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May 30, 2018

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC
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Attention: Mr. Patrick Wruck, Commission Secretary and Manager, Regulatory Support

Dear Mr. Wruck:

Re: FortisBC Energy Inc. (FEI)
Project No. 1598917
2018 Price Risk Management Plan (the Application)
FEI Final Submission

In accordance with Order G-88-18 setting out the remainder of the Regulatory Timetable for the review of the Application, attached please find FEI's Final Submission.

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

Sincerely,

FORTISBC ENERGY INC.

Diane Roy

Attachments

cc (email only): Registered Interveners

BRITISH COLUMBIA UTILITIES COMMISSION

IN THE MATTER OF the *Utilities Commission Act,*
R.S.B.C. 1996, Chapter 473 (the "*Act*")

and

FortisBC Energy Inc.

2018 Price Risk Management Plan

FINAL SUBMISSIONS OF

FORTISBC ENERGY INC.

May 30, 2018

TABLE OF CONTENTS

PART One: INTRODUCTION 1
PART Two: SUPPORT FOR PROPOSED STRATEGIES 3
A. The Price Risk Management Objectives 3
B. Market Price Environment 4
C. Stakeholder Support 5
D. Customer Research 6
PART Three: PORTFOLIO OF PRICE RISK MANAGEMENT TOOLS 6
A. Physical Gas Contracting 7
B. Quarterly Rate Setting Mechanism and Deferral Accounts 7
C. Optional Customer Tools 9
D. Call options and Costless Collars 9
E. Long-Term Hedging 10
F. Investment in Gas Reserves 10
G. Volumetric Production Payment 10
PART Four: PROPOSED STRATEGIES 11
A. The Proposed Hedging Strategy 11
B. Proposed Strategies Effective in Meeting the Objectives 13
PART Five: FUTURE REPORTING 16
PART Six: CONCLUSION 17

PART ONE: INTRODUCTION

1. FortisBC Energy Inc. (FEI or the Company) filed its 2018 Price Risk Management Plan (2018 PRMP or the Application) on January 5, 2018, seeking from the British Columbia Utilities Commission (the Commission) the approval of: (1) extending the currently-approved medium-term hedging horizon out to October 2021; (2) adjusting the current winter and summer term fixed price hedging targets, to account for seasonality in market prices, as well as the one-year term hedging price targets; and (3) implementation of hedging with terms up to five years out to October 2024 (collectively, the Proposed Strategies).[1] The details of the approvals sought are set out in Section 5 of the Application. A draft order is included as Appendix D of the Application.

2. The 2018 PRMP addresses the Commission's questions arising from its review of the scope of the 2017 Price Risk Management Plan (2017 PRMP), which was submitted to the Commission on June 13, 2017. In Order G-168-17, dated November 23, 2017, the Commission directed FEI to revise or file addenda to the 2017 PRMP to address the Commission's questions set out in the Reasons for Decision to Order G-133-17 dated August 25, 2017 (2017 PRMP Scoping Decision). FEI filed the 2018 PRMP as a revised version of the 2017 PRMP.

3. FEI submits that the approvals sought in the 2018 PRMP should be granted. FEI's customers will benefit from the Proposed Strategies as they help to achieve two objectives that FEI has identified for its price risk management: (a) mitigating market price volatility to support rate stability; and (b) capturing opportunities to maintain commodity rates at historically low levels for core sales customers that purchase their commodity supply directly from FEI.[2] The current low market price environment provides the opportunity for FEI to meet these objectives. FEI's other price risk management tools do help, to some degree, in mitigating market price volatility. However, they do not provide the same degree of price volatility mitigation as fixed price hedging as they do not directly mitigate the volatility in the actual market price at which FEI procures the commodity; nor do they enable FEI to capture and lock in low market prices when opportunities arise.[3]

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[1] Exhibit B-1-2, Section 5.
[2] Exhibit B-1-2, page 1.
[3] Exhibit B-5, BCUC IR 1.1.3.1.

4. The current market price environment supports the Proposed Strategies. Market natural gas prices have recently fallen to near their lowest levels in the last twenty years.[4] Market prices are near the level of many gas producers' break-even production costs, indicating that there is little room for further downward price movement for a sustained period of time.[5] There is no certainty that these low market prices will continue indefinitely, and analysis shows a much greater potential for higher prices in the future.[6] The Proposed Strategies position FEI to capture historically low market prices to help maintain low commodity rates for customers. While the shale gas era has brought about significant increases in natural gas supply across North America during the past decade, temporary imbalances in gas supply and demand still occur, causing volatility in market prices. In recent years, the impact of market price volatility has caused FEI commodity rate increases that have amounted to more than 10 percent bill increases for customers.[7] The Proposed Strategies, along with FEI's other price risk management tools, will help mitigate this market price volatility for the benefit of FEI's customers.

5. FEI's recent customer research regarding customers' overall preferences for natural gas bill stability is supportive of the Proposed Strategies. The customer survey conducted by Sentis Research (Sentis) in March 2017 indicates that customers would prefer smaller, less frequent rate changes[8] and that the majority of customers surveyed would pay a small premium to ensure a more stable natural gas bill.[9] The Proposed Strategies are designed to provide more commodity rate and bill stability at a minimal (or no) cost for customers.[10] The Proposed Strategies also offer the potential for savings for customers in the form of hedging gains.

6. The Proposed Strategies have been developed with consideration of feedback from stakeholders in workshops led by FEI during 2015 and 2017 (the Stakeholder Workshops or Workshops). Key stakeholders in the Workshops, including those representing low-income customers, indicated their support for the objectives and proposed price risk management strategies.[11]

7. In the remainder of this submission, FEI will first discuss the support for the Proposed Strategies in terms of the price risk management objectives, then the portfolio of tools and strategies to meet

[4] Exhibit B-1-2, Section 3.1.1.
[5] Exhibit B-1-2, Section 3.1.2; Exhibit B-5, BCUC IR 1.5.2.
[6] Exhibit B-1-2, Sections 3.1.3 and 3.1.4.
[7] Exhibit B-8, CEC IR 1.5.1.
[8] Exhibit B-1-2, page 13.
[9] Exhibit B-1-2, page 13; Exhibit B-5, BCUC IR 1.8.2.
[10] Exhibit B-5, BCUC IR 1.8.2.
[11] Exhibit B-1-2, Section 6; Exhibit B-5, BCUC IR 1.30.1.

them followed by a discussion of the details of the Proposed Strategies and why they are the most effective tool in meeting the objectives in the best interests of customers.

PART TWO: SUPPORT FOR PROPOSED STRATEGIES

A. THE PRICE RISK MANAGEMENT OBJECTIVES

8. FEI has two primary objectives for its price risk management which support the Proposed Strategies: (a) mitigating market price volatility to support rate stability and (b) capturing opportunities to maintain commodity rates at historically low levels for core sales customers that purchase their commodity supply directly from FEI. FEI considers both objectives equally important with neither one having priority over the other.[12] FEI revised the second objective from capturing opportunities to provide customers with more affordable rates to make it less subjective and more specific and relevant to the current low market price environment.[13]

9. The first objective identified above is consistent with what the Commission has previously determined to be a reasonable goal for FEI's price risk management. In Order G-121-11 and the accompanying decision, the Commission determined that "moderating the volatility of natural gas prices is a reasonable goal for FEI's price risk management".[14] The second objective is consistent with the first as capturing low market prices will also mitigate market price volatility. FEI discusses in the Application that market price conditions could change in the future and FEI may no longer have the opportunity to capture opportunities to maintain low commodity rates for customers.[15] Therefore, this objective is applicable in the current low market price environment.[16] The objective related to mitigating market price volatility is applicable in both high and the current low gas price environment as there can be market price volatility in either.[17] If market opportunities arise, the Proposed Strategies would have the value of helping maintain low rates for customers and providing customers with a more stable commodity rate, and therefore, bill stability.[18]

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[12] Exhibit B-5, BCUC IR 1.1.4.
[13] Exhibit B-5, BCUC IR 1.1.1.
[14] Order G-120-11 and accompanying Decision, page 22.
[15] Exhibit B-1-2, page 5.
[16] Exhibit B-5, BCUC IR 1.1.4 and 1.4.3.
[17] Exhibit B-1-2, page 4; Exhibit B-5, BCUC IR 1.1.4.
[18] Exhibit B-1-2, page 34.

10. Taking a market position is not one of FEI's price risk management objectives.[19] FEI's hedging price targets are based on consideration of a number of factors including gas production break-even costs, price probability analysis, third party price forecasts, the forward market price curve and FEI's historical and current commodity rate, rather than on FEI's speculation of future market price movements. Speculation involves trying to predict market price movements and implement hedges for the purpose of financial gain or trying to "beat the market".[20] FEI does not try to predict the direction or magnitude of future market prices changes or whether the market prices may fall to more favourable levels. The objective of capturing opportunities is about helping maintain low, but not necessarily the lowest, rates for customers relative to where rates have been in the past.[21]

B. MARKET PRICE ENVIRONMENT

11. The current market price environment supports FEI's objectives and the Proposed Strategies. Market natural gas prices have recently fallen to near their lowest levels in the last twenty years, with AECO/NIT prices trading near or below $2 per GJ. Market prices are also near the level of many gas producers' break-even production costs, indicating that there is little room for further downward movement.[22] Many major western Canadian gas producers require market prices in the area of $2 per GJ to break-even and earn a reasonable rate of return.[23] If market prices remain below this level for an extended period, it is assumed that some, while not all, gas producers would cut back on production, thereby reducing market supply, until market prices increase.[24] Therefore, there is no certainty that these low market prices will continue indefinitely. Pipelines have been proposed that would provide increased outlets for stranded western Canadian gas supply over the next few years indicate greater potential for higher prices in the future.[25] Gas market price forecasts and price probability range analysis also indicate the potential for higher prices in the future.[26] Regardless of this possibility, FEI's Proposed Strategies are designed to capture low market prices, if the opportunity arises, in the interests of maintaining low rates for customers.

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[19] Exhibit B-1-2, page 5.
[20] Exhibit B-5, BCUC IR 1.5.1.
[21] Exhibit B-1-2, page 5.
[22] Exhibit B-5, BCUC IR 1.5.2.
[23] Exhibit B-1-2, page 7.
[24] Exhibit B-1-2, page 8.
[25] Exhibit B-1-2, Section 3.1.3.
[26] Exhibit B-1-2, Section 3.1.4.

12. While the shale gas era has brought about significant increases in natural gas supply across North America during the past decade, imbalances in gas supply and demand still occur, causing volatility in market prices. During recent years, market price spikes above $5 per GJ and price dips below $2 per GJ (for AECO/NIT) have occurred.[27] This has created significant volatility in FEI's commodity rate, which has ranged from as low as $1.141 per GJ to as high as $4.64 per GJ in the last few years.[28] These historically low market prices presents opportunities for FEI to lock in prices at favourable price levels to help mitigate market price volatility for the benefit of FEI's customers.

C. STAKEHOLDER SUPPORT

13. Key stakeholders in the Workshops indicated their support for FEI's objectives and proposed price risk management strategies. The stakeholder representing low-income customers, the BC Ministry of Social Development, believed that FEI should capture low market price opportunities, if they occurred, with medium-term hedging, such as fixed price swaps or purchases, for a portion of the portfolio.[29] The representative for the Commercial Energy Consumers Association of British Columbia (CEC) stated that it supported FEI capturing opportunities and agreed that these opportunities come along periodically.[30] The British Columbia Public Interest Advocacy Centre representing the British Columbia Old Age Pensioners' Organization, Active Support Against Poverty, Disability Alliance BC, Council of Senior Citizens' Organizations of BC, and the Tenant Resource and Advisory Centre *et al.* (BCOAPO) also agreed that FEI should be capturing opportunities, as long as the price target is set low enough so customers do not miss out if commodity prices drop further.[31] One gas marketer noted that they would generally support a hedging program as long as it is transparent and mechanical with predefined strategies and targets.[32]

14. FEI developed its Proposed Strategies with the stakeholder feedback in mind. FEI proposed two hedging price targets for the medium-term hedging strategy to enable FEI to avoid missing hedging opportunities if market prices continued to moved lower. FEI's Proposed Strategies also includes weekly hedging implementation limits and lower maximum volume percentage targets for terms further out in time in order to balance capturing opportunities with reducing potential hedging costs. One stakeholder

[27] Exhibit B-1-2, page 7.
[28] Exhibit B-1-2, page 12.
[29] Exhibit B-1-2, Section 6.
[30] Exhibit B-1-2, Section 6.
[31] Exhibit B-1-2, Section 6.
[32] Exhibit B-5, BCUC IR 1.30.1.

commented that not having seasonal hedging targets may result in FEI hedging summer terms but not winter terms, leaving FEI exposed to potential market price spikes in the winter periods.[33] Based on this feedback, FEI's Proposed Strategies include hedging price targets that reflect seasonal price differences.

D. CUSTOMER RESEARCH

15. The Proposed Strategies are also supported by FEI's recent customer research regarding customers' overall preferences in terms of natural gas bill stability, tolerance for changes in bills and willingness to pay a premium for stability. The customer survey conducted by Sentis in March 2017 indicates that customers would prefer smaller, less frequent rate changes and a willingness by many customers to pay a small premium for bill stability.[34] The survey indicates that 62 percent would be willing to pay a small premium for bill stability while 31 percent indicated they would not be willing to pay a premium and 7 percent were uncertain.[35] The survey results show that, on average, residential customers would be willing to pay up to 3.6 percent each month and small commercial customers would be willing to pay up to 4.6 percent each month for greater stability in their natural gas bill.[36] This translates into an average of about 19 to 24 percent premium, respectively, on the commodity rate component of the bill.[37] One of the primary causes of the volatility in customers' natural gas bills is due to fluctuations in the commodity rate.[38] The Proposed Strategies are designed to mitigate commodity rate volatility with these customer preferences and tolerances in mind.[39]

PART THREE: PORTFOLIO OF PRICE RISK MANAGEMENT TOOLS

16. FEI's Proposed Strategies are designed to supplement FEI's existing price risk management tools as part of a portfolio approach in managing price risk. FEI currently utilizes several price risk management tools, ranging from physical gas contracting tools, rate setting mechanisms and deferral accounts, and optional customer choices. There are also other potential price risk management tools that are not currently employed by FEI. For the medium term, these include hedging option instruments. For the longer term (i.e. beyond five years), these include long-term hedging, investing in natural gas reserves, or other arrangements like a Volumetric Production Payment (VPP) arrangement.

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[33] Exhibit B-1-2, page 41.
[34] Exhibit B-5, BCUC IR 1.12.3 and 1.14.1.
[35] Exhibit B-1-2, Appendix A page 28.
[36] Exhibit B-1-2, Appendix A page 27.
[37] Exhibit B-1-2, page 13.
[38] Exhibit B-5, BCUC IR 1.10.1; Exhibit B-8, CEC IR 1.16.1.
[39] Exhibit B-1-2, page 27; Exhibit B-5, BCUC IR 1.8.2, 1.8.2.3 and 1.15.2; Exhibit B-8, CEC IR 1.20.3.

17. Each price risk management tool has potential benefits and limitations which are discussed in the following sections. In Exhibit B-1-2, Appendix B, FEI describes and evaluates the existing, proposed (in this Application) and potential price risk management tools and their respective functions and limitations. As shown by the analysis in the Application and discussed later in this submission, hedging is the most effective tool for mitigating market gas price volatility and capturing low market prices for customers.[40]

A. PHYSICAL GAS CONTRACTING

18. Physical gas contracting tools and strategies, such as market price hub and supply diversity and the use of natural gas storage, help mitigate short-term market price volatility and ensure security and diversity of supply. For instance, FEI diversifies gas pricing by purchasing supply from different market hubs and by using a combination of daily and monthly indexed-priced purchases. When determining the amount of monthly index supply FEI plans for its physical commodity supply portfolio, FEI considers various factors such as market pricing volatility, customer migration between FEI's commodity rate offering and gas marketers, and potential excess commodity resale. The amount of monthly priced commodity supply and amount available for hedging are determined in FEI's Annual Contracting Plans.[41] However, these tools are limited in their ability to meet FEI's price risk management objectives as they include purchases based on index prices which fluctuate in response to changes in the supply and demand for natural gas in the marketplace.[42] FEI also uses storage resources to take advantage of any summer-winter price differential, reduce exposure to market price disconnections or spikes during peak winter demand and enhance reliability of supply. This tool is also limited in meeting the objectives as it provides winter price spike protection for a single season rather than for several years.[43] While Physical gas contracting strategies are valuable and employed by FEI, they are not as effective as hedging in meeting FEI's price risk management objectives.

B. QUARTERLY RATE SETTING MECHANISM AND DEFERRAL ACCOUNTS

19. FEI's quarterly rate setting mechanism and deferral account balances help to smooth rates and ensure timely recovery or refund of costs from or to customers over the short term. The use of the CCRA deferral account and the quarterly rate setting mechanism provide some degree of price risk

[40] Exhibit B-1-2, Section 4.3.1; Exhibit B-5, BCUC IR 1.1.3.1 and 1.25.5.
[41] Exhibit B-1-2, page 5; Exhibit B-5, BCUC IR 1.29.1.
[42] Exhibit B-1-2, page 17.
[43] Exhibit B-1-2, page 16.

management during periods of relatively stable market prices. However, they are not as effective during periods of high market price volatility or sustained market price increases. During times of high market price volatility or sustained market price increases, deferral balances can become larger and rate changes will tend to be larger on a per unit basis.[44]

20. Using the CCRA deferral account balance as a price risk management tool is less effective than the Proposed Strategies. Deferral accounts may help smooth out gas costs but can only partially mitigate the effects of short-term price volatility because they do not impact the underlying market prices. The use of deferral accounts, while effective in reducing some short-term rate volatility, merely shift gas costs to other periods where they will ultimately need to be recovered or refunded from customers through rate changes.[45] In contrast, a medium-term price hedging strategy can help mitigate market price volatility over both short and medium terms by locking in forward market prices which affects the underlying market prices and their impacts on FEI's gas costs. FEI's analysis shows that the use of hedging in conjunction with the use of the CCRA deferral account would be more effective than the use of the CCRA deferral account alone in reducing rate volatility, particularly during periods of market price spikes.[46]

21. The balance of the CCRA, which was established to capture the differences between revenue from the gas cost recovery rates and gas costs, should be maintained within a reasonable range, which is currently +/- $60 million. This provides greater certainty that FEI will be able to recover its costs from, or refund surpluses to, customers in a timely fashion.[47] In its decision on the 2015 PRMP, the Panel directed FEI to include an evaluation of the option of increasing the acceptable CCRA deferral account balance limit to +/-$200 million to help manage commodity rates during periods of extreme volatility if FEI wished to extend the hedging program. FEI's analysis in Section 4.2.7 of the 2018 PRMP indicates that an increase in the limit does not provide any additional value beyond FEI's current rate setting mechanisms and could negatively impact FEI's credit facilities, including increasing financing costs.[48] In addition, larger deficit balances would have an impact on future customer rates and could negatively affect recoverability from customers.[49]

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[44] Exhibit B-1-2, page 19.
[45] Exhibit B-5, BCUC 1.1.3.1.
[46] Exhibit B-1-2, pages 20 and 28; Exhibit B-5, BCUC IR 1.25.5.
[47] Exhibit B-1-2, page 22.
[48] Exhibit B-1-2, page 22; Exhibit B-5, BCUC IR 1.26.1.
[49] Exhibit B-5, BCUC IR 1.26.2.

C. OPTIONAL CUSTOMER TOOLS

22. FEI's customers have the option of enrolling in optional programs to provide a degree of rate stability. FEI's core sales customers have the option to lock in their rates for terms of up to five years with a natural gas marketer under the Customer Choice program. FEI's larger volume transportation customers can obtain fixed price purchases through their shipper agent. These options do not necessarily meet the objective of capturing opportunities to maintain commodity rates at historically low rates as would be done through hedging, as the commodity rate offered under these options would depend on the marketer or shipper agent, and may also include a profit margin.[50]

23. Another option for customers seeking more stability in their monthly gas bills is to sign up for the Equal Payment Plan (EPP). While the EPP acts to smooth customers' bills by averaging consumption, it does not affect underlying gas prices like hedging. Ultimately, customers using the EPP will pay the same amounts through commodity rates as they would without the EPP (assuming constant gas consumption).[51] Therefore, while customers may have improved bill predictability, there is no financial risk or benefit for customers using EPP versus not using EPP (assuming equal gas consumption). During periods of volatile market prices and subsequent quarterly commodity rate changes, EPP customers may be subject to quarterly, rather than annual, bill changes. As such, the EPP is not a substitute for other forms of price risk management, such as hedging, in effectively meeting FEI's price risk management objectives.[52]

D. CALL OPTIONS AND COSTLESS COLLARS

24. Call options and costless collars are hedging instruments that help with reducing rate volatility and protecting customers from rising prices while mitigating potential hedging costs. These instruments could be used in higher market price environments, where there is the potential for prices to move significantly lower or higher in the future. Options provide downside price participation and avoid being locked in at potentially higher price levels.[53] FEI does not currently use these instruments but would consider including them in its portfolio of price risk management tools if market prices were to move higher than current levels for a sustained period of time and market price volatility increased above

[50] Exhibit B-5, BCUC IR 1.20.1.
[51] Exhibit B-1-2, page 32.
[52] Exhibit B-5, BCUC IR 1.27.1.
[53] Exhibit B-1-2, Section 4.3.2.

recent levels.[54] These instruments would be part of a more defensive hedging strategy designed to mitigate market price volatility rather than the current proposed opportunistic hedging strategy which is designed to meet this objective as well as capture low price opportunities.[55]

E. LONG-TERM HEDGING

25. Long-term (i.e. beyond five years) hedging helps manage the risk of higher prices or persistent price volatility that could occur in the future. FEI's gas customers would benefit from the increased stability in commodity rates over the longer term, particularly if market prices rise over time.[56] The current environment of low gas market prices near producer break-even costs provides an opportunity to capture low forward market prices that may not last indefinitely. FEI is requesting approval of hedging with terms up to five years in the 2018 PRMP.[57]

F. INVESTMENT IN GAS RESERVES

26. Another alternative for managing even longer term market price increases or volatility is investment in natural gas reserves. This type of arrangement would enable FEI to access gas supply on a cost basis rather than a market-price basis, sharing in the costs of production with a producer. One important feature of this type of supply arrangement would be the ability to transfer risks to the producer that are appropriate for a producer to manage, such as drilling and operating risk. However, this transfer of risks may not be acceptable to the producer or increase the capital investment required by the producer, thereby raising the potential cost to FEI. As such, FEI is not planning to explore this option further at this time.[58]

G. VOLUMETRIC PRODUCTION PAYMENT

27. Another tool for managing longer term price risk is a VPP type of arrangement. VPP arrangements provide gas cost certainty for a portion of the commodity supply portfolio and provide long term security of supply. A VPP arrangement may be more aligned with FEI's field of expertise given that these types of arrangements are typically non-operating contracts so that the producer takes on

[54] Exhibit B-1-2, Section 4.3.2; Exhibit B-5, BCUC IR 1.4.3 and 1.6.5.
[55] Exhibit B-5, BCUC IR 1.6.5.
[56] Exhibit B-1-2, page 33.
[57] Exhibit B-5, BCUC IR 1.22.1.1; Exhibit B-8, CEC 1.24.4.
[58] Exhibit B-1-2, Section 4.5.2.

the operating and drilling risks associated with the production.[59] FEI is planning to explore this type of option further with gas producers. If there is interest among producers and the arrangement meets price risk management objectives over the long term, FEI will submit an application to the Commission for approval.[60]

PART FOUR: PROPOSED STRATEGIES

A. THE PROPOSED HEDGING STRATEGY

28. FEI is requesting Commission approval for refinements to its existing medium-term opportunistic hedging program and the addition of a five-year hedging term. The proposed refinements to FEI's existing hedging program include (i) lowering the hedging price targets from those in the 2017 PRMP, (ii) the addition of seasonal price targets, and (iii) extending out the years over which FEI will enter into hedges (i.e. the hedging horizon). FEI will enter into hedges pursuant to the medium-term hedging strategy subject to the following conditions:

a. Forward AECO/NIT market prices must be at or below the pre-defined market price targets;[61]

b. The hedging transactions will not exceed FEI's monthly indexed supply within the commodity supply portfolio. Currently FEI's commodity portfolio is 60 percent monthly index and 40 percent daily index;[62]

c. The hedging implementation is subject to weekly limits and includes reduced maximum volume percentages for years further out in time[63]; and

d. The maximum hedging ultimately transacted through the medium term fixed price hedging strategy for any of the terms constitute 50 percent of FEI's commodity supply portfolio.[64]

[59] Exhibit B-1-2, Section 4.5.3.
[60] Exhibit B-5, BCUC IR 1.22.1.1 and 1.23.1.
[61] Exhibit B-1-2, Section 5.1. The price targets are confidential.
[62] Exhibit B-1-2, page 17.
[63] Exhibit B-1-2, page 37.
[64] Exhibit B-1-2, page 36.

29. The addition of the five-year hedging term is an extension of the current medium-term hedging strategy with the objective of mitigating market price volatility and capturing low market price opportunities further out in time. Hedges with five-year terms will be implemented subject to the following conditions[65]:

a. Forward AECO/NIT market prices must be at or below pre-defined market price targets;

b. Maximum hedging volume is up to 25 percent of the FEI commodity supply portfolio for terms up to five years within the hedging horizon;

c. The hedging implementation is subject to weekly limits; and

d. Total hedging for any term in combination with the medium-term hedging program is 50 percent of FEI's commodity supply portfolio.

30. FEI has set the hedging price targets based on consideration of several factors including gas production break-even costs, price probability analysis, third party price forecasts, the forward market price curve and FEI's historical and current commodity rate.[66]

31. The medium-term hedging strategy has been refined to include different summer and winter hedging price targets based on feedback from stakeholders in the Workshops.[67] This helps to ensure that FEI does not miss any hedging opportunities given that summer and winter forward market prices typically trade at different levels.

32. FEI selected two different price targets for the medium-term hedging strategy in response to a concern raised in the Stakeholder Workshops that the price target be set low enough so customers continue to benefit if commodity prices decrease further.[68] Thus, if the first price target is reached, a defined percentage of the portfolio is hedged; if market prices fall further, FEI could execute hedges up to another pre-defined percentage based on the lower price target.

33. As the proposed fixed price hedging targets are based on the AECO/NIT market prices, the hedging proposal does not impact FEI's ability to take full advantage of the discount on AECO/NIT pricing

[65] Exhibit B-1-2, Section 5.2. The price targets are confidential.
[66] Exhibit B-1-2, Section 3.1 and 3.2; Exhibit B-5, BCUC IR 1.5.1.
[67] Exhibit B-1-2, Section 6.
[68] Exhibit B-1-2, Section 6.

on its Station 2 supply purchases, or its exposure to any premium on AECO/NIT pricing on Station 2 supply.[69]

34. Implementing hedging as proposed would not restrain FEI's ability to source gas from other market hubs, such as Sumas or Kingsgate, during the hedging horizon. FEI expects that supply from other market hubs will be required in the midstream portfolio for winter load requirements, and not in the commodity portfolio for annual baseload requirements. If, however, supply from another market hub was required for the commodity baseload portfolio, FEI could include gas from other market hubs in at least 50 percent of its commodity portfolio, as FEI only hedges up to a maximum of 50 percent of the commodity portfolio.[70]

35. The requests relating to the medium-term hedging strategy in the 2018 PRMP are similar to those previously approved by the Commission in the 2015 PRMP. FEI's price risk management objectives in the 2015 and 2018 PRMPs are similar (with an update to the second objective) and the market price environment continues to remain low, but with volatility. The main difference between the approved 2015 PRMP and the proposed 2018 PRMP is that the hedging price targets are lower and incorporated seasonal differences. These changes reflect the market conditions experienced since the 2015 PRMP, and the feedback received from stakeholders regarding seasonal prices.

B. PROPOSED STRATEGIES EFFECTIVE IN MEETING THE OBJECTIVES

36. The Proposed Strategies are designed to respond to the current environment of low market gas prices and continuing market price volatility. Gas market prices are at their lowest levels in decades and near the break-even costs of many gas producers. As discussed in the Application, current AECO/NIT market prices are near their lowest levels since November 1999 and many western Canadian gas producers' break-even costs are in the area of $2 per GJ.[71] As a result, FEI's commodity rate of $1.549 per GJ effective January 1, 2018 is FEI's second-lowest commodity rate since 2005.[72] FEI has provided information that supports the view that downside market price movements are limited and that there is greater potential update price moves.[73] FEI is proposing lower hedging price targets from those presented in the 2017 PRMP due to the decrease in gas producer break-even costs, lower market prices

[69] Exhibit B-6, BCUC Confidential IR 1.1.2.
[70] Exhibit B-6, BCUC Confidential IR 1.1.3.
[71] Exhibit B-1-2, Figure 3-1 and 3-2.
[72] Exhibit B-1-2, Figure 3-7.
[73] Exhibit B-5, BCUC IR 1.5.2.

and FEI's lower commodity rate effective January 1, 2018.[74] This ensures that any hedges implemented will help maintain FEI's commodity rate at historically low levels, at least for the medium term.

37. Price volatility continues in the current gas market in response to changes in supply and demand balances.[75] The abundance of shale gas has generally resulted in an oversupply of gas, but market conditions can change quickly in response to increases in demand. This market price volatility continues to create volatility in FEI's commodity rate as shown in Figure 4-1 of the 2018 PRMP. Commodity rates range from near $1 per GJ to almost $5 per GJ over the last few years. In recent years, the impact of market price volatility has caused FEI commodity rate increases that have amounted to more than 10 percent bill increases for customers.[76] This has occurred twice during the shale gas era, including July 2013, when the cost of gas for residential customers increased from the previous quarter by 31 percent to increase the average annual bill by 10 percent and also in April 2014 when the cost of gas increased from the previous quarter by 42 percent to increase the average annual bill by 14 percent.[77] The Proposed Strategies will enable FEI to capture the currently low market prices to help maintain low commodity rates for customers and mitigate volatility and the potential upward movement in market rates. Indeed, through simulation, FEI demonstrated that from January 2012 to January 2017 the fixed price hedging strategy would have reduced market price volatility compared to a strategy without the use of hedging.[78]

38. The Proposed Strategies are the most effective tool for meeting the price risk management objectives. FEI currently has several price risk management tools available to it and its customers, ranging from physical gas contracting tools, rate setting mechanisms, and optional customer choices. As discussed in Part Three, each tool can mitigate volatile market conditions to a certain extent, but not to the same degree as fixed price hedging. Furthermore, hedging is the only tool that effectively captures low market prices. Hedging, unlike the other tools, locks in forward market prices which affects the underlying market prices and their impacts on FEI's gas costs, which ultimately flow through to customers in commodity rates. The use of deferral accounts, for example, while effective in reducing some short-term rate volatility, merely shift gas costs to other periods where they will ultimately need

[74] Exhibit B-5, BCUC IR 1.3.1, 1.3.2 and 1.3.4.
[75] Exhibit B-1-2, page 7.
[76] Exhibit B-8, CEC IR 1.5.1.
[77] Exhibit B-1-2, page 12.
[78] Exhibit B-1-2, Figure 4-1; Exhibit B-5, BCUC IR 1.25.5.

to be recovered or refunded from customers through rate changes.[79] FEI has proposed medium-term hedging strategies because market price movements and price volatility are more significant in short and medium terms. FEI's other price risk management tools and mechanisms, such as the use of natural gas storage and rate setting and deferral account mechanisms, help mitigate shorter term market price volatility, whereas the Proposed Strategies meet the objectives for the medium term.

39. FEI recognizes that its hedging strategy could result in hedging costs or gains depending on where market prices ultimately settle relative to the prices of the implemented hedges. However, FEI expects that the potential for significant hedging costs for a sustained period of time are reduced based on the following factors:[80]

- The market prices and gas producer break-even costs are currently significantly lower than they were in the past and so the risk of significant hedging costs for a sustained period of time is reduced.[81]

- The proposed hedging tools will only be implemented if certain low market price targets are met.

- It is possible that there could be periods of hedging gains (as explained below), given the greater upside market price potential than downside price potential in the current price environment.

- The weekly hedging implementation limits reduce the risk of FEI implementing hedges for a particular term all at once and missing the opportunity to capture even lower market prices.

- The maximum hedging volume percentages are lower for years further out in time, reducing the risk of longer term hedging costs.

40. The hedging strategy will provide more commodity rate stability and could result in savings for customers. For instance, as shown in the simulation provided on page 28 of the Application (Exhibit B-1-2, Figure 4-5), for the period of April 2010 to March 2015, the hedging strategy resulted in a lower overall commodity rate and fewer and less frequent commodity rate changes than the base case without hedging. In response to BCUC IR 1.25.5 (Exhibit B-5), FEI re-modelled Figure 4-1 of the Application with hypothetical hedging of 25 percent and 50 percent of the total commodity portfolio for

[79] Exhibit B-5, BCUC IR 1.1.3.1.
[80] Exhibit B-7, BCOAPO IR 1.5.1.
[81] Exhibit B-1-2, Section 4.3.1.

the April 2012 to January 2017 period. The results show that higher levels of hedging provide more commodity rate stability (i.e. fewer and smaller rate changes) and maintain FEI's commodity rate at lower levels, on average, throughout the simulation period.

41. FEI determined based on hypothetical hedging targets that there is more potential for hedging gains than costs for future periods. As Figure 3-6 in the Application illustrates, the low price potential is around $1 per GJ for all terms, but the upside price potential reaches about $4 per GJ in the short-term and higher in the longer term. This reflects more upside than downside potential for prices over the long term. Assuming FEI were to hedge 50 percent of the portfolio at $2 per GJ and market prices settled at a low of $1 per GJ or high of $3.50 per GJ for the short-term, the potential cost would be around $67.5 million and the potential benefit would be around $101.2 million for the short-term. Medium-term and long-term market price highs reach about $4 and $7 per GJ, respectively, resulting in potential benefits of about $135 million for the medium term and $337.6 million for the long term.[82] Both medium-term and long-term hedges would have similar potential costs as the short-term, but would have potentially greater benefits based on consideration of the price potential probability, third party price forecasts and the forward market prices at AECO/NIT.

42. There are no incremental administration costs associated with the implementation of the hedging proposal. It would be prudently managed internally through existing roles within the Gas Supply group that manage price and counterparty credit risk, monitor gas market developments that impact FEI's customers and provide compliance and reporting.[83]

PART FIVE: FUTURE REPORTING

43. FEI intends to submit to the Commission an Annual Report by May 1 each year, which discusses the effectiveness, to date, of the Proposed Strategies, if approved. Success in the hedging program will be based on supporting rate stability by reducing market price volatility and capturing low, but not necessarily the lowest, market prices for customers. The Proposed Strategies are not designed to "beat the market", but rather capture opportunities to lock in prices that are favourable relative to historical market price levels and reduce commodity rate volatility.[84] FEI believes that the success of the Proposed Strategies should be measured over a period of time as it can take several years to determine if greater

[82] Exhibit B-5, BCUC IR 1.22.1.
[83] Exhibit B-5, BCUC 1.19.2.1.
[84] Exhibit B-8, CEC IR 1.19.1.

rate stability and capturing low market prices has been achieved.[85] If FEI concluded that refinements to the Proposed Strategies are needed, FEI expects it would discuss these with stakeholders and, if supported, bring them forward to the Commission for approval in a subsequent application.

PART SIX: CONCLUSION

44. FEI has proposed enhancements to its medium-term hedging strategy to meet the objectives of mitigating market price volatility to support commodity rate stability and capturing opportunities to maintain commodity rates at historically low levels for core sales customers that purchase their commodity supply directly from FEI. The Proposed Strategies are more effective at meeting these objectives than the alternative price risk management tools available to FEI. As shown through simulations, there could be periods of hedging costs and savings with the proposed hedging strategy if market prices increase or volatility occurs. If hedging costs do occur, they are not expected to be significant for a sustained period of time based on the low level of hedging price targets. This strategy received support from key stakeholders in the Workshops and is consistent with customers' preferences in terms of rate and bill stability. The Proposed Strategies are beneficial to FEI's customers and so should be approved by the Commission.

ALL OF WHICH IS RESPECTFULLY SUBMITTED.

Dated: May 30, 2018

Original signed by Diane Roy

Diane Roy

[85] Exhibit B-8, CEC IR 1.25.4.