to protect against catastrophic events (or market price spikes) for a modest cost."

BC Hydro in its F07/F08 Revenue Requirements Application stated in response to IR 1.95.2 in Exhibit B-11: "Hedging in its simplest form, by entering into fixed price forward transactions, secures the future price of energy based on today's forward market price established by market participants that, whether they are producers or consumers, all derive value from the fixed forward price. It is therefore very different from an insurance type transaction."

BC Hydro in its F07/F08 Revenue Requirements Application stated in response to IR 2.381.5 in Exhibit B-16: "Hedging in its simplest form, by entering into fixed price forward transactions, secures the future price of energy based on today's forward market price established by market participants that, whether they are producers or consumers, all derive value from the fixed forward price. It is therefore very different from an insurance type transaction."

Order G-143-06 approved the BC Hydro F07/F08 Revenue Requirements Negotiated Settlement Agreement dated November 2, 2006: The agreement included BC Hydro Commitment No. 29: "BC Hydro shall not enter into any new hedging contracts in regard to natural gas purchases subsequent to the Commission's approval of this Settlement Agreement. No Party may in any future proceeding allege, after the fact, that BC Hydro was imprudent in discontinuing its natural gas hedging activities, or submit that some portion of BC Hydro's actual gas costs should not be recovered in rates because of a failure to engage in natural gas hedging activities. No Party is prohibited from submitting in a Commission proceeding that on a go-forward basis BC Hydro ought to engage in natural gas hedging activities."

14.1 Would it be appropriate to state that hedging is not analogous to an insurance transaction when hedging is accomplished only by fixed price forward transactions? If hedging involved buying a call option, would that be more similar to insurance?

Response:

Whether or not hedging is analogous to insurance is a matter of opinion. It is the Utilities belief that hedging in general, regardless of the instruments used, provides protection against unexpected and adverse movements in natural gas prices at a minimal cost to customers. Therefore, in this sense, the Utilities believe that the insurance analogy is appropriate. Call options, which include a specific premium cost for upward price protection, are also similar to a form of insurance.

14.2 Terasen Gas in its November 3, 2006 comment letter on the BC Hydro Negotiated Settlement dated November 2, 2006 stated: "Terasen Gas participated in the Negotiated Settlement Process ("NSP") with respect to BC Hydro's F07/F08 RRA. Terasen accepts, in its entirety, the final Negotiated Settlement Agreement circulated with Mr. Grant's letter dated November 2, 2006."

14.2.1 Terasen Gas accepted the BC Hydro Negotiated Settlement Agreement including the clause that BC Hydro would not enter into new natural gas hedging contracts. Please comment on whether Terasen Gas currently believes or does not believe that energy hedging (natural gas hedging and/or electricity hedging) is appropriate for BC Hydro as the electric utility.

Response:

The Utilities believe that it is appropriate for BC Hydro to engage in energy hedging. Paragraph 29 of BC Hydro's F07/08 RRA Negotiated Settlement Agreement ("NSA") and the Utilities assent to it as part of the NSA should be taken in context. Paragraph 2 of the F07/08 RRA NSA, quoted below, sets out important background to the overall NSA.

"2. This Settlement Agreement represents a compromise reached on a "without prejudice" basis. Neither this Settlement Agreement, nor the positions taken and the statements made by the Parties in the course of negotiating this Settlement Agreement, will restrict in any way the positions that may be taken by any of the Parties in any future proceedings."

The commitment that BC Hydro made in Paragraph 29 not to undertake new gas hedging activities during F07/F08 was part of the overall package of commitments and compromises in the NSA. In the regulatory process prior to the negotiated settlement process BC Hydro defended its natural gas hedging activities so the commitment in Paragraph 29 may be viewed

as a concession by BC Hydro in reaching the settlement. The following quote from BCUC IR 1.95.3 (BC Hydro F07/F08 RRA Exhibit B-11-4) illustrates this:

> *"BC Hydro believes that prudent commodity hedging activity complements the existence of deferral accounts in managing the risk to ratepayers. Deferral accounts are well suited to manage the year to year variability of cost of energy, provided the distributions of inflows and prices are approximately normally distributed with a manageable standard deviation. However, the dynamics of energy market prices are such that there can be large asymmetric swings in prices with an unlimited upside and a downside bounded by zero.*
>
> *Should BC Hydro find itself unable to defer purchases due to system constraints during a large price increase, the balance placed into the deferral account may be significant. A single year with a combined adverse event of low inflows and high market prices with a probability of occurrence of 1 in 20 years (95th percentile of cost distribution) could create a balance of $0.3-0.4 billion across the three deferral accounts. BC Hydro believes that it is appropriate to take steps to manage this risk through a defined hedging strategy."*

The final sentence in Paragraph 29 of the NSA which states that no party is prohibited from submitting in a future Commission proceeding that BC Hydro should re-engage in natural gas hedging activities supports the notion that BC Hydro's agreement to cease natural gas hedging during F07/F08 should not be considered a permanent state.

The Utilities believe that the quoted response to BCUC IR 1.95.3 sets out valid support for BC Hydro engaging in hedging activities. The Utilities' endorsement of the BC Hydro F07/F08 RRA NSA in its entirety should be understood as agreement that the entire package represents a satisfactory resolution of the issues in that proceeding from the Utilities' perspective. It does not mean that the Utilities agreed equally to each element of the NSA. Individual views and positions of the parties in an NSA are not disclosed unless an individual party chooses to do so (through, for example, a qualified letter of acceptance).

Attachment 3.1.5

FILED CONFIDENTIALLY

Attachment 3.1.8

REFER TO LIVE SPREADSHEET
Provided in electronic format only

(accessible by opening the Attachments Tab in Adobe)