Diane Roy
Vice President, Regulatory Affairs

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

Electric Regulatory Affairs Correspondence
Email: electricity.regulatory.affairs@fortisbc.com

FortisBC
16705 Fraser Highway
Surrey, B.C. V4N 0E8
Tel: (604)576-7349
Cell: (604) 908-2790
Fax: (604) 576-7074
www.fortisbc.com

May 26, 2021

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

Attention: Mr. Patrick Wruck, Commission Secretary

Dear Mr. Wruck:

Re: FortisBC Energy Inc. (FEI)

Section 71 of the *Utilities Commission Act* (UCA) and British Columbia Utilities Commission (BCUC) Rules for Natural Gas Energy Supply Contracts

Filing of a Biomethane Purchase Agreement (BPA) between FEI and SHELL NORTH AMERICA (CANADA) INC. (SHELL) (Application)

Additional Evidence Submission as per Order G-157-21

On April 29, 2021, FEI filed the Application referenced above. In accordance with BCUC Order G-157-21 setting out the Regulatory Timetable for the review of the Application, FEI respectfully submits the following Additional Evidence.

On May 26, 2021 in Exhibit A-6, the BCUC requested that FEI address how the Application meets the revised test as set out in Section 2(3.8) of the Greenhouse Gas Reduction (Clean Energy) Regulation (GGRR) and volume information with respect to Hydrogen, Synthesis gas and Lignin as per Section 10 of the GGRR. FEI has responded to this request in part e. of the Additional Evidence below.

a. The definition of Renewable Natural Gas (RNG);

There is no definition of RNG in the GGRR.

RNG, also called biomethane, is methane that is not extracted from the Earth's crust (i.e., a fossil fuel), but instead produced from biogenic feedstocks, i.e., organic-based waste materials or biomass. For example, RNG can be produced in landfills from the anaerobic decomposition of the biomass waste in the landfill, or through anaerobic digestion of organic waste, including manure. The raw biogas that is generated from the biological breakdown of the biogenic feedstocks must be upgraded (or cleaned up) to remove a number of constituents (e.g., CO2, N2, H2S, H20, O2) so that the end result is a gas, RNG, that is high in methane. RNG is chemically indistinguishable from conventional natural gas, and can be seamlessly consumed in every appliance and process that uses natural gas without any equipment modification or replacement.

As noted by the BCUC in its Decisions approving the Biomethane Program, "when biomass is converted to energy it is considered to be a clean source of energy. This is because gas which would otherwise simply be released into the atmosphere naturally is used to produce energy, in place of non-renewable sources, thus reducing the greenhouse gases which would otherwise be released into the atmosphere."[1]

There are still some greenhouse gases produced from the production of RNG and these will vary depending on the production system. The carbon intensity of any source of RNG can be determined through a life cycle assessment. There is no particular carbon intensity required for RNG; however, the lower the carbon intensity, the greater the value of the RNG, as it will count more towards GHG reduction targets.

Consistent with the above, the definition of "Biomethane" in the SHELL BPA is:

> pipeline quality Gas derived from the decomposition of organic matter. Pipeline Quality means meeting the gas quality requirements of the receiving pipeline at the delivery point.

Under the SHELL BPA, FEI is purchasing the actual biomethane molecules produced by the upstream seller's facility. By purchasing the biomethane, FEI is acquiring RNG within the meaning of section 2(3.8) of the GGRR.

Section 7 of the SHELL BPA explains that the purchased Biomethane will be delivered by displacement:

> The Seller's Affiliate will inject all Biomethane sold to the Buyer into the Mid-American [ ] System. The Parties acknowledge and agree that because Gas molecules are indistinguishable, interchangeable and comingled in the pipeline system, purchasers of conventional Gas or Biomethane generally do not physically receive or consume the same Gas molecules that they purchase from a specified source of production, this replacement of the Gas molecules purchased with other molecules being referred to as displacement. The Parties further acknowledge and agree that delivery of the product purchased and sold hereunder will be by displacement (as described in the preceding sentences) of the Biomethane produced from the Facilities with Gas produced elsewhere that upon delivery includes the Environmental Attributes associated with the Biomethane produced from the Facilities and, as a result, the product delivered by Seller hereunder constitutes Biomethane as defined herein.

The delivery process described in section 7 of the SHELL BPA, as quoted above, is the same as how RNG is delivered under FEI's other out-of-province RNG supply agreements which have been accepted by the BCUC. The physical delivery of the RNG molecules is not

[1] BCUC Decision dated December 11, 2013, Biomethane Service Offering: Post Implementation Report and Application for Approval of the Continuation and Modification of the Biomethane Program on a Permanent Basis, at p. 5: www.bcuc.com/Documents/Proceedings/2013/DOC_38832_12-11-2013-FEI-2012-Biomethane-DecisionWEB.pdf .

required for FEI's acquisition of RNG to be a prescribed undertaking under the GGRR or for FEI's customers to claim the GHG reductions resulting from the RNG.

b. The contractual arrangements in place to ensure FEI is acquiring RNG, including how RNG is delivered from the facility to the Huntingdon hub;

FEI has contractual guarantees in place to ensure that it is acquiring RNG:

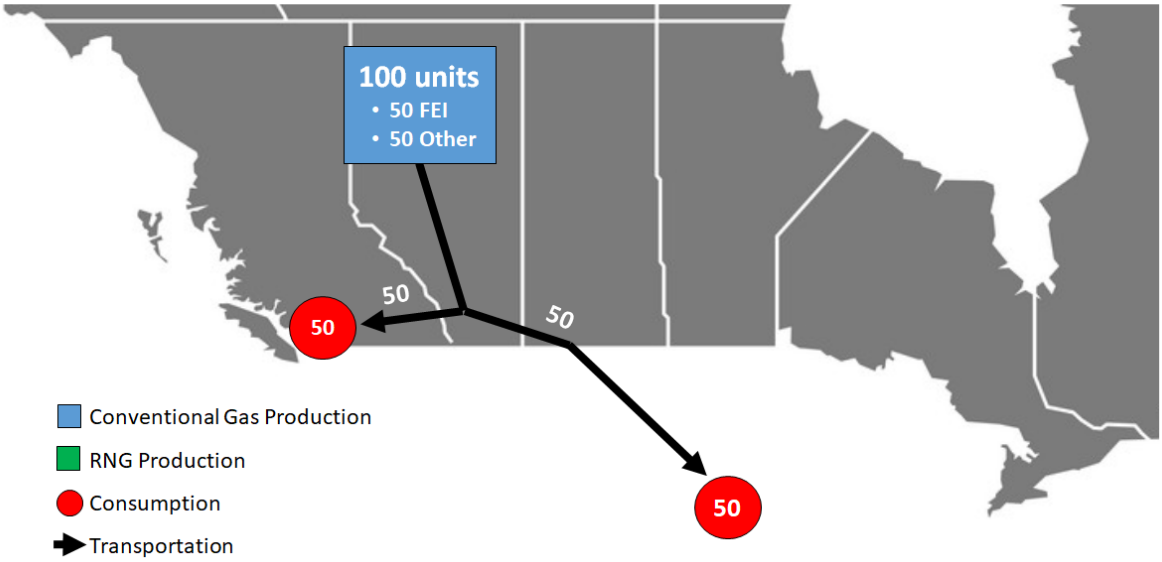
- Section 11 of the SHELL BPA sets out the provisions that ensure FEI receives all environmental attributes, the maximum carbon intensity of those attributes, that the attributes are not double counted, and that the attributes have not been sold to other markets.
- Section 12 of the SHELL BPA ensures that SHELL is providing FEI with reports of the production volume, which come in the form of meter data from the upstream seller, as well as reports on what was delivered to FEI at Huntington. These reports enable FEI to ensure the RNG quantity that it is receiving from the upstream seller's facility.
- Section 13 of the SHELL BPA obligates SHELL to provide a carbon intensity report annually. The carbon intensity is calculated using BC standards and must be certified by the upstream seller's Chief Operating Officer.
- Section 14 of the SHELL BPA enables FEI to audit to confirm that SHELL is complying with the obligations, representations, and warranties regarding the environmental attributes associated with the biomethane. This audit process includes being able to request additional records, physically access the facility, and make requests for written validation from SHELL. If FEI finds that the representations or warranties regarding the biomethane and the environmental attributes associated with said biomethane are in non-compliance with the BPA, then FEI may, acting reasonably, dispute such findings. Each party would then agree to cooperate in good faith to resolve the dispute.

As noted above, the RNG will be delivered in the same manner as all other out-of-province agreements whereby RNG is injected into the natural gas system at the upstream seller's facility and delivered by displacement to FEI at Huntingdon.

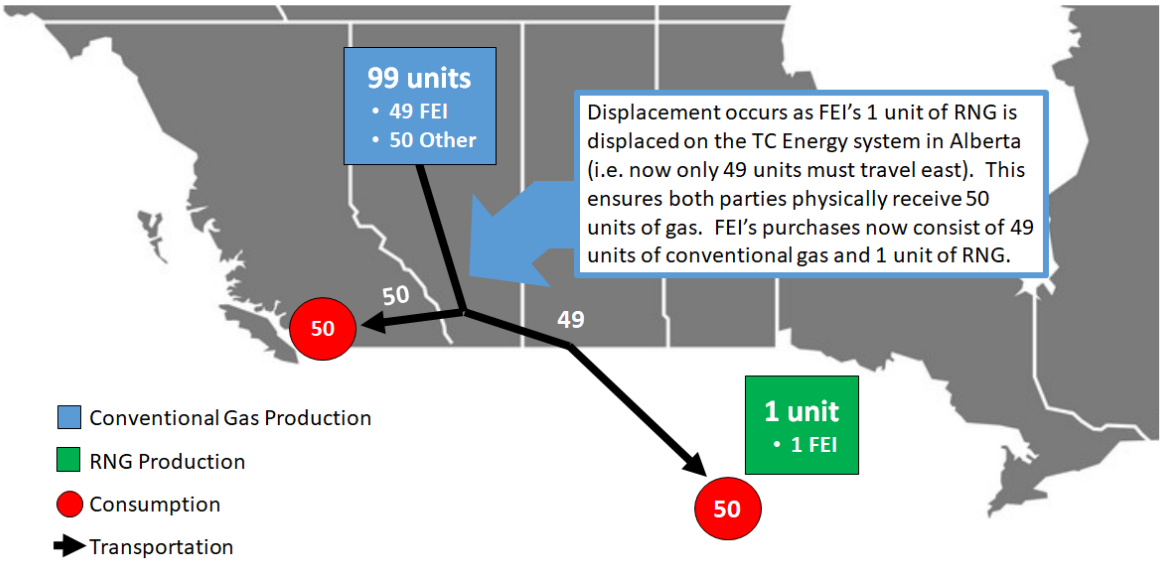
A clear physical connection exists between the pipeline system in the US where the RNG is produced and FEI's pipeline system in BC. The connection is from Mid-American system, to Berkshire Hathaway's Northern Natural Gas Pipeline system, to TC Energy's Northern Border Pipeline system, to TC Energy's Foothills Pipeline system, to TC Energy's NGTL Pipeline system and then to the Westcoast Pipeline system to Huntingdon.
The figures below illustrate the delivery by displacement. The first figure is before the SHELL BPA and the second is after the SHELL BPA. As illustrated in the diagram, the end result is:

- A reduction in the flow of gas from west to east which reflects the delivery, by displacement, of RNG to FEI; and
- A reduction in the amount of conventional natural gas that is produced and injected onto the system.

Simplified Illustrative Diagram – Displacement (Before)



Simplified Illustrative Diagram – Displacement (After)



The physical delivery of the RNG molecules is not required for FEI's acquisition of RNG to be a prescribed undertaking under the GGRR or for FEI's customers to claim the GHG reductions resulting from the RNG. Since gas molecules are indistinguishable, interchangeable and comingled in the pipeline system, purchasers of conventional or renewable natural gas generally do not physically consume the same gas molecules that they purchase.

c. The regulatory and reporting regime(s) in the United States and Canada that guarantee all environmental attributes associated with the purchase of RNG contractually pass from the facility to FEI, including but not limited to the generation, transfer, and redemption of renewable attributes to offset greenhouse gas emissions;

FEI has assured through the terms of its BPA with SHELL that all environmental attributes associated with FEI's purchase of RNG will be passed from the upstream seller's facility to FEI.

The use of "Book and Claim" accounting for ensuring the transfer of the environmental attributes from the seller to the buyer and separating the environmental attributes from the physical properties in the fuel is the standard practice in North America for RNG. This practice is used by both the US federal government in the Renewable Fuel Standard Program[2] and the State of California in its Low Carbon Fuel Program[3]. In a Book and Claim system the environmental attributes are often sold separately from the physical gas. Requirements for book-and-claim accounting for biomethane include:

1. Being able to demonstrate the exclusive right to claim the environmental attributes of the RNG.

2. That the environmental attributes of the RNG injected match the corresponding quantities of natural gas being withdrawn at the delivery point.

3. The environmental attributes claimed are not claimed in any other program or jurisdiction.[4]

FEI acquires RNG by using delivery by displacement, which is a form of the book- and-claim system. In the delivery by displacement model, the supplier injects the RNG into the local distribution system and the physical gas molecules are consumed by gas customers nearby. The RNG is then delivered to FEI when the supplier, or gas marketer working on behalf of the supplier, purchases the equivalent amount of natural gas at Huntingdon, Station 2, or AECO trading hubs in BC. FEI then purchases RNG (which is made up of the environmental attributes plus the physical gas) from the supplier or marketer at one of these trading hubs.

FEI also has contractually secured the ability to audit the facility to ensure the validity of the RNG being produced and the associated environmental attributes. When a facility begins delivering RNG to FEI, an initial audit is conducted that includes:

- Proof of facility existence. This is either a physical tour or documented evidence of the facility such as photos of facility and the interconnection point;
- Photo of station/meter number;
- Estimated carbon intensity BC Standards;

---

[2] https://www.epa.gov/renewable-fuel-standard-program/renewable-identification-numbers-rins-under-renewable-fuel-standard.

[3] https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard.

[4] The potential exception being the U.S. federal Renewable Fuel Standard, and California's Cap-and-Trade program. A unit of biomethane that is matched to a unit of natural gas dispensed at a California fueling station and claimed as bio-CNG or bio-LNG is eligible for both RIN generation under the federal RFS and for LCFS crediting.

- Written confirmation on start up;
- Written confirmation from the local utility that the facility is injecting into their system and meeting specifications; and
- The local utility's record of the station and meter number.

FEI has secured the ability for future audits for the purpose of ensuring the ongoing validity of the RNG and associated environmental attributes.

d. The regulatory and reporting regime(s) in place that eliminates any risk that environmental attributes are counted in both jurisdictions;

Please refer to answer (c) above.

e. The contract maximums and other details of all existing approved BPAs, BPAs pending BCUC approval and this BPA to demonstrate that the volume limit as established by section 2(3.8)(b) of the Greenhouse Gas Reduction Regulations is not exceeded; and

Order in Council No. 306, dated May 25, 2021, filed as Exhibit A2-1, amends section 2(3.8) of the GGRR to include a higher maximum acquisition price and volume. Section 2(3.8) of the amended GGRR states:

> (3.8) The public utility acquires renewable natural gas
>
> (a) at costs that meet the following criteria, as applicable:…
>
> (i) if the public utility acquires renewable natural gas by purchasing it, the price of the renewable natural gas does not exceed the maximum amount, determined in accordance with section 9, in effect in the fiscal year in which the contract for purchase is signed;
>
> (ii) if the public utility acquires renewable natural gas by producing it, the levelized cost of production reasonably expected by the public utility does not exceed the maximum amount, determined in accordance with section 9, in effect in the fiscal year in which the public utility decides to construct or purchase the production facility,
>
> and
>
> (b) that, in a calendar year, does not exceed 15% of the total amount, in GJ, of natural gas provided by the public utility to its non-bypass customers in 2019, subject to subsection (3.9) and section 10.

As FEI is acquiring RNG under the SHELL BPA by purchasing it, section 2(3.8)(a)(i) applies. As the SHELL BPA is signed in the 2021/2022 fiscal year, section 9 of the GGRR indicates that the applicable maximum price is $31 per GJ. The SHELL BPA price is below this maximum.

Section 10 of the GGRR, as amended, states that FEI's aggregate acquisitions of RNG, hydrogen, synthesis gas or lignin must not exceed 15% of the total amount of natural gas, in GJ, provided by the public utility to its non-bypass customers in 2019. FEI has not yet acquired any hydrogen, synthesis gas or lignin.

Neither the contractual maximum nor expected volumes from FEI's portfolio of BPAs will exceed 15% of the total amount, in GJ, of natural gas provided by the public utility to its non-bypass customers in 2019, per the amended GGRR. The maximum volume under the amended GGRR is approximately 30.079 PJs.

The following table sets out the Contractual Maximum Volumes as well as the expected annual volumes from FEI's approved and pending BPAs.

Project	Maximum Contractual Volume (GJ)	Expected Volume (GJ)
Fraser Valley Biogas Ltd.	[redacted]	[redacted]
Columbia Shuswap Regional District (Salmon Arm Landfill)	[redacted]	[redacted]
City of Kelowna (Glenmore Landfill)	[redacted]	[redacted]
Seabreeze Farm Ltd.	[redacted]	[redacted]
GVSDD (Metro Vancouver) - 2012 Agreement	[redacted]	[redacted]
City of Surrey	[redacted]	[redacted]
City of Vancouver	[redacted]	[redacted]
REN Energy International Corp.	[redacted]	[redacted]
Dicklands Farms Partnership	[redacted]	[redacted]
Quadrogen Power Systems Inc.	[redacted]	[redacted]
Matter Global Solutions BC Ltd.	[redacted]	[redacted]
Tidal Energy Marketing Inc. (Niagara BPA)	[redacted]	[redacted]
Tidal Energy Marketing Inc. (London BPA)	[redacted]	[redacted]
Tidal Energy Marketing Inc. (GSE BPA)	[redacted]	[redacted]
Faromor CNG Corp.	[redacted]	[redacted]
Bradam Canada Inc. (Hamilton)	[redacted]	[redacted]
Bradam Canada Inc. (Napanee)	[redacted]	[redacted]
Lethbridge Biogas LP	[redacted]	[redacted]
EPCOR RNG Limited Partnership	[redacted]	[redacted]
Walker RNG Inc.	[redacted]	[redacted]
GVSDD (Metro Vancouver) Amending Agreement 3	[redacted]	[redacted]
Capital Regional District	[redacted]	[redacted]
SHELL Energy North America Canada Inc.	[redacted]	[redacted]
Total [5, 6]	[redacted]	[redacted]

[5] Note that on the original application volumes from an executed agreement with Regional District of Fraser Fort George were included this represented a maximum contractual volume of 103,500 and an expected volume of

In the event that FEI were to acquire RNG in a calendar in an amount in excess of the maximum set out by section 2(3.8) (b) of the GGRR, FEI could seek to sell the excess RNG to other markets at the full cost of the RNG so that it would not count towards the maximum volume amount. Section 2(3.9) of the GGRR states that the maximum volume "does not include renewable natural gas acquired by the public utility that the public utility provides to a customer in accordance with a rate under which the full cost of the following is recovered from the customer: (a) the acquisition of the renewable natural gas; (b) the service related to the provision of the renewable natural gas."

f. Any other contractual documents associated with the BPA.

There are currently no other contractual documents associated with the SHELL BPA.

FEI is currently working with SHELL to amend the BPA regarding the May 31 condition date and will file this amendment as soon as it is available. However, the amending agreement will provide a termination right if the May 31 condition date in SHELL's agreement with the upstream seller passes. Therefore, FEI is still seeking acceptance of the SHELL BPA, as amended, no later than May 31, 2021.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachments

cc (email only): Registered Parties

90,000 GJ. This project was not filed with the commission as originally expected and therefore has been removed from the forecast.

[6] Volumes for project where FEI is contracting raw biogas have been calculated into the equivalent finished biomethane volumes.