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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**

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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



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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  
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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.

6



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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.

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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.

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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.

31  
32  
33

34       4.2    What plans does FBC have for supporting small distributed renewable generation  
35       as part of its supply portfolio?  
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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  
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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  
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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
	<b>Total</b>	<b>88</b>	<b>31</b>	<b>9</b>	<b>40</b>	<b>16</b>	<b>32</b>

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
<b>Meter Data</b>	<b>Customer Usage</b>												
	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	
<b>Existing Billing Methodology</b>	<b>Billing Under Current Method</b>												
	<b>Delivered Power</b>												
	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	-	-	-	-
	<b>Received Power</b>												
	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	-	-	-	-
	<b>Total Energy Portion of Bill</b>		-49.23		-49.23		-9.85		265.97		-49.23		-49.23
	<b>Customer Charge</b>		31.23		31.23		31.23		31.23		31.23		31.23
	<b>Total Bill</b>		-18.00		-18.00		21.39		297.20		-18.00		-18.00
<b>Total Annual Bill</b>		<b>\$ 246.60</b>											
<b>Proposed Billing Methodology</b>	<b>Billing Under Proposed Method</b>												
	Net Delivered Power	-500		-500		-100		1750		-500		-500	
	<b>kWh Bank</b>												
	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	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Total Energy Portion of Bill</b>		0.00		0.00		0.00		63.99		0.00		0.00
<b>Customer Charge</b>		31.23		31.23		31.23		31.23		31.23		31.23	
<b>Total Bill</b>		31.23		31.23		31.23		95.22		31.23		31.23	
<b>kWh Bank Payout</b>		<b>\$ 45.18</b>											
<b>Net Annual Bill</b>		<b>\$ 206.19</b>											



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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

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1                     9.6.8    For the “better off” accounts, are they expected to be better off because  
2   of the proposed change to banking kWh for monthly NEG rather than  
3   banking dollar credits? If not, please explain.  
4

5    **Response:**

6    Yes.  To the extent that the benefit to residential customers is primarily due to the shifting of  
7    billing from the Tier 2 to the lower Tier 1 rate, this occurs due to the kWh Bank carryover from  
8    one billing period to a future billing period.

9  
10

11                     9.6.9    A single net metering account is shown for the Irrigation rate code, and  
12   it is recorded in the No Impact column. Does FBC expect that any  
13   Irrigation rate class customer would usually or always experience no  
14   impacts due to the proposed changes, or might this outcome vary from  
15   year to year and from customer to customer, depending on  
16   circumstances?  
17

18  
19    **Response:**

20    The current irrigation customer is served on RS60 and both the irrigation portion of the rate and  
21    the underlying non-irrigation rate have a flat energy charge, so there will be no impact unless  
22    the customer has unused net-excess generation at the end of the billing year that attracts a  
23    lower rate when paid out.

24

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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

1  
2



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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

20

21

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

28

29

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

32

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