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April 16, 2013

British Columbia Utilities Commission
Sixth Floor
900 Howe Street
Vancouver, B.C.
V6Z 2N3

Attention: Ms. Erica M. Hamilton, Commission Secretary

Dear Ms. Hamilton:

Re: FortisBC Energy Inc. ("FEI")

Biomethane Third Party Suppliers – Application for Approval of Third-Party Suppliers' Rates and Acceptance of FEI Biomethane Supply Agreements with Third-Party Suppliers and FEI Capital Expenditures for Related Interconnection Facilities (the "Application")

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

In accordance with Commission Order No. G-46-13 setting out the Revised Regulatory Timetable for the review of the Application, FEI respectfully submits the attached response to BCUC IR No. 1.

If there are any questions regarding the attached, please contact Shawn Hill at (604) 592-7840.

Yours very truly,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachment

cc (e-mail only): Registered Parties



FortisBC Energy Inc. ("FEI" or the "Company") Biomethane Third-Party Suppliers Regulatory Process for Approval of Third-Party Suppliers' Rates and Acceptance of FEI Biomethane Supply Agreements with Third-Party Suppliers and FEI Capital Expenditures for Related Interconnection Facilities Project	Submission Date: April 16, 2013
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1 **1.0 Reference: Exhibit B1-1, Section 5.4, pp. 74-75**

2 **Fully allocated costs of the interconnection facilities**

3 "The ongoing operating and maintenance costs for the interconnection facilities are
4 expected to be approximately \$10 thousand per supply point. This means that once the
5 first three supply points are providing Biomethane (expected at the end of 2013), the
6 forecast O&M for interconnection facilities will be approximately \$30 thousand annually.
7 The costs in any given year will be dependent on the required activity, but would follow
8 general inflation rates in the future.

9 The operating budget for interconnection facilities includes odourant costs, station and
10 meter set inspection and repairs, H₂S analyzer and gas chromatograph maintenance
11 and gas quality testing." (Exhibit B-1, pp. 74-75)

12 1.1 Please provide a breakdown of the \$10,000/year by activity (odourant costs,
13 station and meter set inspection and repairs, H₂S analyzer and gas
14 chromatograph maintenance and gas quality testing).
15

16 **Response:**

17 The costs are broken down in the table below. The estimated costs for each major component
18 include the estimated inspection and maintenance costs including labour and consumables:

Item	Estimated Annual Cost	Comment
Bypass Odorizer	\$1,260	Includes level measurement, filling, odorant and testing
Meter Set	\$2,630	Includes: Telemetry inspection, repairs, regular inspection of valves and regulators, filter inspection
H ₂ S and Gas Chromatograph	\$4,870	Includes: Calibration, maintenance, inspections, gas, site visits by GC representative, consumable gases
Overhead & Administrative Allocation	\$1,000	
Total	\$9,760	

19
20 FEI has rounded this number to \$10,000 for the purposes of estimating maintenance costs for
21 future projects.

22
23



FortisBC Energy Inc. ("FEI" or the "Company") Biomethane Third-Party Suppliers Regulatory Process for Approval of Third-Party Suppliers' Rates and Acceptance of FEI Biomethane Supply Agreements with Third-Party Suppliers and FEI Capital Expenditures for Related Interconnection Facilities Project	Submission Date: April 16, 2013
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1 1.2 Please explain how the estimated O&M cost of \$10,000/year was derived.

2

3 **Response:**

4 FEI derived the O&M estimates according to its current methods for estimating station O&M. It
5 primarily consists of identifying items and estimating the time and materials required for those
6 items. More specifically:

- 7 1. Each major component on the station was identified (for example a regulator or the gas
8 chromatograph "GC")
- 9 2. An estimate was made on the required labour to inspect and/or maintain that component
10 based on manufacturer recommendations and FEI experience. For example, in the case
11 of the regulators, FEI inspects them twice per year. The cost associated with this is
12 based on FEI experience at its existing gate stations. In the case of the GC, there are
13 also consumable costs such as carrier gas and calibration gas.
- 14 3. Certain costs were prorated based on the maintenance frequency (e.g. a \$900
15 maintenance item required every three years was estimated as \$300 per year).
- 16 4. These costs were totaled.

17

18

19 1.3 Please compare the FEI delivery rate increases from 2003 -2012 to the general
20 rate of inflation for the same time period.

21

22 **Response:**

23 The following table shows the FEI delivery rate increases and the BC – CPI inflation rate from
24 2004 through to forecast 2013.



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Year	CPI - BC	Delivery Margin % Change ¹
2004	2.4%	5%
2005	2.4%	-2%
2006	2.2%	3%
2007	2.1%	-3%
2008	2.5%	0%
2009	2.4%	5%
2010	1.3%	7%
2011	2.1%	1%
Forecast 2012	2.5%	7%
Forecast 2013	2.5%	6%

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1. Includes delivery rate riders change

1.4 Please explain why O&M costs expected to increase at the rate of inflation.

Response:

FEI used inflation as a proxy to forecast future O&M costs that consists primarily of labor. It is anticipated that O&M costs over the long term would generally trend with inflation. The O&M costs are a small component of the total cost of service for interconnection cost of service, the primary cost component is depreciation (which is not inflation related) and earned return (return on rate base). There are many factors that impact and cause rate changes, and O&M is only one of them. In this case, due to the relatively small O&M amount for all three projects being reviewed (Sea Breeze Farms, Earth Renu and Dicklands Farm), the O&M would have a negligible impact on customers' rates. Therefore, the information provided in the response to BCUC IR 1.1.3 cannot be used as an indication of the correlation between O&M and inflation, as the delivery rates are not indicative of changes in O&M.

1.5 Please describe the maintenance activities performed on the distribution main.



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1 **Response:**

2 The distribution main will be treated the same as any portion of main in the FEI system. It will be
3 subject to leak surveys, vegetation control (if required) and repair and/or replacement at the end
4 of its useful life.

5
6

7 1.5.1 Have these costs been included in the estimate of annual O&M expenses
8 for the interconnection facilities?
9

10 **Response:**

11 FEI did include the annual mains O&M expense, however, these costs are negligible. Therefore,
12 these costs are not shown as a separate item in the O&M expenses for each station.

13
14

15 1.5.2 If the answer to the previous question is "no", then what are the additional
16 annual expenses related to the operation and maintenance of the
17 distribution main extension?
18

19 **Response:**

20 Please refer to the response to BCUC IR 1.1.5.1.

21
22

23 1.6 Please provide a table showing the gross and net plant in service balances,
24 reflecting capital additions, capitalized overhead, and depreciation, as related to
25 the aggregate of the interconnection facilities for the Earth Renu, Seabreeze and
26 Dicklands Farm projects, for each year over a ten-year period.
27

28 **Response:**

29 The following table provides by plant asset account the aggregate costs for Seabreeze, Earth
30 Renu and Dicklands Farm Gross Plant in Service, Accumulated Depreciation and Net Plant in
31 Service for the years 2013 through 2022. Amounts shown are in thousands.



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FORTISBC ENERGY INC.
 BIOMETHANE - INTERCONNECTION RATE
 BASE & COST OF SERVICE
 SEABREEZE, EARTH RENU & DICKLANDS
 FARM PROJECTS

Particulars	Forecast 2013	Forecast 2014	Forecast 2015	Forecast 2016	Forecast 2017	Forecast 2018	Forecast 2019	Forecast 2020	Forecast 2021	Forecast 2022
Structures & Improvements										
Gross Plant Ending Balance	84	269	269	269	269	269	269	269	269	269
Accumulated Depreciation Ending Balance	(2)	(8)	(18)	(28)	(38)	(48)	(58)	(68)	(78)	(88)
Net Plant	<u>82</u>	<u>261</u>	<u>251</u>	<u>241</u>	<u>231</u>	<u>221</u>	<u>211</u>	<u>201</u>	<u>191</u>	<u>181</u>
Mains										
Gross Plant Ending Balance	625	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186
Accumulated Depreciation Ending Balance	(6)	(23)	(45)	(67)	(89)	(111)	(133)	(155)	(177)	(199)
Net Plant	<u>619</u>	<u>1,163</u>	<u>1,141</u>	<u>1,119</u>	<u>1,097</u>	<u>1,075</u>	<u>1,053</u>	<u>1,031</u>	<u>1,009</u>	<u>987</u>
Measuring & Regulating Equipment										
Gross Plant Ending Balance	505	1,593	1,593	1,593	1,593	1,593	1,593	1,593	1,593	1,593
Accumulated Depreciation Ending Balance	(14)	(74)	(165)	(256)	(347)	(438)	(529)	(620)	(711)	(802)
Net Plant	<u>491</u>	<u>1,519</u>	<u>1,428</u>	<u>1,337</u>	<u>1,246</u>	<u>1,155</u>	<u>1,064</u>	<u>973</u>	<u>882</u>	<u>791</u>
Meters										
Gross Plant Ending Balance	9	28	28	28	28	28	28	28	28	28
Accumulated Depreciation Ending Balance	-	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Net Plant	<u>9</u>	<u>27</u>	<u>26</u>	<u>25</u>	<u>24</u>	<u>23</u>	<u>22</u>	<u>21</u>	<u>20</u>	<u>19</u>
Overhead Capitalized										
Gross Plant Ending Balance	-	1	5	9	14	19	24	29	34	39
Accumulated Depreciation Ending Balance	-	-	-	-	-	-	(1)	(2)	(3)	(4)
Net Plant	<u>-</u>	<u>1</u>	<u>5</u>	<u>9</u>	<u>14</u>	<u>19</u>	<u>23</u>	<u>27</u>	<u>31</u>	<u>35</u>
Total Gas Plant										
Gross Plant Ending Balance	1,223	3,077	3,081	3,085	3,090	3,095	3,100	3,105	3,110	3,115
Accumulated Depreciation Ending Balance	(22)	(106)	(230)	(354)	(478)	(602)	(727)	(852)	(977)	(1,102)
Net Plant	<u>\$ 1,201</u>	<u>\$ 2,971</u>	<u>\$ 2,851</u>	<u>\$ 2,731</u>	<u>\$ 2,612</u>	<u>\$ 2,493</u>	<u>\$ 2,373</u>	<u>\$ 2,253</u>	<u>\$ 2,133</u>	<u>\$ 2,013</u>

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1.7 Please provide schedules showing the forecast, actual and variance (forecast-actual) for the capital cost of each of the interconnection facilities in Table 5-7.

Response:

8 The following table provides the actual cost for Fraser Valley Biogas. The Salmon Arm Landfill
 9 is expected to be closed to plant in April, 2013 and the capital costs are not expected to be
 10 materially different from what was filed in the PIR report (Table 5-7). The Kelowna Landfill is



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1 still work in progress, consequently there are no actual costs for this project and the costs are
 2 not expected to be different from what was filed in Table 5-7.

Particulars	\$000's		
	FEU 2012- 2013 RRA Forecast ¹	Actual	Variance
Fraser Valley Biogas			
Mains	86.4	73.0	13.4
Measuring & Regulating			
Odourizer, Gas Analyzer et al	<u>501.3</u>	<u>431.0</u>	<u>70.3</u>
Total	<u>587.7</u>	<u>504.0</u>	<u>83.7</u>
Salmon Arm Landfill ²			
Mains	33.7	34.0	(0.3)
Measuring & Regulating			
Odourizer, Gas Analyzer et al	<u>648.9</u>	<u>475.0</u>	<u>173.9</u>
Total	<u>682.6</u>	<u>509.0</u>	<u>173.6</u>

FEU 2012 - 2013 Revenue Requirements and Rates Application, Volume 2,

1 Appendix J, Table J-1, Column: Projected Until December 31, 2011

2 Salmon Arm Landfill is anticipated to be closed to plant in April, 2013.

3
 4 The variance in the Fraser Valley Biogas project was primarily a result of over-estimates for the
 5 required monitoring equipment (gas chromatograph, H₂S monitor). In addition, there was some
 6 unexpected efficiency in the design and fabrication process that led to lower costs.

7 The initial Salmon Arm interconnection station cost was estimated in advance of the
 8 construction of the Fraser Valley Biogas Station. It was anticipated that additional gas
 9 monitoring would be added at the time of the estimate. Therefore, the estimate was high. If the
 10 actual costs are compared, it can be seen that the costs of the two stations are relatively close
 11 (within 10%). The primary difference between the actual costs was related to additional
 12 transportation and installation costs of the station.

13

14

15 1.8 Please provide a table showing the fully allocated cost of service - that includes
 16 direct and allocated O&M, an allocation of administration and corporate



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1 overhead, depreciation, property taxes, return on capital, and income tax -
 2 associated with the aggregate of the interconnection facilities for the Earth Renu,
 3 Seabreeze and Dicklands Farm projects, for each year over a ten year period.

4
 5 **Response:**

6 The following table shows the allocated cost of service to the various rate classes for the years
 7 2013 through 2022. The allocation method is the same as that used by FEI in its most recent
 8 rate design application for FEI stand alone. The allocation factors used to allocate the same
 9 type of asset costs and cost of service components are included in the table. The same
 10 allocation weights between classes are used for all years as there is no detailed information for
 11 future years to update the factors for peak day use over the ten-year period. The allocated cost
 12 of service includes in the net O&M expense an allowance for allocated general and
 13 administrative costs as described in the response to BCUC IR 1.1.1. Based on 2013 Rate sales
 14 volumes the unit allocated cost of service is \$0.004 / GJ or approximately an annual cost of 38
 15 cents per year for a residential customer using 95 GJ per year.

Particulars	Classification	Total	Rate 1	Rate 2	Rate 4	Rate 6	Rate 22			
							Non-Bypass	Rate 3/23	Rate 5/25	Rate 7/27
Mains Related - Demand	51.85%	100.00%	51.73%	20.37%	0.00%	0.02%	0.26%	19.50%	8.12%	0.00%
Mains Related - Customer	48.15%	100.00%	90.28%	8.86%	0.00%	0.00%	0.00%	0.76%	0.09%	0.01%
Meters - Customer		100.00%	79.83%	13.42%	0.02%	0.03%	0.08%	5.05%	1.22%	0.35%
Fully Allocated Cost of Service										
	2013	73.0	51.4	10.8	0.0	0.0	0.1	7.6	3.1	0.0
	2014	274.0	192.8	40.6	0.0	0.0	0.4	28.6	11.6	0.0
	2015	412.0	290.0	61.0	0.0	0.0	0.6	43.0	17.4	0.0
	2016	406.0	285.7	60.1	0.0	0.0	0.5	42.3	17.2	0.0
	2017	399.0	280.8	59.1	0.0	0.0	0.5	41.6	16.9	0.0
	2018	393.0	276.6	58.2	0.0	0.0	0.5	41.0	16.6	0.0
	2019	385.0	271.0	57.0	0.0	0.0	0.5	40.1	16.3	0.0
	2020	377.0	265.3	55.9	0.0	0.0	0.5	39.3	15.9	0.0
	2021	370.0	260.4	54.8	0.0	0.0	0.5	38.6	15.6	0.0
	2022	362.0	254.8	53.6	0.0	0.0	0.5	37.7	15.3	0.0
2013 Sales & Transport Volume (TJ) (excl. Bypass, 22A & 22B)			69,816.4	23,331.9	185.2	56.4	11,503.8	24,000.1	14,578.9	5,819.0
2015 Allocated Cost \$ / GJ			\$ 0.004	\$ 0.003	\$ 0.000	\$ 0.001	\$ 0.000	\$ 0.002	\$ 0.001	\$ 0.000
2022 Allocated Cost \$ / GJ			\$ 0.004	\$ 0.002	\$ 0.000	\$ 0.001	\$ 0.000	\$ 0.002	\$ 0.001	\$ 0.000

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1.8.1 What is the levelized cost impact per gigajoule of biomethane delivered over ten years, of the interconnection facilities for the Earth Renu, Seabreeze and Dicklands Farm projects?



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1 **Response:**

2 The levelized cost of service impact of the interconnection facilities for the Earth Renu,
3 Seabreeze and Dicklands Farm projects, per gigajoule of biomethane delivered over 10 years
4 based on the supply volumes of the three proposed projects, is \$2.892 per GJ.

5 The levelized cost of service impact of the interconnection facilities for the Earth Renu,
6 Seabreeze and Dicklands Farm projects to all non-bypass customers, i.e. based on the total
7 non-bypass delivered volumes, is \$0.002 per GJ.

8



FortisBC Energy Inc. ("FEI" or the "Company") Biomethane Third-Party Suppliers Regulatory Process for Approval of Third-Party Suppliers' Rates and Acceptance of FEI Biomethane Supply Agreements with Third-Party Suppliers and FEI Capital Expenditures for Related Interconnection Facilities Project	Submission Date: April 16, 2013
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1 **2.0 Reference: Exhibit B1-1, Section 7.3, Table 7-1, p. 96**

2 **Capital cost of the mains extensions**

3 2.1 Please provide the FortisBC Energy Inc. code of accounts definition of account
4 "475 Mains".

5
6 **Response:**

7 FEI follows the Uniform System of Accounts and for account 475 Mains the following describes
8 the type of costs that are charged to this account.

9 *"This account shall include the cost installed of distribution system mains from the*
10 *transmission line to the customer service line.*

11 *Components:*

12 *Cathodic protection equipment,*

13 *Clearing and grading,*

14 *Damages to property of others,*

15 *Drips,*

16 *Permits,*

17 *Pipe,*

18 *Pipe coating,*

19 *Pipe fittings,*

20 *Excavation, including shoring, bracing, bridging, pumping, backfill and disposal of*
21 *excess excavated material,*

22 *Municipal inspection,*

23 *Pavement disturbed, including cutting and replacing pavement, pavement base and*
24 *sidewalks,*

25 *Pipe laying,*

26 *Pipe supports,*

27 *Protection of street openings,*

28 *Surveying,*

29 *Valves (including manholes or pits) not associated with pumping or regulating*
30 *equipment.*

31 *Note – The cost of re-opening the trench and backfilling subsequent to original*
32 *construction, for the purpose of applying the original protection and casing, shall be*
33 *charged to this account."*

34

35 Please refer to Attachment 2.1 for FEI's more detailed description/definition of account "475
36 Mains".



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2.2 Please provide a table comparing the estimated capital cost per meter, of the mains extensions required for each of the Earth Renu, Seabreeze and Dicklands Farm projects with the cost per meter incurred in the FV Biogas, Salmon Arm Landfill and Kelowna Landfill projects. Provide a reason for any significant differences between projects.

Response:

The following table shows the Mains capital cost, length and unit cost per meter. Below the table is an explanation for the variation in the cost for the 6 supply projects.

	Fraser Valley Biogas	Salmon Arm Landfill	Kelowna Landfill	Seabreeze Farm	Earth Renu	Dicklands Farm
Capital Cost \$ 000's	\$ 73	\$ 34	\$ 452	\$ 607	\$ 151	\$ 394
Length (m)	650	700	4000	1600	400	1200
Cost/Meter \$	\$ 112	\$ 49	\$ 113	\$ 379	\$ 378	\$ 328

The primary differences are summarized below for each of the new projects:

- Fraser Valley Biogas and Kelowna Landfill: The installation of the pipeline is being done in similar conditions (rural road, primarily in the shoulder) and the piping material is the same and of similar size.
- Salmon Arm Landfill: The Salmon Arm installation costs were lower than the Fraser Valley Biogas and Kelowna Landfill projects due to the fact that almost all trenching and digging occurred on the landfill property in dirt along an unobstructed path.
- Seabreeze Farm: At this location, FEI is connecting to the intermediate pressure system which operates at a higher pressure and is constructed with steel pipe. Compared to the Fraser Valley Biogas and Kelowna Landfill projects, there is a higher cost associated with the installation of steel pipe (rather the PE) at a higher pressure and some additional costs associated with pavement cutting and repair.
- Earth Renu: At this location (Annacis Island), all of the installed system operates on steel pipe at a higher pressure to better serve the relatively large load. Compared to the Fraser Valley Biogas and Kelowna Landfill projects, there is a higher cost associated with the installation of steel pipe (rather than PE) at a higher pressure. The additional



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1 cost associated with pavement cutting and repair is also higher due to the urban
2 location.

- 3 • Dicklands: Compared to the Fraser Valley Biogas and Kelowna Landfill projects, there is
4 a higher cost associated with the installation of piping that requires crossing residential
5 driveways (cut and re-pave).
6

7 Both the Fraser Valley Biogas and the Salmon Arm project ultimately came in below their
8 respective original estimates. For all projects, FEI will make every effort to minimize the costs of
9 the main installation while remaining safe and adhering to pipeline construction standards.

10

Attachment 2.1

DISTRIBUTION SUB-PRODUCT DESCRIPTION

CORE PROCESS:	ORDER FULFILLMENT
PRODUCT:	Mains
SUB-PRODUCT:	Mains New
COST CENTER:	2805
MAT TYPE:	DP - New Mains (MND)
SAP ORDER TYPE:	ZF10

PM ACTIVITY TYPE:	MND DP New Mains
UNIT OF MEASURE:	Metres of Pipe

DESCRIPTION:

Costs incurred in connection with:

- Revenue gas main extensions
- Main extensions to serve new customers or where we introduce a higher or lower pressure system than exists to meet the customer's requirements
- Temporary and permanent repairs to pavement disturbed during new revenue gas main extension installations
- Repairs to water or sewer lines damaged during the main installations and repaired at that time.
- Transfer of existing gas services from the old main to the new main are also charged here regardless of footage of pipe used between mains
- Includes relight of appliances and any house piping to reconnect changed meter location.
- All "Contributions in aid of Construction" made in connection with Revenue Main Extensions.

Examples of Components:

- Travel to job
- Cost of all permits
- Cathodic protection equipment
- Damages to property of others
- Excavating, including shoring and protection of street openings, bracing, bridging, pumping, backfill and disposal of excess excavated materials.
- Municipal inspection ; Surveying
- Pavement disturbed, including cutting and replacing pavement, pavement base and sidewalks
- Pipe; pipe coating; pipe fittings; pipe laying; pipe supports
- Valves (including manholes or pits) not associated with pumping or regulating equipment

NOTE: Subsequent to original construction, all costs applying the original protection and casing should be charged here.

BUSINESS RULES:

- Requires Main Extension Review (MX Test), and System Planning Approval