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April 18, 2023

British Columbia Utilities Commission Suite 410, 900 Howe Street Vancouver, B.C. V6Z 2N3

Attention: Patrick Wruck, Commission Secretary

Dear Patrick Wruck:

Re: FortisBC Energy Inc. (FEI)

Revised Renewable Gas Program Application – Stage 2 (Application)

Response to the British Columbia Utilities Commission (BCUC) Information Request (IR) No. 1 on FEI's Rebuttal Evidence to the City of Vancouver, City of Victoria, City of Richmond and Lulu Island Energy Company Ltd., and Districts of Saanich and North Vancouver (CoV)

On December 17, 2021, FEI filed the Application referenced above. In accordance with the amended regulatory timetable established in Exhibit A-47, FEI respectfully submits the attached response to BCUC IR1 on FEI's Rebuttal Evidence to CoV.

If further information is required, please contact the undersigned.

Sincerely,

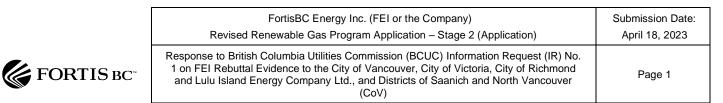
FORTISBC ENERGY INC.

Original signed:

Sarah Walsh

Attachments

cc (email only): Commission Secretary Registered Parties



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2	Α.	PERMANENCY OF RENEWABLE GAS CONNECTIONS1
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4	C.	CUSTOMER IMPACTS14
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6	Α.	PERMANENCY OF RENEWABLE GAS CONNECTIONS
7	1.0	Reference: FEI'S RENEWABLE GAS CONNECTIONS WILL BE PERMANENT
8		Exhibit B-65, Section 1.2, pp. 2–4
9		Certainty of Renewable Gas Connections
10		On pages 2 to 3 of Exhibit B-65, FEI states:
11 12 13 14 15 16 17 18 19		Even though the BCUC is not bound by precedent, FEI's proposal provides a high level of certainty that the Renewable Gas Connections service would indeed be permanent for the life of the building. Please refer to FEI's response to CoR IR1 3.2 for a discussion of why it is highly unlikely that a future BCUC panel would ever change the permanent nature of the service. This is due to, amongst other factors the reliance that would be placed on the permanent nature of the service by customers. If there were a change to the service in general in the future, existing Renewable Gas Connections customers at that time would need to be grandfathered to preserve their 100 percent Renewable Gas service.
20 21 22		1.1 Please clarify what creates the "need" that Renewable Gas Connections customers would need to be grandfathered in if there were a change to the Renewable Gas Connections service offering.

23

24 Response:

25 While FEI considers that the need for any grandfathering would be unlikely to arise, in the 26 hypothetical scenario where the BCUC were to materially change (e.g., cancel) the Renewable 27 Gas Connections service in the future, 100 percent RNG service to existing Renewable Gas 28 Connections customers should be grandfathered because of the reliance placed on the 29 permanent nature of the service, including by municipalities and the Province. For example, if the 30 Province included RNG in the opt-in Zero Carbon Step Code on the basis of the BCUC's approval 31 of the permanence reflected in the Renewable Gas Connections service, then the Province would 32 have relied on the permanent nature of the service in doing so. This is a fact that the BCUC would 33 need to take into account when considering any change to the service. The reliance placed on 34 the permanent nature of the service would likely require the BCUC to ensure that Renewable Gas

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1 2 3	connections customers continued to receive 100 percent RNG (or otherwise low carbon) service of that this new residential construction continued to have a low carbon energy service as intended.
4 5	
6 7 8 9 10	1.2 Please discuss how the "need" of Renewable Gas Connections customers to be grandfathered to preserve their Renewable Gas service could be impacted by future government policy changes in regard to renewable gas.
11	lesponse:
12	lease refer to the response to BCUC IR1 1.1 Rebuttal CoV.
13 14	
15 16	On pages 3 to 4 of Exhibit B-65, FEI states:
 17 18 19 20 21 22 23 24 25 26 27 28 29 30 	The municipalities have set up a false standard of a "guarantee over the long term" that is not possible for any distributed energy system to meet. Every energy system is subject to change in the long run. Electrical equipment could be replaced by gas equipment at some time in the future and vice versa. Further, the carbon intensity of electricity supply changes over time, as can the carbon intensity of the content of gas pipelines through the introduction of RNG [Renewable Natural Gas] and hydrogen. Moreover, bylaws, regulations and legislation governing GHG [greenhouse gas] emission targets and energy supply requirements are all subject to change due to changes in the priorities of governments, voter sentiment, technological developments and other circumstances. In this context, any "guarantee" of permanence is always a matter of degree only. For the reasons set out above, FEI's proposed Renewable Gas Connections service provides a level of certainty and permanence of emissions reductions as high or greater than that of the provision of low emission electricity.
31 32 33	1.3 Please elaborate on why FEI's underlying rationale or assumptions for concluding that the level of certainty and permanence of emissions reductions is "as high or greater than that of the provision of low emission electricity."
34 35 36	1.3.1 Please discuss how the relative ease of customers switching to conventional fossil fuels and the potential changes to carbon intensity of fuel supplies factor into the preceding response.

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The GHG emissions created by RNG are currently lower at the burner tip than electricity, and are significantly lower when lifecycle emissions are taken into consideration. These RNG sources are backed by 20-year contracts, providing assurance of long-term emissions reductions. In contrast, the certainty and permanence of the GHG emissions reductions that can be achieved using electricity going forward, especially in the short and medium terms, are likely to be placed under pressure as new supply is added in response to the rapid expansion of electrical demand in British Columbia. For instance, if more reliance is placed on gas-fired generation or imports in low water years, then this could increase the GHG intensity of electricity. Although electricity is subject to fluctuations in carbon intensity, it is still accepted as a compliance pathway, and FEI does not

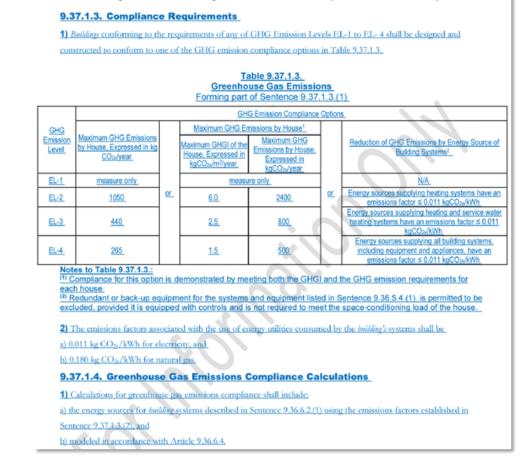
11 believe that RNG should be held to a higher standard.

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1 B. ZERO CARBON STEP CODE

2 2.0 **Reference:** IF THE RENEWABLE GAS CONECTIONS SERVICE IS APPROVED, FEI EXPECTS THAT THE PROVINCE WILL RECOGNIZE RNG AS AN 3 ELIGIBLE PATHWAY IN THE OPT-IN ZERO CARBON STEP CODE 4 5 Exhibit B-65, Section 1.3, pp. 4–7 Zero Carbon Step Code 6 7 On pages 4 to 5 of Exhibit B-65, FEI states: [...] The amendments to the BC Building Code 2018 (BCBC 2018), which take 8 9 effect as of May 1, 2023, include changes to minimum energy efficiency 10 requirements for most buildings, as well as the opt-in Zero Carbon Step Code. The opt-in Zero Carbon Step Code allows local governments to implement GHG limits 11 for operations of new buildings with several different performance GHG target 12 steps. FEI provides details regarding the opt-in Zero Carbon Step Code in Figure 13 14 1 below.

Figure 1: BC Building Code Extract for the Opt-in Zero Carbon Step Code³



[Footnotes in image omitted]

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2.1 Please clarify to which of FEI's customer types (e.g. residential, commercial) will the amended BC Building Code and Zero Carbon Step Code be applicable to.

4 Response:

FORTIS

1 2

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5 The amended BC Building Code and opt-in Zero Carbon Step Code will be applicable to both 6 residential and commercial customer types. The opt-in Zero Carbon Step Code extract referenced 7 in the preamble applies to Part 9 buildings, i.e., housing and small buildings (that are up to three storeys in height and an area not exceeding 600 m² in area). The opt-in Zero Carbon Step Code 8 9 is also applicable to Part 3 buildings, which are commercial and multi-family buildings that exceed 10 three storeys or exceed 600 m² in area. FEI's proposed Renewable Gas Connections would be 11 applicable to all residential applications, whether Part 3 or Part 9. Since commercial energy use 12 for buildings varies substantially from one building or commercial use to another, the use of RNG 13 to meet the targets would need to be modelled and would vary substantially. 14

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- 16
- Please discuss whether the amended Zero Carbon Step Code has any significant
 deviations from assumptions around the step code that FEI used in the Application
 (Exhibit B-11) or evidentiary record to-date.

RNG demand for new customer connections.

For any significant deviations, please discuss their potential impacts to

the Application and the underlying forecasts, including natural gas and

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24 **Response:**

2.2.1

At the time of the Application, the Step Code only included energy efficiency measures and not GHGi metrics (i.e., there was no version of the opt-in Zero Carbon Step Code at the time of the Application). Instead, the Application was based on the various GHGi metrics being adopted by local governments in addition to the Step Code. FEI designed the proposed Renewable Gas Connections service to provide a 100 percent RNG service that could meet such GHGi metrics.

The GHGi metrics used in the opt-in Zero Carbon Step Code are generally consistent with the types of GHGi metrics that were being adopted by local governments described in the Application. In particular, a 100 percent RNG service is required to meet the higher levels of the Zero Carbon Step Code, just as it would be required to meet all the metrics being adopted by local governments. Thus, the opt-in Zero Carbon Step Code does not change the proposals and approvals sought in this Application.

The opt-in Zero Carbon Step Code is a Provincial framework that officially creates the regulatory pathway for municipalities to adopt GHGi reduction targets into new buildings where previously

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there was no Provincial oversight or direction. Now all municipalities can adopt the opt-in Zero

2 Carbon Step Code, as opposed to individual municipalities creating their own code. This will result 3 in greater consistency in regulation, but also presents a greater risk to the gas system as all 4 municipalities now have the ability to restrict the adoption of gas to serve new residential 5 construction. 6 Consequently, FEI has an even greater need for the Renewable Gas Connections service so that 7 it has a service offering that could meet the GHGi metrics of the opt-in Zero Carbon Step Code 8 as a potential pathway available to customers as a viable alternative to an electricity-only solution. 9 10 11 12 2.3 Please discuss if FEI is aware of any official announcements by municipalities or 13 the province to mandate compliance with the updated EL-2, EL-3, and EL-4 GHG 14 emission levels, including the timeframe if applicable. 15 16 Response: 17 FEI is aware that the City of Victoria and the District of Saanich have indicated that they will 18 require all new builds to be emissions-free by 2025 under the opt-in Zero Carbon Step Code, 19 although the City of Victoria's plan is on a more expedited schedule where all new homes and smaller residential buildings built after the Fall of 2023 will be required to be zero emissions. 20 21 22 23 24 On pages 5 to 6 of Exhibit B-65, FEI states: 25 [...] The other three levels (EL-2, EL-3, and EL-4) are comprised of GHGI limits 26 which cannot be exceeded. For these levels, if only conventional natural gas were 27 to be used in the building's energy systems, the CO2 emissions would exceed the GHGI limits. Therefore, the GHGI levels must be met by using a low carbon energy 28 29 source such as electricity or RNG.

- 2.4 Please confirm, or explain otherwise, that FEI does not expect that EL-2 or stricter
 and the emission levels could be met with conventional natural gas used as a primary
 beating source under any circumstance.
- 33 2.4.1 Please provide any supporting assumptions or calculations.
- 34

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Confirmed for emission levels EL-3 and EL-4, which eliminate conventional natural gas as an
option for primary space heating and hot water systems.

4 There are scenarios where a building could be designed to comply with the EL-2 emission level 5 to enable the use of conventional natural gas either for primary space heating or hot water 6 systems, but not both. However, from a practical perspective, in order to find a solution that 7 incorporates conventional natural gas for either space or water heating under the EL-2 emission 8 level, more analysis and design/planning work would need to be undertaken by the building's 9 architect, engineer, energy modeler, or HVAC contractor than would have otherwise been 10 needed. This additional analysis will add time and cost to the planning and design process; 11 therefore, in practice, it would likely be simpler and more cost-effective for a builder to use 12 electricity to meet the required GHG emissions levels.

While FEI has not undertaken specific modelling in relation to the recently adopted opt-in Zero Carbon Step Code, Table A-8 in Appendix A to the Application shows the GHGi levels with conventional natural gas and the estimated Renewable Gas percentage required to meet the previous BC Energy Step Code and GHGi targets of 3kg CO₂e/m² and 1kg CO₂e/m² for a sample of residential homes. The modelled GHGi target of 1kg CO₂e/m² is stricter than the EL-4 emission level. Please refer to the response to CEC IR1 3.3 Rebuttal CoV for further discussion of the assumptions underlying this modeling.

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2.5 Please discuss whether new buildings required to meet EL-2 or stricter emission levels are likely to connect to the FEI system in the absence of renewable gas being recognized by the Zero Carbon Step Code.

27 <u>Response:</u>

28 If Renewable Gas is not recognized as a compliance pathway under the opt-in Zero Carbon Step

29 Code, then builders/developers required to meet EL-2 or stricter emission levels will generally not

30 connect to the gas system. Please refer to the response to BCUC IR1 2.4 Rebuttal CoV.

Even so, the Province already recognizes RNG as an avenue to reducing emissions in homes and buildings and, as explained in the response to BCUC IR1 2.8 Rebuttal CoV, FEI expects that

33 RNG will be an eligible pathway for the opt-in Zero Carbon Step Code if the proposed Renewable

34 Gas Connections service is approved by the BCUC.

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1			
2	2.6		explain whether the proposed design of the Renewable Gas Program
3			ng 100 percent RNG will satisfy all the GHG emission levels as stipulated
4		in the ai	mended Zero Carbon Step Code.
5		2.6.1	If the proposed design of the Renewable Gas Connections Program
6			delivering 100 percent RNG will not satisfy all the GHG emission levels
7			as stipulated in the amended Zero Carbon Step Code, please explain
8			how potential Renewable Gas Connections customers will meet their
9 10			Zero Carbon Step Code requirements. For example, is a blend greater than 100 percent possible?
11			
12	<u>Response:</u>		
13 14 15 16 17	all the GHG emissions fac	emission tor for RN e emissio	ign of the Renewable Gas Program delivering 100 percent RNG will satisfy levels of the opt-in Zero Carbon Step Code. This assumes a burner tip NG of 0.29 kgCO2e/GJ. ¹ This would also be the case if FEI were to use the ons for RNG of -22.4 kgCO2e/GJ, as referenced in the response to BC
18			
19			
20 21	On pa	ge 6 of E	xhibit B-65, FEI states:
22		Q8: Is F	RNG referenced in the opt-in Zero Carbon Step Code?
23 24 25 26		is a mor not prov	FEI understands that this is because FEI's current voluntary RNG service on th-to-month service, rather than a permanent service, and therefore does vide an enforceable way for a building official to determine that buildings og RNG at the time of design and construction.
27 28			pes FEI expect that RNG will become an eligible pathway for ance with the opt-in Zero Carbon Step Code?
29		A9: Yes	, if the Renewable Gas Connections service is approved by the BCUC, FEI
30 31		•	that the Province will recognize RNG as an eligible pathway for the opt-in arbon Step Code.
32 33 34	2.7		explain the basis for FEI's understanding that RNG is excluded from the arbon Step Code because of its temporary and non-enforceable nature.

¹ PDF pg 12, <u>https://www2.gov.bc.ca/assets/gov/environment/climate-change/cng/methodology/2020-pso-methodology.pdf</u>.

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FEI understands that RNG is excluded from the opt-in Zero Carbon Step Code because of the design of the existing RNG Program. In particular, FEI currently only offers RNG to customers on a voluntary opt-in basis which does not provide a verifiable way for a building official to determine, at the time that a development permit is approved and when the BC Building Code is applicable,

6 that a building will use RNG throughout its life.²

7 To resolve this issue, FEI requires a tariff for permanent 100 percent RNG for all new residential

- 8 construction, such as the proposed Renewable Gas Connections service, as this is verifiable and
- 9 enables builders/developers to show compliance with GHG targets at the permitting stage when
- 10 the BC Building Code is applicable.
- 11 Please also refer to the response to BCUC IR1 2.9 Rebuttal CoV.
- 12
- 13
- 14
- 15 2.8 Please explain the basis for FEI's expectation that RNG would become an eligible
 16 compliance pathway for the Zero Carbon Step Code if the Renewable Gas
 17 Connections service is approved by the BCUC.
- 18

19 **Response:**

20 As explained in the response to BCUC IR1 2.7 Rebuttal CoV, RNG is not currently referenced in

21 the opt-in Zero Carbon Step Code because under the existing RNG Program it does not currently 22 meet the requirements of a compliance pathway.

The following extracts of announcements from and/or documents issued by the Province inform FEI's understanding that RNG is recognized by the Province as an avenue to reducing emissions in homes and buildings. Therefore, FEI expects that RNG will be recognized by the Province as an eligible pathway for the opt-in Zero Carbon Step Code if the Renewable Gas Connections service is approved by the BCUC.

28 CleanBC Roadmap to 2030

29 The CleanBC Roadmap to 2030³ contemplates homes and buildings transitioning to Renewable

30 Gas, including RNG:

² The BC Building Code regulates how new construction, building alterations, repairs and demolitions are undertaken in the Province. However, the code is not applicable after construction has been completed (i.e., when an energy source selected by a homeowner is being used).

³ <u>CleanBC Roadmap 2030.pdf (gov.bc.ca)</u>.

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1 Our communities will be more comfortable with less pollution. New homes and 2 buildings will no longer emit carbon pollution and will use energy much more 3 efficiently, saving people money on their energy bills. They will be built using 4 materials that are less carbon intensive. People will have more affordable options 5 to retrofit their homes. The system that delivers natural gas to heat homes and 6 businesses today will transition to also deliver cleaner fuels like renewable natural 7 gas and hydrogen. And more of us will find jobs in the clean economy working to 8 reduce pollution with innovative advanced technologies that are exported beyond 9 our borders.

10 Greenhouse Gas Reduction (Clean Energy) Regulation Announcement

11 In July 2021, the Province announced that it had amended the Greenhouse Gas Reduction (Clean

12 Energy) Regulation (GGRR) to increase the production and use of renewable gas, as well as

13 green and waste hydrogen, in British Columbia. According to the news announcement:⁴

A key part of our CleanBC strategy is increasing the use of hydrogen and other renewable gases in place of fossil fuels in vehicles, buildings and industry," said Bruce Ralston, Minister of Energy, Mines and Low Carbon Innovation. "The changes we've made to the *Greenhouse Gas Reduction Regulation* will provide natural gas utilities with more flexibility, stimulate investments in renewable energy and accelerate growth of hydrogen and renewable gas supply in their systems, while keeping rates affordable for their customers.

21 Provincial Policy Bulletin for Cleaner, More Energy Efficient New Construction

In September 2022, the Province released a bulletin addressing cleaner, more energy efficient
 new construction (as referenced in FEI's Rebuttal Evidence to CoV, A10, page 8) which states:⁵

- The structure of B.C. electrical utilities' tariffs can occasionally result in builders or developers needing to pay significantly higher extension fees (i.e. the cost of new electrical service) for larger electrical services; the structure of electrical tariffs mean that the cost of a larger electrical service.
- Revise electric utility extension fees in utility tariffs.
 - A local building electrification fund, providing additional fund to buildings facing electrification challenges.
- Local governments allowing use of renewable natural gas (RNG) for
 compliance with requirements.

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⁴ <u>Province enables increased investments in renewable gas, hydrogen | BC Gov News</u>.

⁵ <u>ghg_best_practices_bulletin.pdf (gov.bc.ca)</u>.

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In advance of changes to utility extension fees in electric utility tariffs or introduction
 of an electrification fund, local governments are advised to allow compliance via
 RNG.

4 *Public Review of the British Columbia Building Code 2018 Emissions and Energy* 5 *Efficiency Standards*

- 6 Changes to the BC Building Code were proposed through a public review process. An extract of
- 7 the proposal along with presenter notes as it relates to RNG are included below:⁶

Modelling for renewable natural gas and district energy

Emissions factors

- Priority: stability, predictability
- Based on City of Vancouver Energy Modelling Guidelines (CoV EMG)
- Applies to the entire province, regardless of electricity grid
 - Use the Integrated grid figures for Fort Nelson grid for energy modelling purposes
- More detailed modelling ruleset in development

Renewable natural gas (RNG)

- Code proposal accommodates renewable natural gas (RNG), other innovative fuel sources as they become available
- BC Utilities Commission decision about RNG is pending as of August 2022

District energy systems

• Emissions factors to be decided between the Authority Having Jurisdiction (AHJ) and the utility provider, consistent with the City of Vancouver Energy Modelling Guidelines

- 9 Below is an extract of the presenter notes for this slide that describes how the RNG (rate design)
- 10 proposal is in front of the BCUC as of August 2022.

⁶ <u>B.C. Public Review - Province of British Columbia (gov.bc.ca)</u>, British Columbia Building Code 2018 Emissions and Energy Efficiency Standards, Episode 3.



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On the gas side, there are also big efforts to reduce carbon intensity. There is significant interest in renewable natural gas, or RNG, as a way to decarbonize the conventional natural gas supply. Also known as biomethane, it is a refined form of biogas, which comes from landfills, oil production, agriculture, sewage treatment, and other activities where biogas would otherwise be released into the atmosphere and contribute to climate change.

As of August 2022, a proposal from FortisBC to introduce RNG at scale is currently before the BC Utilities Commission (or BCUC), which is an independent agency of the provincial government responsible for regulating British Columbia's energy utilities. The BCUC has not issued a decision on the proposal yet. Given these variables, this draft code language is written to include future energy options, and terms like "decarbonized fuels" were chosen specifically to account for the breadth of possibilities.

2.9 Please discuss the risk and potential implications of the Renewable Gas Connections service if the proposed service is approved now but the Province continues to not recognize RNG as an eligible compliance pathway for the Zero Carbon Step Code.

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FORTIS

As noted in the preamble, it is FEI's expectation that, if the proposed Renewable Gas Connections

service is approved by the BCUC, the Province will recognize RNG as an eligible compliance
pathway under the opt-in Zero Carbon Step Code. However, if RNG is not recognized as a

pathway under the opt-in Zero Carbon Step Code. However, if RNG is not recognized as a
 compliance pathway under the opt-in Zero Carbon Step Code, then builders/developers required

6 to meet EL-2 or stricter emission levels under the opt-in Zero Carbon Step Code will generally not

7 connect to the gas system. As such, FEI's ability to add new residential loads to the system would

8 be restricted.

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1 C. CUSTOMER IMPACTS

- 2 3.0 BENEFITS OF RENEWABLE GAS CONNECTIONS ACCRUE TO ALL Reference: 3 **CUSTOMERS** 4 Exhibit B-11, Section 3.4.1.1, p. 29; Exhibit B-65, Section 1.6, p. 10 5 **Customer Impacts** 6 On page 10 of exhibit B-65, FEI states: 7 Second, the Renewable Gas Connections service will consume less of customers' 8 disposable income. The important point that is missing in the argument of the City 9 of Vancouver and City of Richmond is that FEI will be acquiring RNG as part of its 10 efforts to meet provincial GHG reduction targets and that all customers will bear 11 the costs of these efforts, with or without the Renewable Gas Connections 12 service. However, by preserving a gas service for new residential construction, 13 all FEI customers will benefit from higher demand and lower rates compared to an 14 alternative where FEI was not permitted to serve new residential construction 15 customers. [...] [Footnote omitted] 16 On page 29 of the Application, FEI states: 17 The 2018 CleanBC Plan enabled gas utilities to reduce emissions by increasing 18 the renewable content of their gas stream to 15 percent renewable content by 2030. Displacing 15 percent of the gas supply with Renewable Gas would increase 19 20 the annual supply of Renewable Gas in FEI's system to approximately 30 PJs. 21 The provincial government's approach with respect to the emissions of natural gas 22 utilities was recently updated in the CleanBC Roadmap with the introduction of a 23 GHG emissions cap [...] The cap, as laid out in the CleanBC Roadmap, is set at 6.11 Mt of CO2e per year at 2030. [...] 24
- 253.1Please discuss how FEI's position above, that all customers will benefit from higher26demand and lower rates if the renewable gas connections service is made27available for new residential construction, could be affected if the provincial RNG28target is changed from a percentage of gas deliveries to a cap on total GHG.
- 29
- 30 Response:

Whether FEI is mandated to purchase higher cost Renewable Gas, including RNG, through a percentage target or through a cap on total GHG emissions, there would be no effect on the statement that "all FEI customers will benefit from higher demand and lower rates compared to an alternative where FEI was not permitted to serve new residential construction customers". In either case, FEI will be compelled to purchase higher cost Renewable Gas and seek to recover these costs from customers. Even if FEI loses load for various reasons, the proposed Renewable



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- 1 Gas Connections service enables FEI to continue connecting new residential customers to the
- 2 gas system. The opportunity to continue adding customers avoids concentrating all the costs of
- 3 Renewable Gas supply on a static, or shrinking, customer base.