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VIA EMAIL

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October 13, 2015

FEI BERC RATE METHODOLOGY
EXHIBIT A-3

Ms. Diane Roy
Director, Regulatory Affairs
FortisBC Energy Inc.
16705 Fraser Highway
Surrey, BC V4N 0E8

Dear Ms. Roy:

Re: FortisBC Energy Inc.
Application for Approval of Biomethane Energy Recovery Charge
Rate Methodology

Further to British Columbia Utilities Commission Order G-147-15, which established the Regulatory Timetable with respect to the above noted Application, enclosed please find the Commission's Information Request No. 1 to FortisBC Energy Inc. In accordance with the Regulatory Timetable and the Commission's Document Filing Protocols, please file your responses electronically with the Commission by Wednesday, November 4, 2015.

Yours truly,

Erica Hamilton

/nd

Enclosure

cc: Registered interveners

FortisBC Energy Inc.
Application for Approval of
Biomethane Energy Recovery Charge Rate Methodology

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A. OBJECTIVE OF APPLICATION AND APPROVALS SOUGHT

- 1.0 Reference: INTRODUCTION AND APPROVALS SOUGHT**
Exhibit B-1, Section 1.1, p. 3; Section 1.3, p. 4; Section 2, p. 6;
FEI Biomethane Service Offering: Post Implementation Report and Application for
Approval of the Continuation and Modification of the Biomethane Program on a
Permanent Basis (2013 Biomethane Application), Decision released December 11,
2013, p. 72
Objective of market based BERC rate

On page 3 of FortisBC Energy Inc.'s (FEI) application for Approval of Biomethane Energy Recovery Charge (BERC) Rate Methodology (Application), FEI states "FEI expects that this approach will result in maximizing the volumes sold under the RNG Program while minimizing the impact of unsold RNG on FEI customers."

On page 4 of the Application, FEI refers to "lowering BERC rates to encourage [renewable natural gas] RNG Program participation."

On page 6 of the Application, FEI states "it may be appropriate to set the BERC rate below the cost, thereby maximizing the volumes sold while minimizing the unsold cost impact [on] the remainder of FEI ratepayers." FEI then goes on to quote the following from page 72 from the 2013 Biomethane Decision:

In this circumstance, the Panel is of the view that it may be appropriate to set the BERC at a lower rate, and recover the difference between the BERC and the fully allocated costs of acquiring the biomethane through the Biomethane Premium deferral account

previously discussed. This strategy may enable FEI to maximize the revenues from the Biomethane Program.

- 1.1 Please discuss the primary objectives of the Application.
 - 1.1.1 Please discuss the relative importance of minimizing the rate impact on non-renewable natural gas (RNG) customers in relation to the biomethane sales objective.
 - 1.1.2 Is the objective appropriately maximizing volumes of biomethane sold or optimizing the RNG sales volumes such that the rate impact on non-RNG customers is minimized by maximizing revenues from biomethane sold? Please discuss.

**2.0 Reference: INTRODUCTION AND APPROVALS SOUGHT
Exhibit B-1, Section 1.2, p. 3
Approvals sought**

On page 3 of the Application, FEI provides a list of approval sought in the Application.

Item 4 is listed as “FEI may apply to transfer unsold biomethane supply that is greater than 18 months in age and/or 250,000 GJs in the BVA to the MCRA at the prevailing [Commodity Cost Reconciliation Account] CCRA rate on January 1, each year.”

Item 5 is listed as “Approval to amortize the forecast December 31 balance in the BVA, net of the transfer of unsold inventory and remaining supply costs, through the delivery rates of all non-bypass customers effective January 1 of the subsequent year.”

- 2.1 Please confirm, or otherwise explain, that FEI intends that the proposed annual transfer of unsold biomethane from the Biomethane Variance Account (BVA) to the Midstream Cost Reconciliation Account (MCRA) would be approved in concept only in this proceeding and FEI would make further application and obtain British Columbia Utilities Commission (Commission) approval at a future date before the transfer would be executed.
- 2.2 Please confirm, or otherwise explain, that FEI intends that if it obtains the approval sought in Item 5, the subject amortization of the forecast December 31 balance in the BVA would be automatic without the need for further approval from the Commission.

**3.0 Reference: PROPOSAL
Exhibit B-1, Section 1.1, p. 3; Section 7.4, p. 48
Increase in customer education and awareness spending**

On page 48 of the Application, FEI states: “Thus, FEI will resume customer awareness and education spending to \$300 thousand per year, commencing January 1, 2016.”

- 3.1 In the Application, is FEI requesting Commission approval for customer awareness and education spending of \$300 thousand per year?
- 3.2 Please confirm the list on page 3 is a complete list of all approvals sought in this application. If not confirmed, please provide a complete list of approvals sought.

**4.0 Reference: INTRODUCTION AND APPROVALS SOUGHT
Exhibit B-1, Section 1.1, p. 2; Section 7.2, pp. 46–47
Filing of applicable rate schedules**

On page 2 of the Application, FEI describes the two proposed service offerings that FEI is seeking approval of: the Short Term Contract and the Long Term Contract. FEI has not included in the Application black-lined versions of Rate Schedules 1B, 2B, 3B, 5B and 11B, proposed new tariff pages, or proposed standard form contracts in the Application.

In Section 7.2.2 of the Application, FEI provides a summary of some of the possible Long Term Contract terms and conditions and states: “Because FEI has not fully negotiated a Long Term RNG Contract, it cannot anticipate all of the future terms and conditions.”

- 4.1 Please confirm, or otherwise explain, that FEI is seeking approval in principle of the proposed offerings.
 - 4.1.1 If not confirmed that FEI is seeking approval in principle at this point, please provide a copy of the applicable rate schedules and/or standard form contracts together with a black-lined version showing the changes to the applicable existing rate schedules and General Terms and Conditions.
- 4.2 Please confirm, or otherwise explain, that if the Application is approved, Rate Schedules 1B, 2B, 3B, 5B and 11B will each be revised to reflect the new BERC rate as proposed in the Short Term Contract offering.
 - 4.2.1 Please describe the timing and the specific approval process FEI contemplates in regard to filing of revised tariff pages for each of the Short Term Contract offerings.
- 4.3 Please describe any revisions that may be required in Section 28 – Biomethane Service of the General Terms and Conditions to accommodate the proposed BERC rate methodology changes.
- 4.4 Please provide a copy of Section 28 of the General Terms and Conditions and copies of each of the five current biomethane rate schedules.
- 4.5 Please describe the timing and the specific approval process FEI contemplates in regard to approval for the terms and conditions for the Long Term Contract offering. For instance, does FEI intend to: a) file a standard form Long Term Contract for approval by the Commission in advance of entering into the first Long Term Contract negotiated by FEI; b) file a standard form Long Term Contract for approval by the Commission concurrently with an application for approval of the first Long Term Contract negotiated by FEI as a tariff supplement; c) file each Long term Contract for approval as a tariff supplement as they are entered into; or d) another process other than described above. If d), please elaborate.

B. BIOMETHANE PROGRAM TO DATE

**5.0 Reference: INTRODUCTION
Exhibit B-1, Section 1, p. 1
Premium calculation**

On page 1 of its Application, FEI states “In April of 2014, the BERC rate increased to \$14.065 per

Gigajoule (GJ), from \$11.696 per GJ. The corresponding premium above natural gas increased to \$8.11 per GJ.” In footnote 2, FEI states that the premium is calculated as the “Price of RNG less the CCRA rate + Carbon Tax. \$14.065 – (\$4.464 + \$1.4898) = \$8.111.”

5.1 For clarity, please confirm the formula for the BERC rate can be expressed as:

$$\text{BERC rate} = \text{CCRA rate} + \text{Carbon Tax} + \text{BERC premium}$$

5.2 As for the FEI proposed BERC rate methodology, please confirm that the BERC rate can be expressed as follows:

$$\text{BERC rate (short term contracts)} = \text{CCRA rate} + \text{Carbon Tax} + \$7 \text{ premium for short term contracts}$$

$$\text{BERC rate (long term contracts)} = \text{CCRA rate} + \text{Carbon Tax} + \$6 \text{ premium for long term contracts}$$

**6.0 Reference: PROGRAM STRUCTURE
Exhibit B-1, Section 3.2.3, p. 13;
Exhibit B-3, Supplementary Information, Attachment A, Tab Figure 3-3
RNG supply projections**

6.1 Please confirm, or otherwise explain, that the RNG supply included in the schedules in Appendix E includes supply from the six currently approved supply contracts with additional supply from the City of Vancouver Landfill and the City of Surrey Biofuel facility coming on stream in 2017.

6.1.1 Please provide an update on the status of the City of Vancouver Landfill and City of Surrey Biofuel facility supply contracts.

**7.0 Reference: PROGRAM STRUCTURE
Exhibit B-1, Section 4.2.1, p. 27;
Rate Schedule 1B, p. R-1B.4
Biomethane blends available under current program**

On page 27 of the Application, FEI states

FEI introduced an expanded selection of designated RNG percentages to customers in 2014. The expanded offering allowed customers to designated 5%, 10%, 25%, 50% or 100% of their consumption as RNG rather than just 10%. FEI had hoped that the introduction of these options would result in higher consumption of RNG from customers who chose more than 10%.

As set out in Note 1 on page R-1B.4 of Rate Schedule 1B extracted below, the currently approved biomethane tariffs provide for FEI to offer any biomethane blend in increments of 5 percent:

The percentage of Biomethane of a Customer’s Gas usage available to Customers is set by FortisBC Energy and includes a range between 5% of Biomethane and 100% of Biomethane, increasing by increments of 5%.

7.1 Please discuss the rationale for selecting the specific percentage blends FEI currently offers for customers to select from and whether, in FEI’s view, this has limited customer uptake of RNG in

any way.

**8.0 Reference: CURRENT CHALLENGES
Exhibit B-1, Section 4.1, pp. 22–23, 25–26
Churn rates by rate schedule**

8.1 Please calculate the quarterly churn rate (number of customers lost last quarter/number of starting customers last quarter) for Rate Schedule 1B customers from June 2011 to March 2015 and for Rate Schedule 2B customers from March 2012 to March 2015. Please include a fully functional spreadsheet with the response.

**9.0 Reference: CURRENT CHALLENGES
Exhibit B-1, Section 4.2.2, Table 4-1, p. 28
Reduction in marketing spend**

On page 28 of the Application FEI provides the total marketing expenditures for each year from 2011 through 2015.

9.1 For 2011-2015, please provide a breakdown of the RNG marketing costs by year and type of cost indicating which customer rate class was targeted where applicable. Please include a fully functional spreadsheet with the response.

9.2 Please provide the Forecast, Actual and Variances (Actual-Forecast) sales volumes for 2011-2015 by year and customer class. Please include a fully functional spreadsheet with the response.

C. CUSTOMER RESEARCH

**10.0 Reference: RESEARCH ON RNG PREMIUM
FEI 2013 Biomethane Application, Exhibit B-17, BCUC IR 1.15.1
Demographic research**

In response to BCUC IR 1.15.1 in the 2013 Biomethane Application proceeding, FEI provided the following information about its proposed customer research, specifically in relation to attracting customers from a wider range of demographics:

FEI is currently in the process of conducting a focus group session with the participants and non-participants across different demographic groups and regions to seek feedback on the effectiveness of the communication messages and the channels. The results will be available sometime by end of summer 2013 and will inform FEI with respect to any changes it may make to its marketing program. Additionally FEI is also in the process of engaging UBC students from the MBA program this fall to help evaluate the effectiveness of current campaigns and make changes to its 2014 marketing plan to appeal to the 35-44 category while continuously attract the 45+ segment.

10.1 Please provide the focus group questions and the detailed results of the 2013 session discussed above.

- 10.1.1 What, if any, changes did FEI make to its communication messages and channels as a result of this customer feedback?
- 10.2 Did FEI complete its collaboration with University of British Columbia (UBC) students in the MBA program, as discussed above?
 - 10.2.1 If no, please explain why not.
 - 10.2.2 If yes, please describe the evaluation process.
 - 10.2.2.1 What, if any, changes were made to FEI's marketing plan as a result of this evaluation?

**11.0 Reference: RESEARCH ON RNG PREMIUM
Exhibit B-1, Section 5.1.1, p. 31
Residential customer feedback**

On page 31 of the Application, FEI states, "FEI sent out a survey to previous RNG customers who had dropped from the RNG Program to gain feedback on the influences in their decision to leave the RNG Program. While the response levels were low, 86% of those surveyed dropped out due to the price (extra cost on bill) and the discontinuance of the Air Miles programs as of February 28th, 2014."

- 11.1 Please provide the 2014 residential customer survey questions and results cited above.
 - 11.1.1 How was this survey conducted (i.e., telephone, mail, email)?
 - 11.1.2 Given the low response rate to this survey, has FEI considered using other methods to solicit customer feedback?
 - 11.1.2.1 If yes, please describe these methods.
 - 11.1.2.2 If not, please explain why not.

**12.0 Reference: INTRODUCTION
Exhibit B-1, Section 3, p. 8
Customer bills**

On page 8 of its Application, FEI states:

The BERC rate is the rate that the customers who participate in the RNG Program pay for their RNG. It is a commodity charge like the CCRA rate charged for natural gas. The BERC rate is charged for equivalent amounts of RNG consumed regardless of biomethane Rate Schedule, blend or rate class, and is reflected on a customer's bill if applicable. All other aspects of the customer bill remain the same.

- 12.1 Please file sample customer bills for each biomethane rate class.
- 12.2 Does FEI believe that improvements can be made to the customer bills to better inform their level of participation and educate customers on the benefits of the FEI RNG product? If so, how? If not, does FEI believe that the current customer bill is effective?

**13.0 Reference RESEARCH ON RNG PREMIUM
Exhibit B-1, Section 5.1.1, p. 31; Section 5.2.3.2, p. 39
Utility interviews**

On page 39 of the Application, FEI states, “FEI’s learning has reinforced FEI’s conclusion that customers look at alternatives and are sensitive to swings in the premium for ‘green’ products. Further, large swings in the premium for RNG could lead to a credibility challenge, which would in turn create a barrier to increasing voluntary participation.”

In Section 5.1.1 of the Application, FEI also noted that price, specifically the extra cost on the bill, and the discontinuance of the Air Miles program negatively impacted residential RNG customer retention.

13.1 Given the noted customer sensitivity to changes in price or offerings for “green” products, how has FEI communicated program changes to customers participating in RNG program?

13.1.1 Has FEI requested feedback from customers on the effectiveness of these communication methods?

13.1.1.1 If not, please explain why not.

13.1.1.2 If yes, please elaborate on the feedback received.

13.2 How does FEI communicate program changes, such as changes in price (increases or decreases) and the discontinuance of the Air Miles program, to customers not already participating in RNG program?

**14.0 Reference RESEARCH ON RNG PREMIUM
Exhibit B-1, Section 5.2.3.2, p. 37
Utility interviews**

On page 37 of the Application, FEI states, “[i]n order to better understand the reasons behind the success of other programs, FEI conducted interviews with the program managers for many of the top performing programs by participation level. The interviews covered price, program design and marketing approaches.”

14.1 Please describe FEI’s findings in relation to the marketing approaches used by the top performing programs, including any findings specific to the different customer types (i.e. residential, commercial, large volume).

14.1.1 Did FEI identify any trends in the marketing approaches used by the top performing programs?

14.1.2 What, if any, changes has FEI implemented as a result of this information?

**15.0 Reference: RESEARCH ON RNG PREMIUM
Exhibit B-1, Section 5.1.1, pp. 31–32
Large volume customer feedback**

On page 31 of the Application, FEI states, “FEI has spoken to many customers over the last three years to seek understanding of the sales potential and barriers specific to large volume customers.”

- 15.1 Please describe the methodology FEI uses, or has used, to contact and solicit feedback from large volume customers.
- 15.2 Please describe any alternative methodologies FEI has considered but is not using, or has not used, to contact and solicit feedback from large volume customers.
 - 15.2.1 Please elaborate on the reason(s) why FEI has not utilized these alternatives.

**16.0 Reference: RESEARCH ON RNG PREMIUM
Exhibit B-1, Section 5.3, p. 40
Green alternatives in BC**

On page 40 of its Application, FEI states:

Bullfrog’s Green Natural Gas customers pay a premium on top of their FEI bill for GNGCs [Green Natural Gas Certificate] from a landfill project in Quebec. The supply of gas from the landfill project in Quebec differs from FEI’s model in two key ways. First, the gas supplied is not “on system” and therefore it does not displace natural gas in BC. Secondly, the project does not clean the gas to meet full pipeline quality standards as FEI’s supply does. The gas is injected into a transmission pipeline and diluted by mixing it with large volumes of natural gas pipeline in order to keep the gas quality within specification limits.

The premium for Bullfrog Green Natural Gas GNGCs is currently \$3.48 per GJ compared to the current RNG premium of \$10.43 over current FEI natural gas rates. This comparison suggests that the premium for RNG should be in the range of \$3.50 per GJ to be competitive with Bullfrog Green Natural Gas.

- 16.1 Please discuss if FEI plans to educate, or have educated, FEI’s RNG offering versus other green alternatives in BC such as Bullfrog’s Green Natural Gas product.
 - 16.1.1 If applicable, what is the customer feedback? Is there evidence to show that customers are willing to pay an additional premium for BC supplied RNG?

**17.0 Reference: RESEARCH ON RNG PREMIUM
Exhibit B-1, Section 5.3, p. 40;
FEI Customer Choice Program, Current gas marketer offerings ¹
Green alternatives in BC**

The following table was extracted from FEI’s website on October 8, 2015 from information provided on FEI’s Customer Choice Program. It lists offerings for gas marketers participating in the Customer Choice program as of that date.

¹
<http://www.fortisbc.com/NaturalGas/Homes/CustomerChoice/ComparingHowRatesAreSet/PriceComparison/Pages/default.aspx>

Gas marketers' residential fixed rates (per GJ)
 ⓘ Click prices for more information

Supplier name ↓	1 yr. term	2 yr. term	3 yr. term	4 yr. term	5 yr. term
Access Gas Services Inc. 877-519-0862	\$3.89				
Access Gas Services Inc. 877-519-0862	\$4.14				
Access Gas Services Inc. 877-519-0862		\$4.89	\$4.89	\$4.89	\$4.89
Access Gas Services Inc. 877-519-0862	\$5.14	\$5.89	\$5.89	\$5.89	\$5.89
Direct Energy 877-376-1445			\$3.99		\$3.99
Just Energy 866-587-8674			\$4.78	\$4.78	\$4.78
Planet Energy 866-360-8569			\$4.99		\$4.69
Summitt Energy BC LP 877-222-9520				\$5.39	\$5.39
Summitt Energy BC LP 877-222-9520				\$6.39	\$6.39
Summitt Energy BC LP 877-222-9520					\$5.39
Summitt Energy BC LP 877-222-9520					\$6.39

Click the gas marketer names to view their websites

The offerings from Access Gas Services Inc. and Summitt Energy BC LP indicate additional offerings with names such as “Green Energy” at a premium of \$1.00 per GJ to the marketer’s other offerings for the same term indicating that marketers participating in FEI’s Customer Choice program have “green” alternatives.

- 17.1 Please describe the extent to which FEI is aware of the uptake of customers in the marketer’s green offerings through its administration of the Customer Choice program.
- 17.2 Has FEI discussed the uptake of these programs with the respective gas marketers? If not, why not.

18.0 Reference: RESEARCH ON RNG PREMIUM
Exhibit B-1, Section 5.1.2, p. 32; Appendix D, Letter from UBC, p. 2;
Creative Energy Vancouver Platforms Inc. Application for a Certificate of Public Convenience and Necessity for a Low Carbon Neighbourhood Energy System for Northeast False Creek and Chinatown Neighbourhoods of Vancouver (Creative Energy NES NEFC CPCN Application), Exhibit B-34, Section 9 g);
Creative Energy NES NEFC CPCN Application ,Transcript, Volume 2, pp. 356, 359–360
BERC rate UBC is willing to pay

In describing feedback from large volume customers, FEI references a letter provided by UBC; an existing biomethane customer taking service under Rate Schedule 11B. The letter describes why UBC has scaled

back its RNG purchases from FEI, its potential RNG requirements and the pricing alternatives considered in discussions between FEI and UBC. The following is an excerpt from that letter:

It should be noted that buying NG + Transport+ Carbon Tax + Carbon Offsets is currently 50% the price of RNG per GJ and under this pricing it is difficult to see how any business case would support making the transition to RNG.

Should RNG pricing fall by a significant value, then UBC's may reconsider increasing its purchase of RNG to work back towards the original planned volume of 96,000GJ's per annum.

UBC holds a 15 year LDA agreement with BCHydro, so UBC would have an active interest to look towards a long term fixed price schedule or multiyear contract. However, for this to be possible there would have to be a significant reduction in current pricing. FortisBC and UBC have had some preliminary discussions as to what this may look like ranging from:

- a) A levelized or fixed rate for 10 years e.g. \$/GJ 'all in cost', with no price rise annual escalation.
- b) A lower start commodity price e.g. \$Average NG + \$2.75 (Carbon Tax & Offset)/GJ, but with a fixed annual escalator e.g. 1 or 2% over 10 years to recover costs.

UBC is reviewing a potential large scale Cogeneration project (phase 2) to supplement the new UBC Campus Energy Center (CEC) (phase 1), currently under construction at UBC. This Cogeneration project would require up to 1,000,000GJ's RNG annually, if approved. The present day RNG price adversely impacts this project, such that it has not made it beyond the schematic development stage. Were UBC to proceed with a cogeneration facility it would have an active interest in a long term fixed price schedule/ multiyear contract for up to 1,000,000 GJ's of RNG.

In the Creative Energy NES NEFC CPCN proceeding where UBC and FEI are each registered interveners, UBC filed Rebuttal Testimony on behalf of Creative Energy Vancouver Platforms Inc. In response to question 9f), UBC provided its UBC Vancouver campus greenhouse gas (GHG) reduction targets as follows:

UBC Vancouver campus GHG reduction targets, against a 2007 baseline:

- 33% reduction by 2015
- 67% reduction by 2020
- 100% reduction by 2050

In response to question 9g) in the same testimony, UBC responded:

g. Can you please discuss UBC's analysis of and/or reliance on renewable natural gas and biomass energy in achieving targets.

UBC Vancouver does not rely on RNG to achieve its GHG reduction targets.

As mentioned previously UBC's Vancouver campus operates a 6MW renewable biomass gasification system (part of the Bioenergy Research Demonstration Facility or BRDF) to provide thermal energy and reduce campus GHG emissions by approximately 14%.

Also within the BRDF, UBC operates a 2MW Cogeneration engine that primarily uses Renewable Natural Gas to generate clean electricity and Natural Gas for thermal production (total gas consumption of the engine is split 40% RNG and 60% conventional Natural Gas. The purchase of RNG is solely based on ensuring the 100% of the electrical production is coming from a renewable resource. If UBC were to purchase 100% RNG for the engine the total combined production of thermal energy from the BRDF would offset 18% of UBC's total GHG emissions production. Unfortunately the current price of RNG limits its economic value as a viable option to assist in achieving UBC's targets. If the RNG premium was more inline with the cost of carbon (\$55/tonne) then RNG would be considered as a viable option.

In an undertaking (Exhibit B-43) in the same proceeding, UBC provided the conversion to dollars per GJ:

\$55/Tonne (excl. taxes) CO₂e emissions is equivalent to \$2.78/GJ of natural gas. Based on a natural gas conversion factor of 0.04975 Tonnes/GJ.

In its oral testimony at that hearing, UBC testified:

... the \$55 a tonne is basically what we pay between the carbon tax and the public-sector offset required – requirement. So all public-sector organizations are required to account for their emissions, reduce what they can, and offset the remainder to zero on an annual basis at \$25 a tonne.²

In its oral testimony, when asked why UBC concluded that RNG is not a viable option unless it is in line with the \$55 per tonne cost of carbon UBC replied:

Because we wouldn't be given the approval to purchase renewable natural gas if it cost – if it costs more than the cost of conventional natural gas, plus carbon costs, the carbon tax and the offset costs that we pay.³

UBC confirmed on page 359 of the transcript that when considering the price it would be willing to pay for clean energy to meet its future targets of 100 percent reduction in GHG emissions, it would “expect [targets] to be in line with the carbon pricing at that time.”

18.1 If the Long Term Contract premium was set at \$2.75, a price in line with UBC's \$55 per tonne

² Creative Energy NES NEFC CPCN Application, Transcript, Volume 2, p. 356.

³ Creative Energy NES NEFC CPCN Application, Transcript, Volume 2, p. 360.

current cost of carbon, does FEI anticipate that UBC is highly likely to contract for the original 96,000 GJ per annum? Please discuss.

- 18.2 To the extent the premium is set at the equivalent of UBC’s cost of carbon, please discuss the extent to which FEI believes it increases the likelihood that UBC would contract for 1,000,000 GJ of RNG per year to supply UBC’s cogeneration project.
- 18.3 Please discuss the potential annual demand for RNG from other British Columbia public institutions that have the same legislative requirement to offset their GHG emissions as UBC.
- 18.4 Please discuss the viability, merits, costs and benefits of the first alternative listed by UBC as having been explored with FEI (i.e. a levelized or fixed “all in” rate).

D. ALTERNATIVES CONSIDERED

**19.0 Reference: ALTERNATIVES CONSIDERED
Exhibit B-1, Section 5, pp. 31–34; Section 6, pp. 42–44; Section 7, pp. 45–47;
RNG pricing alternatives**

On pages 43-44 of its Application, FEI notes that it seeks to maximize participation in the RNG program on a voluntary basis or minimize the potential rate impact to non-RNG customers. FEI believes that a market-based rate for RNG, if priced properly, would increase voluntary participation in the program and minimize the potential rate impact to non-RNG customers.

In its Application on pages 31-34 and 45-47, FEI provides the details and rationale of the \$7 premium to Commodity Cost Reconciliation Account (CCRA) rate proposal and the \$1 discount for long term contracts. On page 34, FEI notes that in the first market research study in 2012, price was identified as a major barrier with 58 percent of respondents indicating that was their primary reason for not considering RNG.

To better understand other possible RNG pricing alternatives, Commission staff have developed the following table to illustrate the possible BERC rate methodologies:

Commission Staff Table 1

	Option Description	Potential Benefits	Potential Concerns	Did FEI consider similar option?
	Status Quo: cost based rate			Not applicable
	FEI Proposal: BERC Rate = CCRA Rate + Carbon Tax + \$7 premium for short term contracts; \$1 discount for long term contracts.			Not applicable

1	<p>Two Short Term Contract Offerings: split the Short Term Contract into two offerings based on volume with the premium set at \$8.50 for a Low Volume Short Term Contract offering (less than 2000 GJ per year), at \$7.50 for a High Volume Short Term Contract offering (higher than 2000 GJ per year) and at \$6.50 for the Long Term Contract offering.</p>	<ul style="list-style-type: none"> • Price signals for RNG volumes purchased • Encourage RNG sales volume to large purchasers 	<ul style="list-style-type: none"> • Determination of rate(s) that is not unjust or unreasonable 	Yes or no
2	<p>Rate class based BERC Rate: presumably residential customers will consume less RNG than commercial customers, and commercial customers will consume less than industrial customers. The BERC rate can be set based on rate class. For example, higher rate for residential customers and lower for industrial customers due to RNG volumes purchased.</p>	<ul style="list-style-type: none"> • Price signals for RNG volumes purchased • Encourage RNG sales volume to large purchasers 	<ul style="list-style-type: none"> • Determination of rate(s) that is not unjust or unreasonable 	Yes or no
3	<p>Declining premium based on blend percentage: discounted price for higher volume blends. For example, \$9 premium at 5% blend, \$8.50 premium at 10%, \$8 premium at 20%, etc.</p>	<ul style="list-style-type: none"> • Price signals for volumes purchased • Lower price for large volumes purchased, thus incentive to buy more RNG • Price discovery for different customer preference 	<ul style="list-style-type: none"> • Determination of a rate(s) that is not unjust or unreasonable • May be difficult to educate customers of different price structure • Potential system changes costs 	Yes or no
4	<p>Customer choose their own blend: Any blend between 1% to 100%</p>	<ul style="list-style-type: none"> • Allow customers to choose their optimal percentage • Attract all levels of participation • Customers may choose blend depending on total bill impact (e.g. seasonality) 	<ul style="list-style-type: none"> • Administration costs • Customers may gravitate towards the “lowest” option 	Yes or no

5	<p>Customer determined flat fee contribution: customers can pay a fixed lump-sum amount each period. FEI derives the customer's blend and informs the customer, for example, by way of customer bill</p>	<ul style="list-style-type: none"> • Allow customers with a fixed budget to participate in the RNG program • Customers are less impacted by BERC rate volatility (premium based rate or otherwise) • Total bill impact stability and certainty 	<ul style="list-style-type: none"> • Incremental system administration and implementation costs • Uncertainty of RNG quantities sold 	Yes or no
6	<p>RNG premium by percentage: BERC rate = CCRA rate + Carbon Tax + % premium</p>	<ul style="list-style-type: none"> • Equal proportion to any CCRA rate change • Retain existing enrollment as the premium to buy RNG is relatively equal to CCRA rate 	<ul style="list-style-type: none"> • Volatility of BERC rate will depend on CCRA rate changes 	Yes or no
7	<p>Auction: FEI sells blocks of RNG units in an auction environment, for example, for large volume customers who may have long term contracts.</p>	<ul style="list-style-type: none"> • Bidding process can reveal customers' willingness to pay • Unsold biomethane volumes can be cleared at a certain price 	<ul style="list-style-type: none"> • Revenue may not be maximized as it will depend on the winning bid • Incremental system and administration costs • Transparency of determining a rate that is not unjust and unreasonable 	Yes or no

19.1 Please evaluate each option listed in the Commission Staff Table 1. Please correct any incorrect comments suggested by Commission staff. Discuss the potential benefits and concerns for each option suggested and complete the table with any additional points.

19.1.1 To the extent possible, please propose the appropriate BERC rate or the mechanism by which FEI will carry out for each suggested options. Discuss whether or not FEI will consider recommending the particular alternative.

19.1.2 For each option, please estimate the system implementation costs and determine whether the option is feasible.

19.1.3 From most preferable to least preferable, please rank options 1 through 7 as alternatives to the FEI proposal.

19.2 Has FEI considered any other pricing alternatives in the BERC rate methodology? Please add to the table above and explain why they are not recommended.

19.3 Is there evidence that seasonality may influence customers' decision to opt in/out of the RNG program, or switching their blends?

**20.0 Reference: ALTERNATIVES CONSIDERED
Exhibit B-1, Section 5, pp. 34–38; Appendix C
National Renewable Energy Laboratory (NREL) report**

On pages 34-35 of its Application, FEI states:

Based on this data [market research FEI conducted in 2012], the optimum price point to maximize participation appears to be \$6.00 per month assuming a 10% designation of RNG. Based on an average household consumption of 90 GJ per year that additional amount on a bill translates to a per GJ premium of approximately \$8.00 (or \$72 per year).

In its Application on page 35 and in Appendix C, FEI provides the NREL report which shows the typical price range for utility green pricing programs. FEI notes that the pricing varies significantly with the average premium being US \$4.92 per GJ equivalent and the medium premium being US \$4.17.

On pages 36 and 37, FEI provides Table 5-1: NREL Top Ten Utility Participation and Sales, which shows customer participation rate ranging from 5.88 percent to 12.33 percent and “Monthly premium average house to go 100% green power” ranging from \$6 to \$30.

On page 38, FEI shows that their percentage of residential participation is at 0.7 percent. On page 37, FEI states that “Based upon the relative participation rates of other utilities, FEI believes that participation can be improved in BC” with a lower BERC rate premium.

20.1 Please provide the maximum and minimum premium as well as the variance referenced on page 35 (i.e. average premium US \$4.92 and medium premium US \$4.17). Please also state these figures in Canadian dollars. Please show the exchange rate.

20.2 If FEI's RNG premium is \$8, the annual RNG spending is \$72 per year. Thus, the monthly RNG spending is \$6. Given that the “Monthly premium for average house to go 100% green power” for the top ranking utilities as shown in Tables 5-1 ranges from \$6 to \$30, would FEI expect that the participation rate will improve from 0.7 percent to around 5 percent or better if FEI's RNG premium is around \$7 to \$8 per GJ?

**21.0 Reference: ALTERNATIVES CONSIDERED
Exhibit B-1, Section 5, pp. 37–38; Appendix B
Utility interviews**

FEI conducted interviews with the program managers of top performing programs by participation level. Table 5-3 on page 38 and in Appendix B of its Application, FEI provides a detailed summary of the interview results and a list of the interview questions. All prices in that section are in US dollars.

Based on Table 5-3, Commission staff compiled the top five utilities with the highest participation rates in comparison with FEI.

Company	Green Energy Price per GJ	\$ Premium per GJ (% Premium)	Monthly premium for average house to go 100% green power	% residential participation
FortisBC Rate 1 (LML service area) (G)	\$19.30	\$10.43 net of carbon tax credit (262%)	\$72	0.7%
City of Palo Alto (G)		\$1.14	\$5	19.4%
Portland General Electric (Green Source) (E) *		\$2.22 (6%)	\$7-10	15% (combined)
Portland General Electric (Clean Wind) (E) *	\$2.50 per block of 0.72 Gje			
Sacramento Municipal Utility District (E)	\$3 (50%) or \$6 (100%) monthly flat fee		\$6	11.7%
Wellesley Municipal Light Plant (E) *		\$11.11 (25%)		11.0%
Farmers Electric Cooperative of Kalona (E)	Minimum of \$3 per month			10.4%

On pages 34-35, FEI states:

Based on this data [market research conducted in 2012], the optimum price point to maximize participation appears to be \$6.00 per month assuming a 10% designation of RNG. Based on an average household consumption of 90 GJ per year that additional amount on a bill translates to a per GJ premium of approximately \$8.00 (or \$72 per year).

- 21.1 Please clarify if the \$72 “Monthly premium for average house to go 100% green power” should instead be \$6 per month based on FEI’s evidence on pages 34-35. Restate Table 5-3 and Appendix B if applicable.
- 21.2 Please show the breakdown/calculation for the FEI \$19.30/GJ green energy price and the FEI \$10.43 premium per GJ figures.
- 21.3 For Table 5-3 and Appendix B, please add columns, converted to Canadian dollars, showing the comparable “Green Energy Price per GJ”; “\$ Premium per GJ (% Premium)”; and “Monthly premium for average house to go 100% green power.” Please show the exchange rate.
- 21.4 One of the top five residential participation utilities uses a monthly flat fee program and another utility uses a monthly minimum dollar amount program. Does FEI consider that this is evidence to support FEI offering a flat fee program to generate higher participation rates?

- 22.0 Reference: RESEARCH ON RNG PREMIUM**
Exhibit B-1, Appendix D, Letter from UBC, p. 1;
2013 Biomethane Decision, pp. 22–23;
2013 Biomethane Application, Exhibit B-19, BCUC IR 2.56.7;
FEI Rate Schedule 11B, Section 6.1
Issues with Rate Schedule 11B pricing

In the following excerpt from the letter provided by Rate Schedule 11B customer UBC, it describes a miscommunication with FEI regarding the cost of biomethane service under Rate Schedule 11B and the resulting misunderstanding regarding the pricing of biomethane supply:

For approximately 18 months, UBC understood that pricing for RNG was \$11.69 per GJ based on the posted rate. Further, UBC believed this to be an 'all-in' price for RNG. At this price the conversion of the BRDF engine to a dual fuelled machine of either RNG or Syngas was approved.

Since the dual fuel engine conversion, two significant price rises impacted UBC:

1. The 2013 year end BCUC decision which changed cost allocation requiring that additional costs such as admin and advertisement costs be passed to RNG customers only. This decision along with higher than expected supply costs for FortisBC resulted in a change from \$11.69/GJ to \$14.06/GJ - a \$2.37/GJ commodity rate increase.
2. FortisBC had not clearly communicated to UBC that RNG would still be subject to transport costs. This oversight effectively added another \$2.34/GJ for transport + taxes to UBC costs.

- 22.1 Please explain the underlying reason for the miscommunication with UBC regarding the applicability of transportation service charges for a customer taking biomethane service under Rate Schedule 11B.
- 22.2 Please confirm, or otherwise explain, that UBC was not billed the applicable transportation service charges for a period of 18 months.
- 22.2.1 Describe the extent to which the issue with UBC's billing has been resolved.
- 22.2.2 Please describe the extent to which other Rate Schedule 11B customers have experienced similar billing errors and/or miscommunication from FEI.

An issue regarding Rate Schedule 11B accounting and billing adjustments was identified and discussed in the 2013 Biomethane Decision on page 22:

In the PIR, FEI did not report any issues in regard to issues with the customer information system or any significant issues with billing. However, FEI agrees it has experienced difficulties in processing the sales to at least one particular Rate Schedule 11B customer, the City of Vancouver, with adjustments to sales continuing to occur some six months after the time the billing should have taken place. FEI notes it currently relies on a manual one-off billing process for biomethane sales to transportation service customers but plans to implement billing for these customers in its CIS system later this year (Exhibit B-19, BCUC 2.56.5.1).

The Commission on page 23 of the 2013 Biomethane Decision states “The Commission is concerned that the ongoing issues with manual billing of Rate Schedule 11B customers, as has been the case with the City of Vancouver, has required a significant manual efforts.

- 22.3 Please describe the nature, cost and effectiveness of the billing system changes made to FEI’s Customer Information System (CIS) to address the Rate Schedule 11B billing issues identified in the 2012 Biomethane Decision since that decision was issued.
- 22.4 Is the billing issue experienced by UBC due to the use of similar manual on-off billing processes as those that led to the billing issues identified in the 2012 Biomethane Decision? Please explain.
- 22.5 Please describe the extent to which upgrades or modifications are still required to FEI’s transportation service scheduling, billing and customer information systems to ensure customers are accurately billed under Rate Schedule 11B without the need for “manual one-off adjustments.”
 - 22.5.1 What is the estimated cost and timing for the implementation of those upgrades or modifications?
- 22.6 Given the issues FEI has experienced and/or continues to experience trying to accommodate the billing of Rate Schedule 11B customers through FEI’s existing transportation service scheduling, billing and customer information systems, please describe any alternative approaches FEI has considered for offering biomethane service to transportation service customers.
- 22.7 Please describe the merits, costs and benefits of an alternative biomethane supply model for transportation service customers that relies on physical deliveries from the customer’s marketer and/or off-system supplier and where FEI adds a biomethane rider per GJ on transportation delivery to collect the premium for the notional biomethane portion of the supply.
 - 22.7.1 Please discuss the extent to which this could help resolve billing issues that are unique to the sale of biomethane to transportation service customers.

E. PROPOSED MARKET BASED BERC

**23.0 Reference: PROPOSED MARKET BASED BERC
Exhibit B-1, Section 3, pp. 15–17; Section 4, p. 21
Elasticity of demand**

On page 15 of its Application, FEI states that “Customers may choose a designated percentage of their consumption as RNG or a fixed monthly amount of RNG in the case of transportation customers.” On page 17, FEI states that “As the price of RNG has increased in both absolute terms and relative to natural gas since the beginning of 2015, the blends sign-up pattern has noticeable shifted towards the lower blend options.”

In Figure 4-1, FEI shows the residential net monthly additions compared to the RNG price. FEI states:

When monthly customer additions are compared to fluctuations in the BERC rate over time, a correlation can be observed. As seen in Figure 4-1 below, FEI was initially able to add customers to the RNG Program, even with an increasing BERC rate; however, the

most recent increases in BERC rate have resulted in a negative trend. As shown in the graph, the recent increases in the BERC have resulted in increased customer losses, which more than offset additions and result in a net customer decrease.

- 23.1 Given the enrollment data at different blends and the data of RNG price premiums available, to the extent possible, can FEI estimate a RNG demand curve and the elasticity of demand? Please provide the breakdown by rate class if possible.
- 23.2 Please provide evidence of the observed correlation as indicated in Figure 4-1 for: (i) the entire RNG period since 2011; and to show that (ii) most recent increases in BERC rate have resulted in a negative trend.

**24.0 Reference: PROPOSED MARKET BASED BERC
Exhibit B-1, Section 5, p. 33; Section 7, p. 46
Maximum \$7 per GJ premium and reset methodology**

On page 33, FEI states: "It can be observed that FEI had its greatest success in attracting and keeping customers when the premium was \$7.00 per GJ or less."

On page 46, FEI states:

FEI proposes that the BERC rate for customers opting for the Short Term Contract service (i.e. all customers who are eligible for the current biomethane Rate Schedules) is equal to the Commission approved January 1st CCRA rate each year plus the approved Carbon Tax rate plus a premium of \$7.00 per GJ. The rate would be set once a year regardless of changes to the CCRA rate throughout the year. The use of a January 1st effective date for annual resetting aligns with changes to other rate components for customers such as delivery and storage and transportation rates and provides rate stability, which is expected to encourage customer participation in the program.

- 24.1 Other than FEI's observation that \$7 per GJ premium or less appears to be successful in attracting and keeping RNG customers, does FEI have any other evidence to support its proposed \$7 premium?
- 24.2 Please explain why FEI proposes to reset the BERC rate annually, while the CCRA rate is reviewed and could be reset quarterly. If the CCRA rate is reset during the course of the year, would FEI agree that the \$7 premium on the CCRA rate will no longer exist, thus customers may opt-in/out depending on the intra-year price differential?

**25.0 Reference: PROPOSAL
Exhibit B-1, Section 7.2.1, p. 46
Short Term Contract offering**

FEI proposes a BERC rate for customers opting for the Short term Contract service that would include all customers who are eligible for the current biomethane rate schedules.

- 25.1 Please confirm, or otherwise explain, that FEI does not intend to require sales customers enrolling in the Short Term Contract offering to sign a contract committing them to a fixed term for biomethane sales but rather will rely on the existing terms and conditions for enrolling in

biomethane service.

25.1.1 Is the “Short Term Contract” offering more accurately described as month to month? Please discuss.

25.2 Please describe the process regarding the conversion of those customers who are currently enrolled in biomethane to the new Short Term Contract offering including discussion of the timing and the communication regarding the transition.

25.3 Please discuss the merits, costs and benefits of dividing the “Short Term Contract” offering into two offerings based on volume with the higher volume customers offered a discount on the low volume BERC premium but at a level less than that offered to the Long Term Contract offering customers.

**26.0 Reference: PROPOSAL
Exhibit B-1, Section 1.1, Footnote 4, p. 2; Section 7.2, pp.46–47;
FEI Rate Schedule 11B,
Long Term Contract Service offering**

In footnote 4 on page 2 of the Application, FEI describes the pricing of the Long Term Contract Offering as follows:

FEI is not proposing that Long Term Contract rates fluctuate per customer on an annual basis, rather that once a contract is entered into, the Long Term Contract rate in the year of commencement is the rate that applies throughout the life of the contract (subject to contract escalation if applicable).

In Table 7-1 of the Application reproduced below, FEI describes some of the terms and conditions of the Long Term Contract.

Topic	Notes
Contract Length	<ul style="list-style-type: none"> • 10 year term as standard, with evergreen option (yearly roll over) available at the end of the term subject to approval of both parties • Five year term possible if volume meets or exceeds ten years multiplied by 500GJ per month • Contract term cannot exceed existing FEI supply contracts
Early Termination Provision	<ul style="list-style-type: none"> • Early termination possible subject to agreement by both parties.⁴² • Standard FEI curtailment guidelines set out in Rate 11B. • Customer must ‘take or pay’ to receive lower rate (may be used to prevent any stranded asset cost)
Quantity	<ul style="list-style-type: none"> • Individual contract quantities will be negotiated based on customer requirements and FEI available supply
Quantity Exceeded or Not Met	<ul style="list-style-type: none"> • Volumes not met by FEI would be subject to existing R11B curtailment rules; replacement with credits or a penalty as defined by the contract
Rate Escalation	<ul style="list-style-type: none"> • Rate to increase at 50% of the Canadian General CPI effective January 1 each year.

- 26.1 Does FEI intend to file each Long Term Contract for approval by the Commission as a tariff supplement or does FEI intend to seek approval of a standard form Long Term Contract? Please explain.
- 26.2 Please confirm that FEI is proposing that the rate in a Long Term Contract not be adjusted, other than the rate escalation based on the Canadian General CPI, in the event either the Commission approves a different premium on the Short Term Contract offering or the carbon tax is changed during the term of such Long Term Contract.
- 26.2.1 If not confirmed in regard to a change in the premium applicable to the Short Term Contract offering, please describe how FEI anticipates the Long Term Contract rate applicable to such contract would be impacted by a change in the BERC rate methodology during the contract term.
- 26.2.2 If not confirmed in regard to a change in the carbon tax, please describe how FEI anticipates the Long Term Contract rate applicable to such contract would be impacted by a change in the carbon tax during the contract term.
- 26.3 Under what circumstances does FEI anticipate it would not agree to the “yearly roll over” at the end of the original contract term?
- 26.3.1 Would FEI agree to extend a Long Term Contract in the event the currently effective Short Term Contract rate was more than \$1.00 higher than the Long Term Contract rate either due to a change in the CCRA rate, a decrease in the Carbon Tax or decrease in the Short Term Contract premium of \$7.00? Please elaborate.
- 26.4 Please describe the conditions under which FEI envisions the parties would agree to early termination taking into account FEI’s statement on page 46 of the Application that “The primary requirement to be eligible for a Long Term Contract is the willingness of the purchaser to enter into an agreement representing a minimum time and volume commitment.”
- 26.5 Please describe or elaborate with regard the specific stranded asset costs that the “take-or-pay” provision is intended to address.
- 26.6 Please explain the rationale for choosing an escalation rate based on 50 percent of the Canadian General CPI given changes to the Short Term Contract rate will only occur to the extent either the CCRA rate or Carbon Tax changes.
- 26.6.1 Please confirm, or otherwise explain, that the “CCRA rate” referred to by FEI in reference to the proposed Short Term Contract BERC rate is FEI’s Commodity Cost Recovery Charge and that this rate recovers the commodity cost of energy purchases by FEI at natural gas market prices.
- 26.6.2 Please discuss whether it would be more appropriate to tie the escalation rate to a published index for natural gas prices.

**27.0 Reference: PROPOSAL
Exhibit B-1, Section 7.2.2, Table 7-1;
Rate Schedule 11B, Article 4.2; Sales Agreement, Article 2.6;
FEI General Terms and Conditions, Section 28.3
Long Term Contract offering**

Table 7-1 of the Application sets out a summary of the possible Long Term Contract terms and conditions. Under the topic “Quantity Exceeded or Not Met” FEI states “Volumes not met by FEI would be subject to existing R11B curtailment rules; replacement with credits or a penalty as defined by the contract.”

Article 4.2 of Rate Schedule 11B states that “FortisBC Energy may at any time, for any reason and for any length of time, interrupt or curtail Biomethane sales under this Rate Schedule.”

Article 2.6 of the standard form Biomethane Large Volume Interruptible Sales Agreement that is contained within Rate Schedule 11B states “the Customer is able to accommodate interruption or curtailment of Biomehtane sales and releases FortisBC Energy from any liability for the Customer’s inability to accommodate an interruption or curtailment of Biomethane sales.”

27.1 Please confirm, or otherwise explain, that biomethane sales provided under Rate Schedule 11B are, by definition under the rate schedule, interruptible sales and FEI does not have a firm obligation to deliver biomethane.

27.2 Please describe the existing Rate Schedule 11B curtailment rules that FEI intends to include in the terms and conditions of the Long Term Rate offering with specific reference to the applicable sections of Rate Schedule 11B including references to any applicable credits or penalties that would apply in the event FEI does not deliver the requested quantities of biomethane.

Section 28 of FEI’s General Terms and Conditions set out terms and conditions regarding biomethane service and Section 28.3 describes the use of Carbon Offsets to supply customers under Rate Schedules 1B, 2B, 3B and 5B as follows:

28.3 Reduced Supply

Customers agree and recognize that the production of Biomethane is subject to biological processes and production levels may fluctuate. Customers registered for Biomethane Service for applicable Rate Schedules 1B, 2B, 3B and 5B, agree that in the event that Biomethane production does not provide sufficient gas supply, FortisBC Energy may purchase Carbon Offsets in an amount equivalent to the greenhouse gas reduction that would have been achieved through Biomethane supply, and at a price not to exceed the funding received from Customers registered for Biomethane Service.

27.3 Please discuss whether FEI agrees that FEI has a firm commitment to supply biomethane customers enrolled in Rate Schedules 1B, 2B, 3B and 5B.

27.4 Please confirm that the terms set out in Section 28.3 of the FEI General Terms and Conditions for compensating customers in the event FEI has insufficient Biomethane supply do not apply to Rate Schedule 11B customers.

27.5 Please confirm, or otherwise explain, that the proposed Long Term Contract offering is intended to be a firm sale of biomethane both from the perspective of FEI’s obligation as supplier and of

the Long Term Contract offering customer's obligation as purchaser.

27.5.1 If confirmed, please explain why the curtailment terms under Rate Schedule 11B, an interruptible sales tariff, would be applicable to the Long Term Contract offering.

27.5.2 If not confirmed as a firm sales obligation for FEI, please explain how the offering will meet the Long Term Contract offering customer's needs.

**28.0 Reference: PROPOSAL
Exhibit B-1, Section 7, pp. 46–48;
FEI General Terms and Conditions, Section 28.3
Biomethane Inventory**

Section 28.3 of the FEI General Terms and Conditions sets out that FEI may purchase Carbon Offsets to supply customers enrolled in Rate Schedules 1B, 2B, 3B and 5B in the event Biomethane production does not provide sufficient supply.

28.3 Reduced Supply

Customers agree and recognize that the production of Biomethane is subject to biological processes and production levels may fluctuate. Customers registered for Biomethane Service for applicable Rate Schedules 1B, 2B, 3B and 5B, agree that in the event that Biomethane production does not provide sufficient gas supply, FortisBC Energy may purchase Carbon Offsets in an amount equivalent to the greenhouse gas reduction that would have been achieved through Biomethane supply, and at a price not to exceed the funding received from Customers registered for Biomethane Service.

On page 48 of the Application, FEI states:

With respect to the vintage of the RNG inventory, there is not a defined protocol within Canada. However, in the US, Renewable Identification Numbers (RINs) normally expire after two years. Therefore, at this time, FEI believes it is prudent to conceptually align with this generally accepted practice. In order to account for a reasonable period of time in advance of a two-year vintage, FEI propose to transfer inventory that is older than 18 months.

Despite a transfer trigger of 250,000 GJ, FEI may need to keep an additional inventory in order to meet future commitments. Specifically, FEI is now considering the possibility of high-volume, long-term contracts.

FEI will continue to monitor the balance between supply and demand of biomethane as a matter of the usual course of business.

28.1 Please discuss the implications for the proposed BERC rate methodology if FEI finds it has a shortfall in biomethane supply. Does it remain appropriate to continue to provide for the purchase of Carbon Offsets?

28.1.1 If so, please describe the circumstances under which FEI would purchase Carbon Offsets to make up for the shortfall including the implications with regard to the transfer trigger threshold of 250,000 GJ for transfers of biomethane inventory to the MCRA and/or transfers of biomethane costs to non-RNG customers.

On pages 46 and 47 of the Application FEI states, in regard to the Long Term Contract offering, that

“[b]ecause FEI has not fully negotiated a Long Term RNG Contract, it cannot anticipate all of the future terms and conditions.”

- 28.2 Does FEI anticipate that some Long Term Contract customers may specify that the age of the biomethane purchased under the Long Term Contract may not exceed a prescribed vintage? If so, please discuss the implications, if any, for the proposed BERC rate methodology including with respect to the proposed transfer triggers.
- 28.3 Does FEI anticipate that some Long Term Contract customers may specify that FEI may not purchase Carbon Offsets for the purpose of making up shortfalls in biomethane production used to supply them? If so, please discuss the implications, if any, for the proposed BERC rate methodology including with respect to the proposed transfer triggers.

**29.0 Reference: PROPOSAL
Exhibit B-1, Section 7.3, p. 48;
Ministry of Finance Tax Bulletin CT 001 issued June 2014,⁴ pp. 4–6
Carbon tax savings related to transfer of inventory**

On page 48 of the Application, in reference to the transfer of notional inventory from the BVA to the MCRA, FEI states “to the extent that FEI is able to monetize credits or take advantage of Carbon Tax savings from this transfer, any recoveries will be captured in the Commission approved Emission Regulations deferral account to the benefit of all customers.”

Ministry of Finance Tax Bulletin CT 001 in regard to the applicability of the BC carbon tax to biomethane purchases by end users states:

Carbon tax does not apply to purchases of 100% biomethane or to the portion of biomethane in a blend of biomethane and another fuel if the actual amount of biomethane in the blend is known. If the actual amount of biomethane in the blend cannot be determined, carbon tax at the rate of tax of the other fuel applies to the blended fuel, unless it qualifies for a biomethane credit.

.....

The Biomethane Credit Program provides a benefit to purchasers of biomethane blended with natural gas if the purchase occurs under a qualifying biomethane contract.

Tax Bulletin CT 001 goes on to describe the characteristics of a qualifying biomethane contract and how customers must be invoiced if they are provided with a credit.

- 29.1 Please describe how FEI might monetize credits in general, how credits arise from a transfer of biomethane from the BVA to the MCRA, and how FEI is able to monetize these credits either before or after the transfer.

⁴ http://www.sbr.gov.bc.ca/documents_library/bulletins/ct_001.pdf

- 29.2 Please explain how carbon tax savings arise from the transfer of biomethane from the BVA to the MCRA, including which party directly realizes the carbon tax savings and how the savings are realized by the party.
- 29.3 Please provide the Commission order and decision that established the Emissions Regulations deferral account mentioned by FEI.
- 29.3.1 Please explain the purpose of this deferral account and discuss how recording recoveries arising from monetizing credits or taking advantage of carbon tax savings associated with a transfer of biomethane inventory from the BVA to the MCRA is included in the intended purpose for which the deferral account was established.
- 29.4 Please discuss whether, to the extent biomethane volumes are transferred into the MCRA, recovery of the costs associated with the transferred RNG could be considered as a biomethane credit. Would these costs qualify if they were recovered in a rider specific to these costs?
- 29.5 Please discuss whether, to the extent biomethane costs are transferred to a deferral account for recovery from all non-bypass ratepayers, recovery of these costs could be considered as a biomethane credit. Would these costs qualify if they were recovered in a rider specific to these costs?

**30.0 Reference: SUPPLEMENTARY INFORMATION
Exhibit B-3, Attachment C, Tab Backup and COS information
Rate base**

- 30.1 Please provide 2015-2020 continuity schedules for the following:
- Gas plant in service
 - Depreciation
 - CICA
 - Amortization
 - Deferred Charges

Please include a fully functional spreadsheet with the response.

**31.0 Reference: SUPPLEMENTARY INFORMATION
Exhibit B-3, Attachment C, Tab Backup and COS information;
Multi-Year Performance Based Ratemaking Plan for 2014 through 2019 approved by
Commission Order G-138-14, Annual Review for 2016 Rates (2016 Annual Review),
Chapter 11, Section 11, Schedule 26
Cost of service**

- 31.1 Please update the 2016 Capital Structure & Rate of Return to reflect the 2016 Annual Review return on capital.
- 31.2 Using the format of the table below, please provide a breakdown of the Total Cost of Service per Purchased Volumes for Sale (\$/GJ) by year, for 2015-2020. Please include a fully functional spreadsheet with the response.

Total Cost of Service per Purchased Volumes (\$/GJ)

	2015
Cost of Biomethane (\$/GJ)	\$11.19
Total Operating & Maintenance Expense (\$/GJ)	\$3.46
Remaining Cost of Service (\$/GJ)	-\$0.39
Total Cost of Service per Purchased Volumes (\$/GJ)	\$14.26

31.3 For the costs listed below, please explain the cost increase/decrease from 2015-2020 and provide a breakdown of the cost by year for 2015-2020.

- Materials & Supplies
- Marketing
- Administration
- Future Project Development

Notional Biomethane Gas Balance (GJ)	2015	2016	2017	2018	2019	2020
Biomethane Sales (GJ)	156,793	172,806	196,410	212,054	226,499	241,090
Closing Balance (GJ)	101,657	246,048	647,483	1,314,614	1,752,150	1,630,529
Closing Balance as a % of Biomethane sales	65%	142%	330%	620%	774%	676%

31.4 Please calculate the rate impact of writing-off closing balances in greater than 150 percent of a year’s biomethane sales in the following year (i.e. an amount equal to 180 percent of the 2017 biomethane sales would be written-off in 2018). Please include a fully functional spreadsheet with the response.

**32.0 Reference: PROPOSAL
Exhibit B-1, Section 4.2.2, p. 28; Section 7.4, p. 48
Increase in customer education and awareness spending**

On page 53 of the Application, FEI states: “Through internal research FEI has identified two barriers to sign up: firstly program awareness and secondly program understanding.”

32.1 Please provide the FEI internal research.

32.2 Please provide the total customer education expenditures from 2010-2014 and explain why FEI was unsuccessful in developing awareness and understanding of the biomethane program.

F. POTENTIAL IMPACT ON NON-RNG CUSTOMERS

**33.0 Reference: POTENTIAL IMPACT ON NON-RNG CUSTOMERS
Exhibit B-1, Section 8, p. 50; Appendix E, Schedule 2
Exhibit B-3, Attachment B, Tab 1, p. 3; Attachment C
FEI demand model**

FEI lists the assumptions it used to develop the analysis of the rate impact on non-RNG customers in Table 8-1 of the Application. With regard to forecast biomethane demand, FEI’s stated assumptions are “Based upon FEI demand model for next 10 years assuming the approved price model. Mass market adoption rates.”

Commission staff observes that the fully functional spreadsheets provided by FEI in Attachment C of Exhibit B-3 in response to the Commission’s request for supplementary information are populated with hard coded sales volumes without underlying formulas, links to input pages in the worksheet or stated assumptions and as a result, staff are unable to gain meaningful insight into FEI’s demand model.

33.1 Please describe the FEI “demand model” referenced in Table 8-1.

33.1.1 Does FEI agree that the demand model for the sale of biomethane is fundamentally different from the demand forecasting models used to develop load forecasts for FEI’s overall system throughput and natural gas sales forecasts? For instance, does FEI agree overall system load forecasts typically use inputs such housing starts and the impact of extension policies which would not have the same relevance in this case of notional biomethane sales? Please discuss.

33.1.2 Please discuss how marketing and customer awareness spending levels are factored into the biomethane program demand model.

33.2 Is the same demand model referenced in Table 8-1 used to generate the biomethane sales forecast in the quarterly BVA reports?

33.2.1 If not, explain why not and describe the differences between the two demand models.

33.3 Please confirm, or otherwise explain, that in the 2015 Third Quarter BVA report filed August 14, 2015 (2015 Q3 BVA Report) that is Attachment B in the Supplementary Information filing, FEI forecasts demand under the status quo cost-based BERC rate methodology as follows:

2015 Q3 BVA Report - status quo cost -based BERC rate

Sales (GJ)	2015	2016	2017
Residential	55,590	73,719	78,976
Commercial	8,360	6,281	6,561
On/Off System & Other	86,664	91,930	233,129
Total Sales	150,614	171,930	318,666

33.3.1 Please confirm, or otherwise explain, that the sales forecast in the 2015 Q3 BVA Report assumes the reduced program marketing spending levels described at page 28 of the Application (i.e. \$175,000 for 2015).

33.4 Please confirm, or otherwise explain, that as set out in Schedule 2 of Appendix E of the Application, FEI forecasts the following biomethane sales under the proposed BERC rate methodology including increasing the program marketing spend to \$300,000 per year.

Application - proposed market BERC rate

Sales (GJ)	2015	2016	2017
Residential	68,058	74,162	86,459
Commercial	11,839	12,995	14,159
On/Off System & Other	76,896	85,649	95,792
Total Sales	156,793	172,806	196,410

- 33.5 Please reconcile and explain the differences in the forecast sales for 2015 as reported in the 2015 Q3 BVA Report and as projected in Schedule 2 in Appendix E of the Application.
- 33.5.1 Please confirm, or otherwise explain, that in both cases the 2015 sales are a combination of actuals and projected sales and are based on the same status quo BERC rate and marketing spend.
- 33.6 For 2016, 2017 and 2018, please explain why sales for the category “On/Off System & Others” decrease when the BERC rate is decreased.

**34.0 Reference: POTENTIAL IMPACT ON NON-RNG CUSTOMERS
Exhibit B-1-1, Appendix E, Schedules 1 and 2
FEI demand model**

In Schedule 2 of Appendix E of the Application, FEI forecasts biomethane demand on the basis of customer categories or rate schedules identified by FEI as follows:

- Rate 1: Residential
- Rate 2: Small Commercial
- Rate 3: Large Commercial
- Other On-System Volume/Gas Marketer
- Transportation Sector/CNG
- Large/Fixed Volume/Cogen

- 34.1 Please describe the key characteristics of each of these customer categories.
- 34.2 For each of these customer categories, please identify the current biomethane rate schedule that applies before the implementation of the proposed BERC rate methodology (i.e. in 2015) and which proposed BERC rate offering applies after the implementation of the proposed BERC rate methodology.
- 34.3 Provide the equivalent versions of Schedules 1 and 2 in Appendix E of the Application and the associated functional spreadsheets for the case where the BERC rate methodology remains unchanged from the current BERC rate methodology.

**35.0 Reference: POTENTIAL IMPACT ON NON-RNG CUSTOMERS
Exhibit B-1, Section 8, Table 8-1, p. 50;
Exhibit B-3, Attachment A, Live Spreadsheet tabs “Figure 8-2” and “Figure 8-3”
Sensitivities of rate impact on non-RNG customers**

Table 8-1 in the Application presents a summary of the assumptions FEI used in analyzing the rate impact on non-RNG customers.

- 35.1 To better illustrate the impact on non-RNG customers of varying the assumptions, please provide a revised version of Figure 8-2 and Figure 8-3 and Schedules 1 through 3 in Appendix E of the Application for each of the following sensitivity cases. Please also provide fully functional spreadsheets for each sensitivity case and state all assumptions. For reference purposes in running the sensitivity cases, the “Base Case” is the proposed BERC rate as described in Application (i.e. premium of \$8.50 for Short Term Contract and \$7.50 for Long Term Contract)

and the assumptions as set out in Table 8-1.

No.	Sensitivity Case Name	Description
1	Premium \$1.00 higher	Premium of \$9.50 for Short Term Contract and \$8.50 for Long Term Contract
2	Premium \$1.00 lower	Premium of \$7.50 for Short Term Contract and \$6.50 for Long Term Contract
3	Premium equal to UBC cost of carbon	Premium of \$3.75 for Short term Contract and \$2.75 for Long Term Contract (i.e. set Long Term Contract premium to be equivalent to \$55.00/tonne cost of carbon for public institutions such as UBC)
4	Premium equal to carbon tax	Set both premiums at \$1.4898 (i.e. current carbon tax)
5	Two Short Term Contract volume based offerings	Split the Short Term Contract into two offerings based on volume with the premium set at \$8.50 for a Low Volume Short Term Contract offering (less than 2000 GJ per year), at \$7.50 for a High Volume Short Term Contract offering (higher than 2000 GJ per year) and at \$6.50 for the Long Term Contract offering
6	Lower natural gas commodity prices	Decrease forecast of natural gas commodity price to be 10 percent less than Base Case at 2020
7	Higher natural gas commodity prices	Increase forecast of natural gas commodity price to be 30 percent higher than Base Case at 2020
8	Lower forecast deliveries on FEI system	Decrease forecast deliveries to be 10 percent less than Base Case at 2020
9	Higher forecast deliveries on FEI system	Decrease forecast deliveries to be 10 percent less than Base Case at 2020
10	Increased customer awareness spend	Increase customer awareness and education spend from \$300,000 to \$400,000 per year
11	Decreased customer awareness spend	Decrease customer awareness and education spend from \$300,000 to \$100,000 per year with focus on large commercial and institutional customers

35.2 Provide an updated version of Schedule 5 of Appendix E summarizing the customer impact for each of the sensitivity cases in the table above.

**36.0 Reference: INTRODUCTION AND APPROVALS SOUGHT
Exhibit B-1 Section 1.2, p. 3;
Exhibit B-3, Attachment C, Tab BVA Forecast;
2013 Biomethane Decision, Table 5, p. 70
Approvals sought**

On page 2 of the Application, FEI states:

4. FEI may apply to transfer unsold biomethane supply that is greater than 18 months in age and/or 250,000 GJs in the BVA to the MCRA at the prevailing CCRA rate on January 1 each year; and,
5. Approval to amortize the forecast December 31 balance in the BVA, net of the transfer of unsold inventory and remaining supply costs, through the delivery rates of all non-bypass customers effective January 1 of the subsequent year.

- 36.1 Please revise Table 5, Biomethane Service Offering Cost Recovery Model – Going Forward, in the 2013 Biomethane Decision, to reflect the changes proposed in the Application.
- 36.2 How will FEI recover/refund the difference between the prevailing CCRA rate and the BERC rate for the unsold biomethane supply that is greater than 18 months in age and/or 250,000 GJs?
- 36.3 How will FEI recover/refund the difference between the market-based BERC rate and the cost of the biomethane for the biomethane that is sold?
- 36.4 Please explain how the December 31 BVA Closing Balance (after tax) in the BVA Forecast tab is being amortized through the delivery rates of all non-bypass customers effective January 1 of the subsequent year, as requested in the approval sought in Item 5.

**37.0 Reference: SUPPLEMENTARY INFORMATION
Exhibit B-3, Attachment C, Tab Forecast Impacts
Forecast impacts at market-based BERC rate**

	2015	2016	2017	2018	2019	2020
Aged Inventory Transfer to Storage and Transport Rates IMPACT % of delivery margin	0.00%	0.00%	0.00%	0.15%	0.46%	0.69%
Transfer to Delivery Rates IMPACT % of delivery margin	0.00%	0.10%	-0.02%	0.01%	0.36%	1.32%
Total Impact Non-bypass Sales Volume	0.00%	0.10%	-0.02%	0.16%	0.82%	2.01%

- 37.1 Does FEI consider the 2020 forecast 2.01 percent rate impact on Non-bypass Sales Volume customers in significant? Please explain why, or why not.
 - 37.1.1 FEI proposes to commence the write-off aged inventory in 2019, would commencing the write-off aged inventory in 2017 reduce 2.01 percent rate impact on Non-bypass Sales Volume customers in 2020?
- 37.2 Please provide a breakdown of the “Transfer all costs except Supply ending balance” by cost type (unsold biomethane, sold biomethane CCRA/BERC rate variance, marketing, and O&M) and year for 2015-2020. Please include a fully functional spreadsheet with the response.

G. ACCOUNTING TREATMENT AND RATE SETTING

- 38.0 Reference: PROPOSAL
Exhibit B-1, Section 7.4, p. 48;
2013 Biomethane Decision, p. 100
Upgrader costs**

Page 100 of the 2013 Biomethane Decision states:

Accordingly, the Commission Panel finds that in those circumstances where Fortis will be building, owning and operating an upgrader, it should reside inside FEI. Consequently, FEI is directed to continue to track capital and operating costs of an upgrader separately.

- 38.1 Please provide the capital and operating costs of the FEI upgraders by upgrader and year for 2015-2020. Please include a fully functional spreadsheet with the response.

- 39.0 Reference: SUPPLEMENTARY INFORMATION
Exhibit B-3, Attachment C, Tab Backup and COS information
Biomethane cost**

39.1 Please explain why the Notional Gas Balance (\$) is equal to the Closing Balance (GJ) multiplied by the current BERC rate (\$/GJ) is this a proxy for valuing inventory at the lower of cost or market? Please explain.

39.2 Please provide the average cost (\$/GJ) of the 2015 opening balance of 79,914 GJ.

- 40.0 Reference: ACCOUNTING TREATMENT AND RATE SETTING
Exhibit B-1, Section 9, p. 53;
Exhibit B-3, Attachment C, Tab BVA Forecast;
2013 Biomethane Decision, pp. 53, 70
Accounting Treatment**

On page 53 of the Application, FEI states:

The 2013 Decision suggested that this amount should be captured in a separate deferral account and recovered from all customers via a rate rider. Rather than shift these costs to another deferral account and use a rate rider for recovery, FEI proposes to simply amortize this amount directly from the BVA into the delivery rates of non-bypass customers.

Page 53 of the 2013 Biomethane Decision states: "Nonetheless, the Commission Panel considers the need for transparency and an understanding of the true cost of the program to be of utmost importance."

- 40.1 Is the FEI proposal to transfer the difference between the average cost of the RNG supply and the CCRA rate multiplied by the volume of inventory directly from the BVA into the delivery rates of non-bypass customers, inconsistent with need for transparency? Please explain why, or why not.

40.2 If the Commission directs FEI to comply with the directive to capture the difference between the average cost of the RNG supply and the CCRA rate multiplied by the volume of inventory in a separate deferral account to be recovered from all customers via a rate rider, please provide the following information: the carrying cost, amortization period, and the expiration date of the “Unsold Biomethane Premium” deferral account (UBPDA).

40.2.1 Please calculate the 2015-2020 rate rider that would result from the amortization of the UBPDA. Please include a fully functional spreadsheet with the response.

On page 53 of the Application, FEI states:

Following the transfer of the notional aged inventory, depending on the level of demand, there may be unrecovered capital and operating costs for FEI-owned equipment and program overhead costs that remain in the BVA. As such, FEI proposes that to the extent prior year costs remain in the account they should be amortized through the delivery rates of non-bypass customers in the subsequent year.

40.3 Given that the 2013 Biomethane Decision directed that capital and operating costs for FEI-owned equipment and program overhead costs be recovered from biomethane customers, should the BERC recoveries be allocated first to capital and operating costs for FEI-owned equipment and program overhead costs and second to the unsold biomethane inventory? Please explain why or why not.

40.3.1 Please revise Exhibit B-3, Attachment C, Tab BVA Forecast to allocate the BERC recoveries first to capital and operating costs for FEI-owned equipment and program overhead costs, and second to the unsold biomethane inventory. Please include a fully functional spreadsheet with the response.

40.4 Please explain how FEI proposes to collect and transfer the unrecovered capital and operating costs for FEI-owned equipment and program overhead costs that remain in the BVA (new deferral account/rate rider, manual journal entries, etc.).

40.4.1 Please calculate the rate rider that would be required to amortize the prior year costs that remain in the BVA account through the delivery rates of non-bypass customers in the subsequent year, for 2015-2020, by year. Please include a fully functional spreadsheet with the response.

H. CONTINUED OVERSIGHT OF THE RNG PROGRAM

**41.0 Reference: PROPOSAL
Exhibit B-1, Section 1.2, p. 3; Section 7.3, p. 48;
2013 Biomethane Decision, p. 68
Regulatory review process**

Included as item 3 on the list of approvals sought on page 3 of the Application is the following:

Approval to discontinue the quarterly BERC and BVA report and replace it with a single annual report in conjunction with the Fourth Quarter CCRA & MCRA report.

Item 5 in this list describes the possible transfer of volumes from the BVA to the MCRA.

On page 48 of the Application, FEI discusses the possible need for additional mid-year transfers of inventory from the BVA to the MCRA and notes that FEI would make application to the Commission for approval to do so stating in a footnote that “[t]his may be in the form of a letter to the Commission or as part of the Quarterly Gas Cost Review Process.”

In the 2013 Biomethane Decision on page 68, the Commission discusses the reporting and regulatory approval process and states:

The Panel is of the view the BVA review and rate setting process should not be included as part of the quarterly gas cost reporting and rate setting for the MCRA as these are reviewed on an expedited basis to accommodate the inclusion of timely forward market price information in the CCRA and MCRA. **Accordingly, the Panel directs FEI to file the quarterly BVA Report by the 15th of the month preceding the final month of the quarter.**

- 41.1 When FEI describes reporting or applications for approval as being “in conjunction with the Fourth Quarter CCRA & MCRA report” or “as part of the Quarterly Gas Cost Review Process”, does FEI intend that the subject BVA and BERC report or inventory transfer application would be filed at the same time as the quarterly CCRA and MCRA gas cost reports and be reviewed on the same expedited timeline?
- 41.1.1 If so, please reconcile this with the views expressed by the Commission in the 2013 Biomethane Decision and explain the need for combining the subject BERC rate report and/or inventory transfer application with the subject CCRA/MCRA quarterly gas cost report rather than filing separately and in advance of the CCRA/MCRA quarterly gas cost report.
- 41.1.2 Please discuss the timing of the review and approval of transfers of inventory from the BVA to the MCRA taking into account the information included in the MCRA report in regard to the transfer of biomethane inventory, the relative impact on the MCRA balance and the magnitude of the change in the Storage and Transportation rate that arises from the fourth quarter review of the MCRA.
- 41.1.2.1 Please discuss the merits of filing reports on the BVA and BERC at other times of the year including April 30 with the annual BVA Status Report, mid-year and a specified length of time such as one month in advance of the fourth quarter CCRA/MCRA gas cost report.
- 41.1.3 Given that RNG customers are impacted by the transfer of inventory, please discuss the need to provide the opportunity for a broader public review of a request to transfer inventory than is afforded when the approval is sought in “the form of a letter to the Commission or as part of the Quarterly Gas Cost Review Process.”

**42.0 Reference: CONCLUSION AND CONTINUED OVERSIGHT OF THE RNG PROGRAM
Exhibit B-1, Section 10, p. 54;
Ongoing evaluation and potential off-ramps**

FEI states it will continue to seek approval of the BERC rates through its fourth quarter gas cost reports but does not appear to specifically contemplate a broader review of the effectiveness of the approved

market rate with regard to achieving the stated objectives.

- 42.1 Please discuss the means by which FEI will determine that the premiums approved for the new BERC rate methodology have been effective in achieving the objectives of this Application.
- 42.2 Please describe the merits of a scheduled reporting and/or review of to evaluate the effectiveness of the approved market BERC rate with regard to achieving the stated objectives at a pre-determined date in the future such as two years after implementation.
- 42.3 Please describe the criteria that should be used to determine when a re-evaluation of the approved market BERC rate should be undertaken.
- 42.4 Please discuss the extent to which certain events should trigger an automatic review of the approved market BERC rate, including a discussion of each of the following:
 - 42.4.1 A change in the carbon tax
 - 42.4.2 A change in the carbon tax program
 - 42.4.3 An inability for FEI to contract sufficient RNG supply to meet demand
 - 42.4.4 A level of uptake of RNG by customers outside a pre-determined band with a thresholds on either or both the low end and the high end

**43.0 Reference: PROPOSAL
Exhibit B-1, Section 7.4, p. 48;
2013 Biomethane Decision, p. 93
Increase in customer education and awareness spending**

On page 48 of the Application, FEI states: “Thus, FEI will resume customer awareness and education spending to \$300 thousand per year, commencing January 1, 2016.”

Page 93 of the 2013 Biomethane Decision states:

...an additional 8,423 customers are added as has been projected (13,200 projected customers – 4,777 existing customers) over the next five years at a cost of \$1.5 million (\$300,000 x 5), the average cost per acquisition would be \$178.08 per customer.

... If a private enterprise faced such conversion costs, it would likely withdraw from the business. Greater focus on more productive customer segments like those of emerging markets will likely produce far more cost effective results.

- 43.1 For 2015-2020, please provide a breakdown of the increased awareness and education spending by year and rate class. Please include a fully functional spreadsheet with the response.
- 43.2 For 2015-2020, please provide the expected increase in customer additions resulting from the increased awareness and education spending, and the average cost per customer acquisition by year and rate class. Please include a fully functional spreadsheet with the response.
- 43.3 For 2015-2020, please provide the expected increase in sales (GJ) resulting from the increased awareness and education spending, and the average cost per GJ acquired by year and rate class. Please include a fully functional spreadsheet with the response.
- 43.4 For 2015-2020, please discuss FEI’s plans, if any, to focus on more productive customer

segments like those of emerging markets.

- 43.5 How does FEI measure the cost effectiveness of its Customer Education and Awareness Spending?
- 43.6 Given the concerns regarding the average cost per customer acquisition, should a maximum threshold for customer acquisition costs be established? Please explain why, or why not.

44.0 Reference: CURRENT CHALLENGES
Exhibit B-1, Section 4.1.2, p. 24
Increase in customer education and awareness spending

On page 24 of the Application, FEI states:

The notable spike in sales in the final quarter of 2013 is attributable to FEI temporarily allocating a sales person to undertake a commercial sales push, indicating that the additional expenditure may have had a positive impact on demand.

- 44.1 Please provide the cost of sales person to conduct the commercial sales push.
- 44.2 Given the success of the 2013 commercial sales push, has FEI considered conducting another commercial sales push in the future? Please explain why, or why not.