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July 6, 2016

B.C. Sustainable Energy Association
c/o William J. Andrews, Barrister & Solicitor
1958 Parkside Lane
North Vancouver, B.C.
V7G 1X5

Attention: Mr. William J. Andrews

Dear Mr. Andrews:

Re: FortisBC Inc. (FBC)
Project No. 3698875
Application for the Net Metering Program Tariff Update (the Application)
Response to the B.C. Sustainable Energy Association and Sierra Club of British Columbia (BCSEA) Information Request (IR) No. 1

On April 15, 2016, FBC filed the Application referenced above. In accordance with Commission Order G-94-16 setting out the Amended Regulatory Timetable for the review of the Application, FBC respectfully submits the attached response to BCSEA IR No. 1.

If further information is required, please contact Corey Sinclair, Manager, Regulatory Services at 250-469-8038.

Sincerely,

FORTISBC INC.

Original signed:

Diane Roy

Attachments

cc: Commission Secretary
Registered Parties



FortisBC Inc. (FBC or the Company) Net Metering (NM) Program Tariff Update Application (the Application)	Submission Date: July 6, 2016
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1 **1.0 Topic: Net metering program background**

2 **Reference: Exhibit B-1, Application, p.3**

3 “Key features of the Program currently are that it: ...

4 * Operates in parallel with the Company's transmission or distribution facilities”

5 1.1 What does the quoted phrase mean?

6

7 **Response:**

8 The Customer's generation source and FBC's distribution system are continuously
9 interconnected. The Customer's electrical consumption will be supplied both from their
10 generation source and from FBC's distribution as needed, without the need to switch between
11 sources.

12

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1 **2.0 Topic:**

2 **Reference: Exhibit B-1, Application, p.4**

3 “As of March 31, 2016, FBC had 86 customers enrolled in the Program, 22 of which are
 4 served on Commercial rate schedules with the balance served on a Residential Rate. As
 5 not all customers have been on the program for a full year, the Company cannot
 6 determine with certainty the number of customers that will have a positive NEG balance
 7 after a 12 month period however a review of the accounts suggests that 6-8 Program
 8 participants may be in this position.” [underline added]

9 2.1 What is the nameplate capacity of the generation facilities operated by the 6-8
 10 program participants who will have a positive NEG balance after a 12 month
 11 period?

12
 13 **Response:**

14 Please find below the nameplate capacities for the 8 installations with the highest likelihood of
 15 having unused annual net excess generation.

Capacity (kW)	
1	12
2	10
3	8
4	1
5	20.5
6	12
7	9
8	6

16
 17

18
 19 2.2 What is the estimated amount of positive NEG (i.e., in kWh) for the 6-8 program
 20 participants who will have a positive NEG balance after a 12 month period? What
 21 is the dollar amount? What is the effective average price?

22
 23 **Response:**

24 In the analysis completed for Order G-59-16, there were 9 customers who, over the 36 months,
 25 had NEG that would have been purchased by the Company. These customers had a total of
 26 approximately 518,000 kWh of NEG over that period. Under the current billing methodology, the
 27 value of NEG is derived from the net kWh that would have been credited at either the Tier 1 or
 28 Tier 2 rate. Over the 36 months, these net kWh would have a value of approximately \$68,000



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1 for an average value of \$0.13/kWh. Under the proposed billing methodology, the value of NEG
2 is derived from the net kWh that would have been used to offset consumption at either the Tier
3 1 or Tier 2 rate plus the value of any kWh purchased at the end of the billing year. In this case,
4 the value of the annual excess NEG purchased at the end of the billing year is approximately
5 \$24,400 for an average value of approximately \$0.047 / kWh.

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1 **3.0 Topic: Program intention**

2 **Reference: Exhibit B-1, Application**

3 “The Program was designed with the intent that a customer’s generation should be sized
4 to meet no more than its electricity consumption.”

5 3.1 Does FortisBC agree that a customer considering installing generation for net
6 metering could reasonably interpret this statement to mean that the generation
7 would be consistent with the program intention if it is sized to meet the
8 customer’s daily peak load? If not, why not?
9

10 **Response:**

11 FBC works with customers that are considering the installation of a net metering system at the
12 design stage and the meaning of the eligibility requirements is discussed at an early point in the
13 decision making process. Therefore, FBC does not consider the scenario described in the
14 question to be likely. The referenced statement from the Application does not appear in the Net
15 Metering tariff pages and it is unlikely a customer will review the Current Application while
16 considering the installation of generation. Even if the statement did appear in the tariff, FBC
17 believes that customers do not associate the word consumption with peak load, but with its
18 common usage as a measure of electricity usage over time.

19
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23 “Put another way, the generation capability should be capped at the approximate
24 amount of electricity used annually by the home or business that is served under one of
25 the eligible rates.” [underline added]

26 3.2 Please confirm, or otherwise explain, that the FortisBC net metering program
27 does have a generator size cap and the cap is 50 kW.
28

29 **Response:**

30 The 50 kW cap is clearly identified in the RS95 tariff as applying to the maximum installed
31 generating capacity of the net metering system.

32 For clarity, the 50kW cap stated in the Eligibility section of the Tariff applies to the installed
33 capacity of the system as is plainly stated in RS95, and within this maximum installed capacity,
34 the Program only permits the installation of generation sized to offset some or all of a
35 customer’s annual consumption.



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1 As described in the Application at Section 4, the Company has been clear in previous regulatory
2 processes that this was the intent of the Program and the Company has historically used this
3 criterion when working with customers considering an installation.

4 However, the Company has recognized that the intent that has been articulated, and the
5 practice of FBC historically needs to be clearer in the RS95 tariff pages. This is the reason for
6 the proposed tariff amendments.

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11 “The Company is not proposing to change the treatment of NEG with respect to the
12 incidental amount of NEG that the program was originally intended to accommodate.
13 Rather, the Company is seeking to clarify the primary purpose of the Program as it has
14 always existed. That is, installed generation capacity should not be in excess of the
15 customer’s annual requirements.” [underline added]

16 3.3 Please confirm, or otherwise explain, that the history of the program could also
17 support an interpretation the intention was that installed generation capacity
18 should not be (or would not be) in excess of the customer’s daily peak
19 requirements.
20

21 **Response:**

22 The Company does not confirm for the reasons stated in the response to BCSEA IR 1.3.2.
23
24

25
26

27 FortisBC quotes its 2009 Net Metering Application: “A successful Net Metering Program
28 will promote distributed renewable generation, and allow customers to take responsibility
29 for their own power production, and to reduce their environmental impact.” [p.6,
30 underline in the original]

31 FortisBC further quotes its 2009 Net Metering Application: “It is the overriding intent of
32 the program that customers gain the ability to offset their own consumption with a clean
33 and renewable resource. It is not the intent of the program to provide a means for larger
34 scale Independent Power Producers (“IPP”) to bring their output to the market.” [p.6,
35 underline in the original]



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1 3.4 Please confirm, or otherwise explain, that a customer who wants to take
2 responsibility for their own power production and to offset their own consumption
3 with a clean and renewable resource could reasonably choose to install
4 generation sized to meet their daily peak requirements.

5
6 **Response:**

7 The Company does not confirm for the reasons stated in the response to BCSEA IR 1.3.2.

8
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11
12 FortisBC further quotes its 2009 Net Metering Application: “The subject of the compensation for
13 NEG tends to garner an amount of attention that is not commensurate with its overall impact on
14 a Net Metering Program. Given that a Customer-Generator must comply with the Program intent
15 that generation is intended only to offset consumption, the likely magnitude of any NEG should
16 be small.” [p.6, underline in the original]

17
18 3.5 Please provide an estimate based on reasonable assumptions of the magnitude
19 of the annual net energy generation of a typical RCR customer and a typical
20 Commercial customer who (a) had a generation unit sized to meet the
21 customer’s daily peak requirements and (b) had a generation unit with 50 kW
22 nameplate capacity.

23
24 **Response:**

25 Estimates are based on fixed photovoltaic, as that is the most common generating source in the
26 Program today. As Commercial services vary widely, both estimates below are for Residential
27 customers.

28 a. For a Residential Customer with a daily peak of 11kW and annual consumption of
29 12,100kWh:

30 Based on Canadian photovoltaic insolation maps, it is expected that a typical 11kW
31 system in this service territory would generate approximately 12,100kWh/year. No
32 annual Net Energy Generation would be expected.

33 b. Based on Canadian photovoltaic insolation maps, it is expected that a typical 50 kW
34 system in this service territory would generate approximately 55,000kWh/year. For a
35 residential customer using 12,100kWh/year, this would result in Net Energy Generation
36 of approximately 42,900kWh/year. In this scenario, a 50kW system would not be eligible
37 for the net metering program.



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1 **4.0 Topic: Distributed generation**

2 **Reference: Exhibit B-1, Application**

3 “For parties that wish to connect generation in excess of the size allowable under the
4 Program, FBC permits the interconnection of customer-owned generation with capacities
5 of 50 kW and greater utilizing existing interconnection standards, and will typically
6 compensate for the power delivered by such installations at the same rate proposed for
7 net-metering NEG. FBC does not therefor have any capacity related gaps in
8 opportunities for self-generators to connect to the FBC system.” [pp.6-7, [underline
9 added]

10 4.1 Please confirm, or otherwise explain, that for FBC not to have any capacity
11 related gaps in opportunities for self-generators to connect to the FBC system it
12 is necessary the net metering customers with generation up to 50 kW be allowed
13 to sell self-generated power to FBC.

14 **Response:**

15 Not confirmed. A customer can interconnect customer-owned generation of any size to the FBC
16 system provided that the appropriate interconnection standards are adhered to. This was the
17 case prior to the Net Metering Program even being in existence and the approval of the Net
18 Metering Program has not changed this fact.

19 For clarity, a customer can install generation of any size and interconnect with the FBC system
20 provided that all the appropriate interconnection standards are adhered to. However, customers
21 are only eligible for the Net Metering Program if the installed capacity is less than or equal to
22 50kW and the installation is designed to generate only enough energy to offset the expected
23 annual consumption of the associated load.

24 Acceptance of the customer in the Net Metering Program creates an obligation on the part of
25 FBC to purchase the NEG of the customer.

26 FBC has no such obligation, and should not, to purchase the output of a customer’s generation
27 that was installed with the intent of generating power for sale to the utility. The Company may
28 enter into discussions to purchase such output but is not forced to. There is a fundamental
29 difference between a customer that installs generation to offset consumption, and a party that
30 installs generation for the purpose of sale – which is essentially IPP power.

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34 4.2 What plans does FBC have for supporting small distributed renewable generation
35 as part of its supply portfolio?
36



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- 1
- 2 **Response:**
- 3 Outside of the continuation of the Net Metering Program through which FBC already provides
- 4 such support, the Company is currently exploring the installation of a very small solar generation
- 5 pilot installation with plans to test whether customers are willing to pay an incremental amount
- 6 to support this type of generation.

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1 **5.0 Topic: Program criteria**

2 **Reference: Exhibit B-1, Application, p.8**

3 “The changes required to RS 95 are minimal and are intended to clarify that the Program
4 does not allow a customer to systematically generate a surplus. An insertion is proposed
5 to the DEFINITIONS as follows,

6 **“Net Metered System** - A facility for the production of electric energy that: e) is
7 intended **only** to offset part or all of the Customer-Generator’s requirements for
8 electricity on **an annual basis. The program is not intended for customers**
9 **who generate electricity in excess of their annual requirements.**

10 In addition, the Eligibility criteria are updated in a similar manner.

11 ELIGIBILITY: To be eligible to participate in the Net Metering Program,
12 customers must generate a portion or all of their own retail electricity
13 requirements using a renewable energy source. The generation equipment must
14 be located on the customer’s premises, service only the customer’s premises
15 and must be intended **only** to offset a portion or all of the customer’s
16 requirements for electricity **on an annual basis. The program is not intended**
17 **for customers who generate electricity in excess of their annual**
18 **requirements.** [underline in the original]

19 5.1 Please confirm, or otherwise explain, that there are two main elements to this
20 aspect of the application:

21
22 **Response:**

23 Both the generator size restriction and the annual production limitation criteria of the Net
24 Metering Program are currently in place. The Application seeks to ensure these criteria are
25 more clearly and explicitly included in the language of the tariff.

26
27

28
29 5.1.1 that generator size in relation to energy consumption is introduced as a
30 criterion for net metering program eligibility in addition to the 50 kW cap,
31 and

32
33 **Response:**

34 Please refer to the response to BCSEA IR 1.5.1.



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5.1.2 that the meaning of ‘meeting a portion or all of a customer’s requirements for electricity’ is changed from not specifying if this is on a daily peak basis or an annual energy basis to defining it as being on an annual energy basis.

Response:

Please refer to the response to BCSEA IR 1.5.1.

5.2 The proposed language states that “The program is not intended for customers who generate electricity in excess of their annual requirements.” Does this wording exceed FBC’s intention? For example, FBC says that some 6-8 program participants will likely have positive annual net energy generation [p.4]. Is it FBC’s intention that such customers would not be allowed to participate in the net metering program at all?

Response:

The language does not exceed FBC’s intention. Customers that install generation that is reasonably intended to offset only a portion or all of annual consumption, but that have periodic and/or minimal annual unused excess generation would continue to meet the eligibility criteria of the Program. Customers that have persistent annual NEG may no longer meet the eligibility criteria for the Program and be removed. This reality has not been impacted by the wording additions proposed in the Application and does not constitute a change. FBC is not proposing any changes to the eligibility criteria currently contained in the program, and is only requesting changes to the current billing interpretation and treatment of NEG through the use of a kWh Bank.

5.3 Please confirm, or otherwise explain, that these proposed changes are not “minimal” to existing or potential net metering customers who want to offset a portion or all of their electricity requirements on a daily peak basis.



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1 **Response:**

2 Not confirmed. As explained in the response to BCSEA IR 1.5.2, these are not changes and do
3 not impact the treatment of current or potential Program participants.

4

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1 **6.0 Topic: Size of generation**

2 **Reference: Exhibit B-1, Application, p.10**

3 “It is recognized that if the intent of the program is adhered to, and customers enrolled in
4 the Program have generation sized only to meet the approximate load of the premises,
5 the compensation rate will have only a minor financial impact to other customers since
6 any amount of NEG should be small.”

7 6.1 What is FBC’s definition of “generation sized only to meet the approximate load
8 of the premises”?

9
10 **Response:**

11 “Generation sized only to meet the approximate load of the premises” is that which reflects the
12 intent of the Program - which is to allow customers only to offset a portion or all of the
13 customer’s requirements for electricity on an annual basis as measured in kWh.

14
15

16
17 6.2 Is “the approximate load of the premises” defined on a daily peak energy basis, a
18 monthly peak energy basis, a billing period peak energy basis, an annual energy
19 basis, a peak annual energy basis (over what number of years?), or some other
20 basis?

21
22 **Response:**

23 Please refer to the response to BCSEA IR 1.6.1.

24
25

26
27 6.3 Is “the approximate load of the premises” defined on a non-weather normalized
28 basis, or a weather normalized basis?

29
30 **Response:**

31 There is no need to examine expected customer consumption in this level of detail. The
32 process for making a reasonable estimate of annual consumption is described in the response
33 to BCUC IR 1.5.1 and as an approximation and normalizing for weather is not required.

34
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1
2 6.4 Please confirm, or otherwise explain, that the amount and timing of a customer's
3 consumption may vary considerably between one year and another depending of
4 factors such as the number of persons living in the premises, temporary absence
5 from the premises, the addition or removal of electricity consuming devices,
6 energy efficiency measures, and so on.

7
8 **Response:**

9 FBC can confirm that there may be a variation in the consumption level at a premise, both with
10 a single year, and from year to year, as a result of a number of factors. If the amount of any
11 annual NEG were small relative to the estimated consumption, FBC would monitor for continued
12 annual NEG production in subsequent years. If FBC is paying the proposed rate for unused
13 annual NEG, it would likely take no action. The variability of load supports the use of a kWh
14 Bank as a means of carrying forward unused kWhs forward to periods where net-generation is
15 lower the net-consumption.

16
17

18
19 6.5 How does FBC propose that “generation sized only to meet the approximate load
20 of the premises” would be implemented in light of the potential variation in
21 customer load from one year to another?

22
23 **Response:**

24 FBC proposes to determine the permitted size of installed generation based on the process
25 outlined in the response to BCUC IR 1.5.1. Seasonal or annual variations do not pose a
26 concern, and as described in the response to BCUC IR 1.5.1, planned increases in consumption
27 to the addition of electricity consuming devices can be considered at the time.

28

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1 **7.0 Topic: Proposed program changes**

2 **Reference: Exhibit B-1, Application, Section 5.2 Proposed Program Changes,**
3 **p.10**

4 “As a solution, FBC is proposing two changes to the Program. The first is to adopt an
5 NEG carry-forward methodology consistent with that used by BC Hydro and other
6 utilities surveyed across Canada. That is, the use of a kWh bank that alternately carries
7 NEG forward to offset consumption in a future billing period, or applies previously
8 accumulated NEG in a billing period when net consumption exceeds net generation. The
9 second change is, in those situations where a customer under RS95 has a balance in its
10 kWh bank at March 3111, those kW hours will be purchased by the Company at the BC
11 Hydro RS 3808 Tranche 1 rate.” [Exhibit B-1, page 10, underline added]

12 7.1 To summarize, please confirm, or otherwise explain, that FBC is proposing two
13 changes to the net metering program:

14
15 **Response:**

16 Please refer to the responses to BCSEA IRs 1.7.1.1 and 1.7.1.2.

17
18

19
20 7.1.1 FBC proposes a change from a dollar credit to a kWh credit for net
21 excess generation within a billing period.

22
23 **Response:**

24 Confirmed.

25
26

27
28 7.1.2 FBC is proposes a change from annual excess energy being valued at
29 the customer’s own energy rate it would be valued at a rate equal to the
30 FBC’s price for Tier 1 energy from BC Hydro under the Power Purchase
31 Agreement between FBC and BC Hydro (RS 3808).

32
33 **Response:**

34 FBC believes that the basic premise of this statement can be confirmed, but notes that under
35 the current system there is no provision for “annual excess energy”. NEG is dealt with each



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- 1 billing period and therefore for customers on a stepped rate the effective value of the kWhs may
- 2 vary depending on the ratio of power credited by the Company at each pricing tier.
- 3

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1 **8.0 Topic: Bill Calculation Methodology**

2 **Reference: Exhibit B-1, Application, Section 6, Changes to Bill Calculation**
3 **Methodology; Application Appendix B Discussion of Alternative Billing**
4 **Methodologies; Exhibit C6-1; Exhibit C7-1**

5 Some FBC net metering customers on the RIB rate have mentioned an issue regarding
6 bill calculation apparently involving the determination of “net” excess generation within a
7 billing period and the relationship to the threshold between Tier 1 and Tier 2.

8 Also, FBC identifies a net metering bill calculation issue regarding the RCR rate. FBC
9 states: “With the introduction of the RCR, it is possible to treat the net kWh produced or
10 received by the customer in two distinct ways, each of which could represent a
11 conceivable interpretation of the existing Tariff language. The distinction between the
12 two is whether or not the 1,600 kWh threshold in the RCR is applied to the net
13 consumption or generation before or after the two registers are themselves netted.

14 An examination of this issue and the Company’s preferred solution, which is that the
15 threshold in the RCR is applied to the net consumption or generation after the two
16 registers are themselves netted, is contained in Appendix B.” [p.13, underline added]

17 Barbara Fischer states: “Net means net was an issue for my billing and letters to BCUC
18 and Fortis along with telephone conversations has resolved this for me but not my
19 neighbours.” [Exhibit C6-1]

20 Paul McCavour states: “I am currently a FortisBC net metering customer and wish to
21 address the issue of the net metering billing practice used by FortisBC to credit me for
22 my production against my consumption.” [Exhibit C7-1]

23 Mr. McCavour states further: “What follows is an excerpt of my letter to FortisBC
24 outlining my particular complaint:

25 "Pursuant to our phone conversation on April 21st, 2016, I am sending you my
26 official complaint about Fortis BC’s billing practices for net metering customers.
27 As I stated in my phone call, I wish to have my April 18th Fortis Electricity bill
28 (and subsequent bills) re-billed on a net load basis (i.e. consumption minus
29 generation and then applying the two tiers). This billing adjustment has already
30 been made for another Fortis BC customer in the net metering program, Barbara
31 Fischer. Ms. Fischer made the same complaint last year to both FortisBC and to
32 the British Columbia Utilities Commission, and BCUC instructed Fortis to re-bill
33 her account. I feel it is only fair for every net metering customer to be treated the
34 same way.

35 I feel that the current interpretation Fortis BC is making with respect to “net
36 billing” penalizes net metering customers who make every effort to stay within the



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1 first tier rate. For example, on my April 18 bill (attached) Fortis delivered 1,733
2 kWh and received 397 kWh. Subtract 397 from 1,733 and the net equals 1,336,
3 which is well under the threshold of 1,600 kWh. Instead, by not calculating
4 consumption minus generation and applying the two tiers, Fortis charged us the
5 second tier for 133 kWh, and then credited me the amount I produced." [Exhibit
6 C7-1]

7 8.1 Is the net metering bill calculation issue identified by FBC the same as the one
8 referred to by Ms. Fischer and Mr. McCavour? Please explain.
9

10 **Response:**

11 The issue raised by Ms. Fischer and Mr. McCavour relates to the discussion contained in
12 Section 6 of the Application. As explained in the response to BCUC IR 1.10.1, the tariff
13 language concerning the billing of net metering accounts has two possible interpretations. FBC
14 believes that both are correct and that it has been billing customers in accordance with the tariff
15 up to this point.

16 The billing interpretation preferred by FBC is the same as is preferred by Ms. Fischer and Mr.
17 McCavour.

18 Currently, and since the introduction of the RCR, FBC has been billing customers by treating the
19 net-consumption and net-generation essentially as separate transactions for bill calculation
20 purposes.

21 During the preparation of the current Application it became apparent that a single customer
22 complaint was resolved by adopting the proposed billing methodology for that customer. The
23 Complaint was resolved after discussions with the Commission however a ruling was not
24 required. FBC does not believe that it is acceptable that customers within a rate are treated
25 differently and has therefore sought Commission direction with respect to which billing
26 interpretation the Company should apply to all customers billed the stepped rates on a go
27 forward basis.

28
29

30
31 8.2 Mr. McCavour's description of the billing methodology used by FBC which he
32 was complaining about appears to be the 'separate transaction' methodology that
33 is not now FBC's preferred methodology. Please explain. Had FBC been using
34 the 'separate transaction' methodology at some point? What methodology is FBC
35 currently using?
36



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1 **Response:**

2 Please refer to the response to BCSEA IR 1.8.1.

3
4

5

6 8.3 Is FBC currently using the same RCR net metering bill calculation methodology
7 for all customers? If not, in what circumstances are different methodologies
8 used?

9

10 **Response:**

11 Please refer to the response to BCSEA IR 1.8.1.

12
13

14

15 8.4 Was there a complaint to the Commission about this net metering bill calculation
16 issue? If so, please describe the history and outcome, both for the specific
17 complainants and other net metering RIB customers. What was the bill
18 calculation methodology on which the complaint was based? Did the
19 Commission make a ruling on the complaint? Was there a settlement without a
20 Commission ruling? What bill calculation methodology was used in resolution of
21 the complaint? Was this methodology the same or different than the methodology
22 originally used?

23

24 **Response:**

25 Please refer to the response to BCSEA IR 1.8.1.

26
27

28

29 8.5 In FBC's view, has the Commission indicated a preference for one or other of the
30 alternative bill calculation methodologies?

31

32 **Response:**

33 FBC expects to receive a determination from the Commission as to which billing interpretation
34 the Company should use going forward.



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“The billing methodology preferred by FBC (scenario iii) will produce a smaller credit for those customers that have Net Excess Generation over the course of a billing period but will also produce a lower bill for those customers that are net consumers of energy. Since most net metering customers are net consumers, the Company expects most customers to benefit from confirmation that calculating billing after the individual registers are netted is appropriate.” [Appendix B, page 2, pdf p.29 of 45]

8.6 Is it FBC’s understanding that adoption of the ‘application of threshold after netting the registers’ methodology would resolve the concerns (in this respect) of net metering customers such as Ms. Fischer and Mr. McCavour?

Response:

Please refer to the response to BCSEA IR 1.8.1.

8.7 Please describe any feedback FBC has received in support of the ‘separate transaction’ methodology.

Response:

FBC has not received support from any party in support of the currently employed interpretation.

“Once a kWh Bank billing methodology is fully implemented, the billing issue described in this section ceases to be a concern. Until such time as the kWh Bank is in use, or in the event that the Commission does not approve the use of a kWh bank at FBC, the change above is required.” [Appendix B, page 3, pdf p.30 of 45, underline added]

8.8 If not answered above, please explain which of the two RCR net metering bill calculation methodologies FBC is currently using.



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- 1 **Response:**
- 2 Please refer to the response to BCSEA IR 1.8.1.
- 3

1 **9.0 Topic: Net metering customer characteristics**
 2 **Reference: Exhibit B-2, Customer Letters, page 3**

June 8, 2016
 British Columbia Utilities Commission
 FBC Net Metering Program Tariff Update Application
 Order G-59-16, Directives 2 and 3
 Page 3



Rate Code	Description	Number of Accounts	Had NEG During Any Billing Period	Had NEG Eligible for Monetary Compensation	Accounts Better Off	Accounts Worse Off	Accounts No Impact
RS01	Residential RCR	67	24	7	40	12	15
GS20	Small Commercial	15	6	1		1	14
RS03	Residential Exempt	2	0	0			2
GS21	Commercial	2	0	0		2	
T2ARB	Residential TOU	1	1	1		1	
IR60	Irrigation	1	0	0			1
	Total	88	31	9	40	16	32

3
 4 9.1 Please confirm, or otherwise explain, that “Had NEG Eligible for Monetary
 5 Compensation” means an account in which at year end there was a positive
 6 dollar credit (due to net excess generation). What is the date of year end? Is it
 7 the same for all net metering customers?
 8

9 **Response:**

10 Accounts were assumed to have NEG eligible for monetary compensation if there was a
 11 balance of unused kWh remaining in the kWh Bank as at the first billing after the March 31 cut-
 12 off date. This date is consistent for all net metering customers.

13
 14

15
 16 9.2 Please confirm or otherwise explain that the table covers 36 months and three
 17 annual cycles.
 18

19 **Response:**

20 Confirmed.

21
 22

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1
2 9.2.1 Does “Had NEG Eligible for Monetary Compensation” mean at one year
3 end or at all year ends? I.e., does 7 RCR accounts “Had NEG Eligible
4 for Monetary Compensation” mean that there were 7 occasions in which
5 an account had a positive dollar credit at year end, so that this could be
6 7 different accounts, or two accounts that had a positive dollar credit at
7 year end in each of the three years analyzed plus a third account?
8

9 **Response:**

10 An account was considered to have had NEG eligible for monetary compensation if on any of
11 the anniversary dates, in any year, there was a balance in the kWh Bank that would be paid out.
12 This occurred for 7 individual accounts. Some accounts would have received a payout in all
13 years, and some only in one or two years.

14
15

16
17 9.3 Please confirm, or otherwise explain, that an account that “Had NEG Eligible for
18 Monetary Compensation” at year end might or might not be an account in which
19 there was a net excess of generation on an energy basis over the year.
20

21 **Response:**

22 Not confirmed. It is not possible for a customer to have a balance of kWh in the kWh Bank
23 unless over the course of the year net-generation exceeded net-consumption.

24
25

26
27 9.4 If not already provided in Fortis’s response to Commission IR 2.1, for each rate
28 code listed in the table, please provide a breakdown of:
29

30 **Response:**

31 For the 86 customers included in the summary table included in the response to BCUC IR 1.2.1,
32 there are 80 Photovoltaic (PV) installations with an average capacity of 6 kW, 4 micro-hydro
33 installations with an average capacity of 12 kW, 1 wind installation with a capacity of 7 kW, and
34 1 induction installation with a capacity of 12 kW.

35
36



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1
2 9.4.1 the generator type,

3
4 **Response:**

5 Please refer to the response to BCSEA IR 1.9.4.

6
7

8
9 9.4.2 average capacity installed by generator type if available,

10
11 **Response:**

12 Please refer to the response to BCSEA IR 1.9.4.

13
14

15
16 9.4.3 total annual energy (kWh) provided to FBC per Register 2, total annual
17 energy received from FBC per Register 1, and net annual energy
18 provided or received,

19
20 **Response:**

21 In order to respond to Commission directives contained in Order G-59-16, FBC compiled billing
22 information for the past 36 months incorporating part of 2013, 2014, 2015, and a portion of
23 2016.

24 Therefore, annual data is not readily available for all of the years included in the response to
25 BCUC IR 1.2.1, and annual data would not in any case provide for comparable data since
26 customer participation varies in each year. FBC has been able to compile summary data by
27 rate class over the 3 years included in the G-59-16 analysis which is presented below. Give the
28 partial years' participation, FBC has provided average values based on the total billing
29 aggregate period which removed the impact of partial year participation in the following table.



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	Total Energy Delivered to Customers Over 3 Years	Total Energy Received from Customers Over 3 Years	Average Energy Delivered to Customers per Billing Period over 3 Years	Average Energy Received from Customers per Billing Period over 3 Years
RS01	1,224,369	646,697	2,434	1,286
RS03	78,678	4,768	8,742	530
T2ARB	22,420	33,420	1,246	1,857
GS20	819,450	201,119	4,478	1,099
GS21	2,493,552	1,224	40,878	20
IR60	35,600	1,440	5,086	206

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9.4.4 the average price (\$/kWh) of NEG Eligible for Monetary Compensation,

Response:

This information is not available as it cannot be determined for the reasons cited in the response to BCUC IR 1.2.1.

9.4.5 the amount of NEG (kWh) sold to FBC at the end of the annual period or periods.

Response:

This information is not available as the information in the response to BCUC IR 1.2.1 reflects actual payments provided to customers throughout the year which does not relate to a specific number of kWh.

9.5 Please confirm that Accounts Better Off; Accounts Worse Off; Accounts No Impact means accounts that would be better or worse off assuming no change in generation or consumption pattern in FBC's proposed scenario of energy bank



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1 with annual excess energy at March 1 paid at RS 3808 Tier 1 compared to the
2 status quo financial credit model.

3
4 **Response:**

5 Confirmed.

6
7

8
9 9.6 Please explain in more detail the results indicated in the three right-hand
10 columns (Accounts Better Off; Accounts Worse Off; Accounts No Impact):

11
12 **Response:**

13 Responses to this series of questions are contained in the individual sub-question responses.

14
15

16
17 9.6.1 What factors determine whether an account will be Better Off or Worse
18 Off? Is it due solely to the size of any annual net excess generation? If
19 so, is there a breakeven point? If not, what factors are involved?

20
21 **Response:**

22 In the summary, whether an account was determined to be better or worse off depended on a
23 comparison between total projected billing under the current billing methodology and the
24 proposed methodology over the 3 year period.

25 Within a billing period, the determinant of relative bill amounts depends upon the number of
26 kWhs that are either billed or credited at the Tier 2 Rate, which may include a reduction in the
27 Tier 2 kWhs billed due to withdrawals from the kWh Bank.

28 The variance is not due solely to the difference in annual net excess generation. A customer
29 can have NEG during the year but not over the course of a year. This customer can still be
30 better off because of lower bills during the year.

31 There is no single break-even amount.

32
33

1
2 9.6.2 Is it the case that any net metering account with an annual excess
3 generation (in kWh) will be Worse Off under the FBC proposals? If not,
4 please explain the circumstances in which a net metering account with
5 an annual excess generation (in kWh) would be Better Off.
6

7 **Response:**

8 It would not be correct to make the generalization that a customer with annual excess
9 generation will be worse off. Overall customer impact is influenced by the pattern of
10 consumption and generation throughout the year. For residential customers, for example, it is
11 possible for a customer to have net-generation that exceeds net-consumption over an annual
12 period and still be better off under the Company's proposed billing methodology if during the
13 year the pattern of consumption and generation impacted the degree to which kWh's were
14 either billed or credited at the Tier 2 rate. A single billing period with high consumption can
15 cause this.

16 Consider the example below. The customer has an annual unused NEG balance in the kWh
17 Bank at the end of the year, but total billing, inclusive of the kWh Bank payout is lower under the
18 preferred billing methodology.

Billing Period		1		2		3		4		5		6	
		kWh	Dollars	kWh	Dollars	kWh	Dollars	kWh	Dollars	kWh	Dollars	kWh	Dollars
Meter Data	Customer Usage												
	kWh Delivered (by FortisBC)	1,000		1,000		1,400		3,750		1,000		1,000	
	kWh Received (by FortisBC)	1,500		1,500		1,500		2,000		1,500		1,500	
Existing Billing Methodology	Billing Under Current Method												
	Delivered Power												
	Billed at Tier 1 Rate	1,000	98.45	1,000	98.45	1,400	137.83	1,600	157.52	1,000	98.45	1,000	98.45
	Billed at Tier 2 Rate	-	-	-	-	-	-	2,150	327	-	-	-	-
	Received Power												
	Credited at Tier 1 Rate	1,500	-147.68	1,500	-147.68	1,500	-147.68	1,600	-157.52	1,500	-147.68	1,500	-147.68
	Credited at Tier 2 Rate	-	-	-	-	-	-	400	61	-	-	-	-
	Total Energy Portion of Bill		-49.23		-49.23		-9.85		265.97		-49.23		-49.23
	Customer Charge		31.23		31.23		31.23		31.23		31.23		31.23
	Total Bill		-18.00		-18.00		21.39		297.20		-18.00		-18.00
Total Annual Bill		\$ 246.60											
Proposed Billing Methodology	Billing Under Proposed Method												
	Net Delivered Power	-500		-500		-100		1750		-500		-500	
	kWh Bank												
	Opening Balance	0		500		1000		1100		0		500	
	kWh Withdrawal or Deposit	500		500		100		-1100		500		500	
	Closing Balance	500		1000		1100		0		500		1000	
	Billed kWh	0		0		0		650		0		0	
	Billed at Tier 1 Rate	-	0.00	-	0.00	-	0.00	650	63.99	-	0.00	-	0.00
	Billed at Tier 2 Rate	-	-	-	-	-	-	-	-	-	-	-	-
	Total Energy Portion of Bill		0.00		0.00		0.00		63.99		0.00		0.00
Customer Charge		31.23		31.23		31.23		31.23		31.23		31.23	
Total Bill		31.23		31.23		31.23		95.22		31.23		31.23	
kWh Bank Payout		\$ 45.18											
Net Annual Bill		\$ 206.19											



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9.6.3 There are two net metering accounts in the Commercial rate class. None “Had NEG Eligible for Monetary Compensation.” Both are Worse Off. Does this mean that for these two accounts the proposed change from dollar carry forward to energy carry forward fully explains the impact (as distinct from the pricing of annual excess energy)? Would this outcome (Worse Off) apply to all potential net metering Commercial accounts, or is due to the circumstances of the two particular accounts in question? What is it about these two accounts that causes them to be Worse Off? In what circumstances would a new Commercial net metering account be Better Off?

Response:

It should be noted that these 2 accounts have extremely high consumption relative to generation and that the accounts should likely be considered to have no impact given that the billing variance is approximately 0.01%. Neither of the accounts had NEG in any billing period.

The accounts are worse off by this small amount because they are served on a declining block rate and they are worse off as the proposed billing methodology effectively shifts consumption into the higher block rate, (the opposite of the impact on the customers billed on the RCR).

For example, consider a customer billed on RS21 has net-consumption of 40,000 kWh and net-generation of 500 kWh in a billing period.

Under the current billing interpretation, the customer would be billed for 8,000 kWh of net-consumption at the higher Tier 1 rate, and 32,000 kWh at the lower Tier 2 rate. The customer would also be credited for 500 kWh at the higher Tier 1 rate.

In this scenario, the customer effectively pays 7,500 kWh at the higher Tier 1 rate and 32,000 at the lower Tier 2 rate.

This same customer would, under the proposed interpretation, have net-generation and net-consumption netted prior to billing. This would leave the customer will 39,500 kWh (40,000-500) that would be billed 8,000 kWh of net-consumption at the higher Tier 1 rate, and 31,500 kWh at the lower Tier 2 rate.

The customer is therefore worse off. Generally speaking, a Commercial customer on a declining block rate is better off under the Company’s proposed billing interpretation if they have NEG during a billing period.



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9.6.4 What baseline was used to determine the Better Off, Worse Off, No Impact outcome? Was it all three years combined? One particular year?

Response:

All of the parameters were determined over the three years combined.

9.6.5 Please comment on the degree to which a given account has the same Better Off, Worse Off, No Impact outcome if each of the three one-year periods is used as a baseline.

Response:

For most customers, the impact, whether in dollar terms or percentage of total bill is small. This is primarily because the amount of net-generation is low in both absolute kWh terms and relative to the net-consumption on the account. This is likely to be consistent across the years, although an actual assessment is difficult using the data in the calculations for the G-59-16 analysis as the 3-year period specified by the Commission included partial years and many customers were not enrolled in the program the entire time.

A small number of accounts, all in the “worse-off” category will experience higher impacts due to the much higher than average generation which is well above the consumption at the premise.

9.6.6 Please provide the annual average and maximum quanta of the expected “worse off” effects and “better off” effects, (a) in absolute dollar terms and (b) as a percentage of the net metering customer’s total electricity billing.

Response:

The Company has provided some summary data for the years 2014 and 2015 below as these are the years where a full 6 billing periods are included in the analysis. The data is subject to a



1 number of caveats. Results have been divided into impact on all customers regardless of how
 2 many billing periods they were part of the program, and those who were NM customers in all
 3 billing periods during the year. A full year is required in order for the full effect of being in the
 4 program to be measured. The high percentage bill impact figures are primarily due to a single
 5 customer but the base of comparison is also very small. Where a customer would have
 6 generated a credit under the current billing methodology they have been excluded from the
 7 percentage calculations.

8 Though limited in usefulness, the data does support the basic conclusion that individual impacts
 9 are relatively small for most customers with the exception of the few customers with large
 10 amounts of surplus generation.

	2014	2014	2015	2015	2014	2015
	Average Impact (\$)	Average Impact % of Bill	Average Impact (\$)	Average Impact % of Bill	Maximum Impact	Maximum Impact
Customers Better Off When All Customers Considered	-35	-4%	-35	-4%	-186	-267
Customers Better Off When Only Customers with Full Years Considered	-67	-8%	-47	-3%		
Customers Worse Off When All Customers Considered	3,929	110%	1,438	2605%	14,760	10,787
Customers Worse Off When Only Customers with Full Years Considered	3,929	110%	1,984	2605%		

11

12

13

14

15 9.6.7 In FBC's view, is a bill impact analysis an appropriate approach to
 16 considering the proposed changes to the net metering program? If so,
 17 please provide a bill impact analysis of the proposed changes. If not,
 18 why not?

19

20 **Response:**

21 No. The proposed changes in the program are designed to clarify billing and to ensure that
 22 customers that enroll in Net Metering do so in accordance with the intent of the program.
 23 Where unused net excess generation results it should be priced appropriately. The program
 24 updates are principled in nature and were not designed to achieve any particular billing
 25 outcome.

26

27

28



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1 **10.0 Topic: Background to the Net Metering Program**

2 **Reference: Exhibit A-4, BCUC IR 2.3 and 2.4**

3 “2.2 Please provide the number of NM customer in each rate class as of June 1, 2016.”

4 “2.3 Please comment on how FBC envisions the NM program to be in 5 years’ time
5 (2021) in terms of i) number of customers enrolled, and ii) total energy generated under
6 the program.”

7 10.1 If not provided in the responses to BCUC IRs 2.2 and 2.3, please provide
8 answers to these IRs that distinguish between a scenario in which the net
9 metering tariff is retained as it currently is versus a scenario in which the net
10 metering tariff is changed as requested by Fortis in this application.

11
12 **Response:**

13 FBC does not believe that the revisions to the Net Metering Program, which will modestly
14 benefit most customers, will result in any appreciable increase in the participation rates. The
15 Company is not proposing any changes that would provide any additional limitations on the
16 types of size of generation facilities that can be installed under the program, nor is it proposing
17 any changes that serve to decrease the amount of unused annual net excess generation that is
18 permitted under the Program. There is no difference being proposed in the value that
19 customers will inherently receive for generation used to offset consumption. Unless a customer
20 intends to install generation they know will exceed their annual consumption in the future, there
21 is no downside to the proposed net metering tariff.

22
23

24
25 10.2 Does FBC expect that the proposed changes will increase, or decrease, the
26 number of new net metering program participants in future years?

27
28 **Response:**

29 Please refer to the response to BCSEA IR 1.10.1.

30

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1 **11.0 Topic: Net Metering Program, annual billing period**

2 **Reference: Exhibit B-1, Application, page 10, footnote 11**

3 “March 31 has been chosen as it allows customers to take full advantage of any banked
4 kWh through the high consumption winter season.”

5 11.1 What is the status quo year end date for FBC’s determination of whether a net
6 metering customer has NEG eligible for monetary compensation? Is it the same
7 for all customers?

8
9 **Response:**

10 FBC does not currently have a year-end date. When the Program was first approved and
11 residential customers were billed on a flat rate, the potential benefit associated with the ability to
12 carry forward kWh did not exist. A customer could request to have a credit paid out, but there
13 was no particular advantage for most customers as subsequent consumption would simply be
14 billed at the same rate.

15
16

17
18 11.2 Please explain in greater detail the basis for FBC’s implication that a March 31
19 year end is beneficial to net metering customers.

20
21 **Response:**

22 Most customers on the Net Metering Program have PV installations. The generation
23 characteristics of such generation is that it will produce the most power during the longer,
24 sunnier days of the spring and summer as opposed to the fall and winter months. As such, kWh
25 in a kWh Bank will be most likely to accumulate during these months. They will be used
26 predominantly in the colder winter months. Having the billing year run to March 31 provided the
27 maximum opportunity for kWh in the Bank to be used prior to any balance being paid out.

28



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1 **12.0 Topic: Net metering customer data**

2 **Reference: Exhibit A-2; Exhibit B-2**

3 Order G-59-16 states:

4 *“3. FBC is to provide to each FBC current Rate Schedule 95 customer who has received*
5 *monetary compensation for any net excess generation (NEG) in the past three years, a*
6 *comparison of the actual dollar amount received by the customer for the NEG in the past*
7 *three years relative to the dollar amount the customer would have received under the*
8 *NEG rate proposed in the Application (i.e. in addition a copy of the Application this Order*
9 *and Regulatory Timetable per Directive 2).”*

10 The form of the letter FBC sent to net metering customers met the criteria in item 3
11 states:

In order to remove the impact of annual rate increases from the analysis, current 2016 rates were used for all calculations. The summary for your account is below. The financial impact is found by comparing column 1 to column 3 and recognizing that the value of the kWh remaining in the Bank has not yet been realized.

Current Bill Methodology		Proposed Bill Methodology		
1	2	3	4	5
Pre-tax Total of Bills including Customer Charges	Value of Net Excess Generation	Net Total of Pre-tax Bills and Value of kWh's Purchased from kWh Bank	Value of Net Excess Generation	kWh Remaining in Bank

12

13 12.1 Please provide the data that FBC provided to the net metering customers who
14 received monetary compensation for any net excess generation in the past three
15 years, without disclosing customer personal information. If necessary to protect
16 privacy, please aggregate and provide averages.

17

18 **Response:**

19 Averages based on the aggregated values are provided below.



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Current Bill Methodology		Proposed Bill Methodology			
	1	2	3	4	5
	Pre-tax Total of Bills including Customer Charges	Value of Net Excess Generation	Net Total of Pre-tax Bills and Value of kWh's Purchased from kWh Bank	Value of Net Excess Generation	kWh Remaining in Bank
Average	-\$6,911	\$7,644	\$522	\$2,712	313
Standard Deviation	\$13,147	\$13,086	\$288	\$4,044	402

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1 **13.0 Topic: Grandparenting**

2 **Reference:**

3 Several of the filed comments oppose the FBC changes but in the alternative suggest a
4 'grandparent' approach for existing net metering customers.

5 13.1 Please state the pros and cons of a grandparent approach for:

6

7 **Response:**

8 The Company does not support a "grandparent" approach to implementing the proposed
9 revisions to the Net Metering Program. Grandparenting would be unfair to new customers,
10 would be more complicated to administer, and would perpetuate the over-compensation of
11 those Net Metering participants that consistently over-generate.

12 Although the limited amount of data available makes analysis difficult, some generalizations can
13 be made.

14 The majority of the customers on the Program, those with generation that does not offset
15 consumption are more likely to be better off under the proposals contained in the Application.
16 Customers who the analysis show would have been worse off under the suggested proposals
17 are those that are typically generating far in excess of their needs, or those on a declining block
18 rate.

19

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22 13.1.1 existing net metering customers who would be "Account Worse Off" if
23 the proposed changes were approved and implemented,

24

25 **Response:**

26 Please refer to the response to BCSEA IR 1.13.1.

27

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30 13.1.2 all net metering customers at the time the changes come into effect,
31 and

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33 **Response:**

34 Please refer to the response to BCSEA IR 1.13.1.



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13.1.3 individual net metering customers who choose to opt in to a grandparent approach.

Response:

Please refer to the response to BCSEA IR 1.13.1.

13.2 What does FBC say to a customer who has already implemented, or has made financial commitments to implement, a renewable self-generation facility sized to take advantage of annual net excess generation being priced at the customer's energy rate as opposed to the PPA Tier 1 energy rate?

Response:

FBC is not aware of the motivation behind an individual customer's decision to install a net metering system. However, the Program was never intended to enable a customer to generate in excess of his/her own needs and the Company would have reinforced this fact had it become aware that a customer's expectations were otherwise.

Of the few customers that the Company has identified as having the potential to accumulate unused annual net excess generation, FBC notes that half, including the largest generators, installed their systems prior to FBC having an approved Net Metering Tariff.

Customers that have reasonable amounts of unused annual net excess generation will be compensated at a value that reflects the value of the power (and may often exceed the value to the Company) and in the view of FBC should not endeavor to profit at the expense of customers generally.



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1 **14.0 Topic: Price for annual net excess generation**

2 **Reference: Exhibit B-2**

3 14.1 If FBC's PPA Tier 1 energy rate is the appropriate referent for the price of annual
4 excess generation, should it be grossed up for line losses? If so, by how much? If
5 not, why not?

6
7 **Response:**

8 Please refer to the response to BCUC IR 1.9.4.

9