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November 1, 2019

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

Dear Mr. Wruck:

Re: FortisBC Energy Inc. (FEI)

Filling of Biomethane Purchase Agreements between FEI and Tidal Energy Marketing Inc. (Tidal Energy) (the Application)

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

On June 3, 2019, FEI filed the Application referenced above. In accordance with BCUC Order G-213-19 setting out the Regulatory Timetable for the review of the Application, FEI respectfully submits the attached response to BCUC IR No. 1.

If further information is required, please contact Scott Gramm, Manager, Renewable Natural Gas, at (604) 576-7242.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Doug Slater

Attachments

cc (email only): Registered Parties



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1 **A. ALIGNMENT WITH THE BC CLEAN ENERGY ACT**

2 **1.0 Reference: THE BPAs ARE PRESCRIBED UNDERTAKINGS**

3 **Exhibit B-1, Section 7.1, pp. 11–12**

4 **Greenhouse Gas Reduction Regulation Definition of Prescribed**
5 **Undertakings**

6 FEI states on pages 11–12 of FEI’s Application for Acceptance of the Biomethane
7 Purchase Agreements (BPAs) between FortisBC Energy Inc. (FEI) and Tidal Energy
8 Marketing Inc. (Tidal Energy) (Application):

9 On March 22, 2017, the Province of BC deposited LGIC OIC 161/2017 under BC
10 Reg.114/2017 (OIC 161) approving an amendment to the GGRR, a copy of
11 which is provided in Appendix D. Section 2 (3.7) and (3.8) of the GGRR as
12 amended by OIC 161-2017 state:

13 (3.7) A public utility’s undertaking that in the class defined in subsection (3.8) is a
14 prescribed undertaking for the purposes of section 18 of the Act.

15 (3.8) The public utility acquires renewable natural gas
16 (a) for which the public utility pays no more than \$30 per GJ, and
17 (b) that, subject to subsection (3.9), in a calendar year, does not exceed
18 5% of the total volume of natural gas provided by the public utility to its
19 non-bypass customers in 2015.

20 1.1 Please explain what, if any, physical requirement FEI interprets to be in place in
21 order to “acquire” renewable natural gas (RNG) as a prescribed undertaking
22 consistent with the Greenhouse Gas Reduction Regulation Definition (GGRR).
23

24 **Response:**

25 The meaning of “acquire” in the GGRR is broad. Section 29 of the Interpretation Act states that,
26 in an enactment, “acquire” means to obtain by any method and includes accept, receive,
27 purchase, be vested with, lease, take possession, control or occupation of, and agree to do any
28 of those things, but does not include expropriate.

29 In the Tidal BPAs, FEI is acquiring RNG within the meaning of the definition of “acquire” as FEI
30 is purchasing the physical RNG, including securing the rights to the associated environmental
31 attributes and GHG emissions reduction benefits.

32 The Tidal BPAs include transportation of the RNG, such that the RNG supply is injected into the
33 natural gas system, displacing an equal unit of conventional natural gas, and delivered to FEI.
34 However, FEI would consider a purchase of RNG that does not include the cost of

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1 transportation as an acquisition of RNG, as the RNG would still be injected into the natural
2 system, displacing conventional gas, and the environmental attributes would be acquired.

3 This is an extension of the concept of the way RNG is delivered by FEI to its customers. RNG
4 is being directly injected onto the FEI system, FEI notionally stores the RNG and notionally
5 delivers it to customers. The individual RNG molecules are mixed into the existing natural gas
6 system and cannot be traced to any single customer.

7 In the same way, RNG purchased from out-of-province is a physical purchase of RNG
8 molecules including securing the rights to the associated environmental attributes and GHG
9 emissions reduction benefits, which ensures that the full value of the RNG will be received by
10 FEI and its customers. While the purchase of RNG is physical, transportation to a physical
11 interconnection point on FEI's system may be physically delivered or may be notionally
12 delivered depending on whether transportation costs are included as part of that purchase
13 transaction. In the case of physically delivered RNG, the cost of the RNG would include tolls for
14 transporting the RNG to an interconnection point on FEI's system.

15 RNG that has been directly injected (i.e., on-system) or purchased and transported onto FEI's
16 system (i.e., off-system or out-of-province) could also be considered notional in that the RNG
17 molecules are indistinguishable from conventional methane or natural gas and cannot be
18 physically traced to their individual point of delivery to the customer. In that regard, the concept
19 of notional delivery applies to all forms of RNG and is no different whether the RNG is on-
20 system, off-system or out-of-province. Please also refer to BCSEA IR 1.1.2 for a discussion of
21 how the notional delivery of RNG is no different than the notional delivery of conventional
22 natural gas.

23 The approach regarding notional delivery of RNG that FEI has taken with the GasEDIs that are
24 the subject of this proceeding is similar to the approach taken by the US EPA in the Renewable
25 Fuel Standard Program, which establishes the rules for the RINs referenced in BCUC
26 Confidential IR 1.6 series. The following is an excerpt from the "40 CFR Part 80, Regulation of
27 Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program; Final Rule"¹

28 We agree that it does not make any difference in terms of the beneficial
29 environmental attributes associated with the use of landfill gas whether the
30 displacement of fossil fuel occurs in a fungible natural gas pipeline, or in a
31 specific facility that draws gas volume from that pipeline. In fact, a similar
32 approach is widely used with respect to electricity generated by renewable
33 biomass that is placed into a commercial electricity grid. A party buying the
34 renewable power is credited with doing so in state renewable portfolio programs
35 even though the power from these sources is placed in the fungible grid and the
36 electrons produced by a renewable source may never actually be used by the

¹ <https://www.govinfo.gov/content/pkg/FR-2010-03-26/pdf/2010-3851.pdf>.



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1 party purchasing it. In essence these programs assume that the renewable
2 power purchased and introduced into the grid is in fact used by the purchaser,
3 even though all parties acknowledge that use of the actual renewable-derived
4 electrons can never be verified once placed in the fungible grid. We believe that
5 this approach will ultimately further the GHG reduction and energy security goals
6 of RFS2 [Renewable Fuels Standard].

7 This approach also applies to biogas and electricity made from renewable fuels
8 and which are used for transportation. Producers of such fuels will be able to
9 generate RINs [environmental attributes], provided that a contractual pathway
10 exists that provides evidence that specific quantities of the renewable fuel...was
11 [sic] purchased and contracted to be delivered to a specific transportation fueling
12 facility.

13 Thus, in establishing the rules for the RIN market in the United States, the US EPA states that
14 the approach of transferring the environmental attributes of renewable fuels rather than the
15 actual molecules achieves GHG reductions, no matter where the renewable molecules are
16 produced.

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18

19
20 1.2 Please confirm, or explain otherwise, whether FEI believes that purchasing the
21 environmental attributes of RNG in other jurisdictions would satisfy the GGRR's
22 direction to "acquire" RNG.
23

24 **Response:**

25 Not Confirmed. The purchase of environmental attributes would be an "acquisition" but would
26 not be an acquisition of "renewable natural gas". Please refer to the response to BCUC IR
27 1.1.1.

28
29

30
31 1.3 Please confirm, or explain otherwise, whether GGRR permits FEI to transfer
32 rights to the environmental attributes of RNG to its customers in BC from RNG
33 purchased in Ontario, without physically transporting natural gas between
34 provinces.
35

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1 **Response:**

2 Confirmed.

3

4

5

6 1.3.1 If confirmed, please discuss any limitations in place that would prevent
7 FEI from doing the same in other locations in North America and
8 globally.
9

10 **Response:**

11 FEI sees no limitations to using the same arrangements elsewhere within Canada or within the
12 continental US, due to the contiguous pipeline network.

13 While FEI is not considering purchase of RNG outside of North America, FEI recognizes that
14 emissions abatement is a global issue that is not contained within jurisdictional borders. It is
15 possible that in the future the focus may shift towards implementing the lowest cost emissions
16 reduction opportunities despite their location in order to meet climate objectives within resource
17 constraints which may otherwise limit progress.

18

19

20

21 1.4 Please discuss what FEI considers to be a prudent limit on duration of a BPA to
22 enter into as a prescribed undertaking.
23

23

24 **Response:**

25 FEI considers that it is reasonable for the term of a BPA term to be in line with existing BPAs,
26 which range from 10 to 25 years.

27 First, the GGRR was developed with full knowledge of the existing BPA terms at the time which
28 were similar in length. As such, the practice of entering into BPAs with terms that range in
29 length from 10 to 25 years is reasonable.

30 Second, BPA agreements that may extend beyond the prescribed undertaking period support
31 the objectives of the GGRR in lowering GHG emissions while supporting lower prices of
32 acquiring more total RNG overall, given that the cost for acquiring RNG in future may increase.
33 From a price perspective, a 20-year BPA will have a lower acquisition price than a 10 year BPA
34 because the supplier has a longer period to recover its costs, including a return on its capital
35 investment. Lenders, such as banks, also regard longer-term projects as more favorable and

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1 less risky and, as a result, those projects are more likely to receive financing at lower rates. In
2 the same way, the longer term will make a broader range of projects financeable, which
3 naturally creates a greater total supply of RNG resulting in greater GHG reductions on the
4 whole.

5
6

7

8 1.5 Please discuss whether FEI considers that BPAs entered into as prescribed
9 undertakings should be in the interests of its ratepayers.

10

11 **Response:**

12 FEI considers that the BPAs entered into as prescribed undertakings are in the interests of both
13 the public and ratepayers. The BPAs increase the supply of RNG, which has been recognized
14 by the provincial government as serving a critical role in reducing emissions in BC. For
15 example, the CleanBC plan relies on renewable gas for 75 percent of the reduction in emissions
16 in the building sector. RNG is a cost effective, low carbon energy source as compared to other
17 low carbon alternatives such as electricity (please refer to the response to BCUC IR 1.3.1),
18 assisting customers in meeting their individual climate objectives.

19 Over the long-term, the continued development of RNG not only reduces GHG emissions, but it
20 also leverages the investment of FortisBC's ratepayers in a multi-billion dollar gas delivery
21 system by ensuring it continues to provide value into the future. FEI believes the continued use
22 of the gas system also contributes to a more resilient provincial energy delivery system which
23 will better meet the future energy needs of ratepayers and the public.

24 Moreover, a prescribed undertaking is a defined project that has been determined to be in the
25 public interest by the provincial government. The provincial government's public interest
26 determination involves examining and considering the impact of the potential undertakings on
27 ratepayers. Therefore, to the extent that a BPA meets the criteria to qualify as a prescribed
28 undertaking, they are in the interests of both the public and ratepayers.

29

30

31

32 1.6 Please discuss whether FEI would consider the proposed BPAs to be in the
33 public interest if they are found not to be a prescribed undertaking.

34



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1 **Response:**

2 The BPAs are in the public interest regardless of whether they are prescribed undertakings
3 because they clearly align with the government’s climate and energy policies related to the
4 reduction of GHG emissions. CleanBC relies heavily on RNG as 75 percent of emission
5 reductions in the building sector are expected to come from RNG. This will require more
6 agreements similar to the two proposed BPAs in order to achieve the GHG reduction targets.

7 If for some reason the BCUC were to determine that these BPAs did not qualify as prescribed
8 undertakings under the GGRR, then the BCUC can and should find that these BPAs are in the
9 public interest and accept the BPAs as energy supply agreements pursuant to section 71 of the
10 *Utilities Commission Act*.

11

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1 **2.0 Reference: BC CLEAN ENERGY ACT**
2 **Clean Energy Act [SBC 2010] Chapter 22, Part 1, Section 2; Part 5,**
3 **Section 18**
4 **Prescribed Undertakings**

5 The BC Clean Energy Act Part 5, Section 18 (1), reads as follows:

6 18 (1) In this section, "prescribed undertaking" means a project, program,
7 contract or expenditure that is in a class of projects, programs, contracts or
8 expenditures prescribed for the purpose of reducing greenhouse gas emissions
9 in British Columbia.

10 2.1 Please confirm, or explain otherwise, if acquiring biomethane in Ontario will
11 reduce emissions of greenhouse gasses in BC.

12
13 **Response:**

14 FEI confirms that acquiring biomethane in Ontario will reduce GHG emissions in BC.
15 Greenhouse gas emissions are accounted for at the end-use which requires a clear contractual
16 path, real displacement of conventional gas, and the retirement of environmental attributes upon
17 use. The proposed BPAs satisfy these requirements.

18 Further, as discussed on page 9 of the Application, the BPAs reduce GHG emissions in BC by
19 increasing the amount of RNG supply available to FEI's customers. The availability of RNG
20 supply for those customers that wish to participate in FEI's voluntary RNG program means that
21 customers that are currently precluded from signing up for FEI's voluntary program due to
22 supply constraints will be able to subscribe. This is particularly true for large customers such as
23 commercial, institutional and industrial customers, and for customers in the Natural Gas for
24 Transportation (NGT) market segment. There are large NGT customers that wish to participate
25 in the RNG program that are "on hold" until FEI can bring on more RNG supply. The use of
26 RNG in the NGT market will reduce GHG emissions because customers seeking a GHG neutral
27 transportation solution can switch to CNG in anticipation of electing to participate in FEI's RNG
28 program. This switch to CNG from diesel in and of itself reduces GHGs by 10 – 30 percent.

29 The purchase of RNG from outside the province is a natural extension of FEI's Biomethane
30 program where RNG is injected at the source, stored and delivered notionally, and allocated
31 and billed to customers, with the avoided emissions credited to that customer.

32 Please also refer to the response to BCUC IR 1.1.1.

33

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1 3. Increasing the supply of RNG leverages the use of existing gas energy delivery system
2 and avoids unnecessary duplication of infrastructure and investment. This adds
3 resiliency to the provincial energy system and in the long run is less costly to customers
4 than duplication of energy infrastructure. Please also refer to the response to BCUC IR
5 1.1.5.

6
7
8
9 3.2 Please provide the percentage of current FEI customers who opt to purchase
10 RNG, and the average RNG blend amount selected by customers.

11
12 **Response:**

13 Approximately 1 percent of FEI's customers choose to purchase RNG (a total of 10,339
14 customers in 2018). By number of subscribers, residential rate class customers are the largest
15 contributors to this result. Approximately 1.2 percent of residential rate class customers are
16 enrolled for RNG service. The participation rate in the remaining rate classes is approximately
17 0.25 percent.

18 In aggregate, the average RNG blend delivered to customers enrolled for RNG service is
19 approximately 16 percent RNG, 84 percent conventional natural gas. This is also the
20 approximate blend selected by residential rate class customers. For their part, customers in all
21 other, non-residential rate classes, tend to select a blend with a higher proportion of RNG,
22 approaching 25 percent as an aggregate average.

23
24
25
26 3.3 Please discuss whether acquiring RNG in Ontario will reduce the net amount of
27 conventional natural gas used in Canada.

28
29 **Response:**

30 Acquiring RNG in Ontario, or elsewhere in Canada and North America, regardless of its
31 injection location, will displace conventional natural gas. This displacement will have the impact
32 of reducing the net amount of conventional natural gas in Canada and contribute to GHG
33 emissions reductions.

34

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1 **4.0 Reference: BC CLEAN ENERGY ACT**

2 **Clean Energy Act [SBC 2010] Chapter 22, Part 1, Section 2**

3 **BC's Energy Objectives**

4 The BC Clean Energy Act Part 1, Section 2, states BC's energy objectives, including the
5 following:

6 (d) to use and foster the development in British Columbia of innovative
7 technologies that support energy conservation and efficiency and the use of
8 clean or renewable resources;

9 (g) to reduce BC greenhouse gas emissions

10 (i) by 2012 and for each subsequent calendar year to at least 6% less
11 than the level of those emissions in 2007,

12 (ii) by 2016 and for each subsequent calendar year to at least 18% less
13 than the level of those emissions in 2007,

14 (iii) by 2020 and for each subsequent calendar year to at least 33% less
15 than the level of those emissions in 2007,

16 (iv) by 2050 and for each subsequent calendar year to at least 80% less
17 than the level of those emissions in 2007, and

18 (v) by such other amounts as determined under the Greenhouse Gas
19 Reduction Targets Act;

20 (h) to encourage the switching from one kind of energy source or use to another
21 that decreases greenhouse gas emissions in British Columbia;

22 (k) to encourage economic development and the creation and retention of jobs;

23 4.1 Please discuss how the proposed BPAs will foster development of innovative
24 technologies in BC, if at all.

25
26 **Response:**

27 The proposed BPAs will foster the development of innovative technologies in BC.

28 First, by investing in out-of-province RNG, FEI will have access to broader technological and
29 operational lessons learned and will be able to use, access, and apply this knowledge,
30 experience and technology to its future projects in BC.

31 Second, a thriving marketplace for RNG in BC, supported by out-of-province RNG supply, will
32 create critical mass for RNG in BC. This critical mass will increase confidence in RNG and,
33 therefore, increase investment in RNG and technology in BC. For example, a thriving RNG
34 market will support increased investment in CNG fleets, gas heat pump technology for
35 residential and commercial applications, as well as support the development of new business.



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4.2 Please discuss whether FEI considers objectives g) and k) within the provincial regulation to apply to jurisdictions outside of British Columbia.

Response:

The *Clean Energy Act* (CEA) is BC legislation and, as such, is not applicable in jurisdictions outside of BC. However, activities involving other provinces, including the proposed BPAs, can support the BC energy objectives in the CEA, including objectives g) and k).

With respect to reducing BC GHG emissions (objective g), FEI has procured the environmental attributes of the RNG so that BC will directly benefit from emissions reductions, regardless of where the RNG is produced. As discussed in detail in the response to BCUC IR 1.2.1, greenhouse gas emissions are accounted for at the end-use, and some uses of RNG, such as in the NGT market, will reduce GHG emissions in BC regardless of where the RNG is produced.

With respect to economic development and the creation of jobs in BC (objective k), procuring RNG outside of BC is vital to creating critical mass and a thriving renewable gas marketplace in BC. Therefore, out-of-province RNG will lead to greater investment in equipment, technology and clean energy sector jobs in BC over time. Please see the response to BCUC IR 1.4.1.

In summary, the proposed BPAs support BC energy objectives g) and k) in the CEA.



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1 **B. FORTISBC ENERGY INC. GENERAL TERMS AND CONDITIONS**

2 **5.0 Reference: GASEDI STANDARD FORM OF CONTRACT FOR THE BPAS**

3 **Exhibit B-1, Section 1.4, p. 5**

4 **FortisBC Energy Inc. General Terms and Conditions**

5 Section 28.1 (Notional Gas) of the FEI General Terms and Conditions (GT&Cs) sets out
6 that RNG Program customers must recognize that the location of generation facilities
7 determines where RNG will be physically received onto the FEI System. Thus,
8 customers participating in the RNG Program must recognize that although they may not
9 receive actual RNG at their Premises, FEI may deliver an amount of RNG into FEI's
10 system proportionate to the customer's gas consumption. Because the environmental
11 attributes of RNG are the same whether the RNG is produced within BC or outside BC,
12 namely that GHG emissions are reduced, and because the environmental attributes are
13 owned by FEI in all of the BPAs for RNG, these BPAs are consistent with FEI's
14 approved GT&Cs.

15 5.1 Please define the extents of the "FortisBC Energy System" as referenced in
16 section 28.1 of FEI's general terms and conditions and explain how biomethane
17 produced in Ontario is "physically received onto the FEI system" consistent with
18 the Section 28.1 of the FEI General Terms and Conditions.

19 **Response:**

21 The FortisBC Energy System is defined in the FEI General Terms and Conditions (GT&Cs) as
22 follows:

23 Means the Gas transmission and distribution system owned and operated by
24 FortisBC Energy, as such system is expanded, reduced or modified from time to
25 time.

26 The FortisBC Energy System is geographically dispersed and segmented across FEI's service
27 areas in British Columbia (please refer to the map below). The FortisBC Energy System
28 initiates at various interconnection points with the Westcoast Energy Inc., (Westcoast) T-South
29 and T-North systems, as well as the interconnection point with TC Energy FoothillsBC system
30 (TC Energy) in the East Kootenays. The main interconnection points along the Westcoast T-
31 South system include Savona and Offline, Kingsvale, and Huntingdon. FEI also has an
32 interconnection point where it receives gas from the Westcoast T-North system at Fort Nelson.
33 The main interconnection points with the TC Energy FoothillsBC system include Cranbrook,
34 Elko, Fernie, Galloway, Sparwood and the East Kootenay Exchange. Natural gas supply is
35 delivered to FEI at these interconnection points upstream from these transporters and the gas is
36 then moved throughout the FortisBC Energy System, comprised of transmission, intermediate
37 and distribution pressure pipelines.

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1
 2 Tidal Energy will inject RNG into the Enbridge Gas distribution system and then deliver it to the
 3 FEI system by displacement to the Westcoast interconnect point at Huntington. In other words,
 4 the RNG received at Huntington will be notional.

5 Section 28.1 (Notional Gas) of Section 28 (Biomethane Service) of the FEI GT&Cs allows for
 6 customers participating in the FEI RNG program to receive notional RNG, as set below:

7 **28.1 Notional Gas**

8 Customers must recognize that the location of generation facilities will determine
 9 where Biomethane will physically be introduced to the FortisBC Energy System
 10 and that Customers receiving Biomethane Service may not receive actual
 11 Biomethane at their Premises, but may instead be contributing to the cost for



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- 1 FortisBC Energy to deliver an amount of Biomethane proportionate to the
- 2 Customer's Gas usage into the FortisBC Energy System.

- 3 Therefore, even though the Tidal RNG that customers will receive will be notional in the sense
- 4 that the molecules of RNG cannot be traced from the RNG generation facilities in Ontario to the
- 5 customers' premises, Section 28.1 of the FEI GT&Cs allows for notional RNG to be delivered to
- 6 FEI customers participating in the FEI RNG program.

- 7 For additional information please refer to the response to BCUC IR 1.1.1.

- 8

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1 **C. RNG DEMAND FORECAST**

2 **6.0 Reference: Current Demand is Robust and Outpacing Supply**
3 **Exhibit B-1, Section 2.1, p. 7;**
4 **Future RNG Demand**

5 On page 7 of the Application, FEI states:

6 FEI is seeing continued growth in demand for RNG. The volume is driven
7 primarily by interest in reducing GHG emissions from high volume commercial
8 customers and from Natural Gas for Transportation (NGT) customers who are
9 seeking to reduce GHG emissions even further than switching from diesel to
10 conventional natural gas would achieve. Because these high volume customers
11 are natural gas customers, they are able to elect to use RNG which allows them
12 to reduce their emissions beyond their current levels.

13 6.1 Please confirm, or explain otherwise, whether present daily demand from RNG
14 customers exceeds FEI's current supply portfolio.

15
16 **Response:**

17 RNG supply from biomethane projects and demand from customers is not constant. These
18 fluctuations require that FEI view the RNG supply and demand balance on an annual
19 aggregated basis. FEI confirms that at present, annual customer demand for RNG exceeds
20 FEI's current available annual supply from its RNG portfolio.

21
22

23
24 6.2 Please discuss whether FEI is able to use spot purchases of RNG or RNG
25 environmental attributes where its supply from fixed contracts fails to meet RNG
26 demand.

27

28 **Response:**

29 FEI interprets spot purchases to mean a mechanism for a single or short-term purchase of a
30 specific volume of RNG. While FEI could use spot purchases of RNG or RNG environmental
31 attributes as a means to supplement its RNG supply portfolio, the market for spot or short-term
32 RNG is not developed and opportunities are extremely limited. If a spot RNG supply market
33 develops in the future, FEI would consider acquiring RNG through spot purchases to
34 supplement supply.



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6.3 Please discuss whether FEI would anticipate RNG demand to outpace supply if FEI's entire RNG purchase price was paid by RNG customers. Provide any studies FEI has completed on price elasticity of RNG demand.

Response:

9 FEI has not performed a specific study on price elasticity of RNG demand; however, in the 2015
10 Biomethane Energy Recovery Charge (BERC) Rate Methodology Application, FEI identified that
11 the customer price for RNG was discouraging voluntary participation. In evaluating customer
12 enrollment levels, a noticeable decline in participation was observed as the rate for RNG
13 increased. At that time, the voluntary purchase price was \$14.461 per GJ.

14 Today, the current average acquisition price is higher and, therefore, FEI believes that if RNG
15 were to be priced at the full acquisition price, FEI would see a decline in voluntary participation,
16 which would run counter to the CleanBC plan objectives.