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British Columbia Utilities Commission
Sixth Floor, 900 Howe Street, Box 250
Vancouver, BC, V6Z 2N3
Attn: Laurel Ross, Acting Commission Secretary and Director
By Web Posting

Dear Madam:

Re: FortisBC Inc. (FBC) Net Metering Program Tariff Update Application
BCUC Project No.3698875
Final Argument of B.C. Sustainable Energy Association and Sierra Club of B.C.

This is the final argument of the interveners B.C. Sustainable Energy Association (BCSEA) and the Sierra Club of B.C. (SCBC) in the above-noted proceeding. This responds to FBC's September 16, 2016 final submission.

1. BCSEA and SCBC

BCSEA-SCBC strongly support FortisBC's net metering program and, more broadly, small-scale distributed generation in B.C. They want to ensure that any changes to the FBC net metering program serve to strengthen the program and foster participation in it.

Members of BCSCA and SCBC are ratepayers of FortisBC and they are current or potential participants in the net metering program. BCSEA-SCBC's interests in this proceeding are as non-profit public interest environmental and energy policy organizations, and as representatives of their members' interests as ratepayers.

BCSEA and SCBC participated in the Commission's 2009 proceeding that led to Order G-92-09 approving FortisBC's net metering program. BCSEA-SCBC also participated in the Commission's review of FortisBC's 2010 monitoring and evaluation report on the net metering program. BCSEA-SCBC also participates regularly in proceedings regarding BC Hydro's net metering program, such as re-pricing (2008-2009), amendment (2011-2012), amendment (2014) and evaluation reports.

2. Issues

In this proceeding, FBC seeks Commission approval of the following items:

1. a change of language in Rate Schedule 95 to "more clearly reflect the original intent of the NM program," which FBC says excludes net metering facilities with annual net generation in excess of customer consumption,
2. a change to the accounting for net excess generation during a billing period to a "kilowatt-hour bank" mechanism in place of the existing "dollar bank" mechanism,

3. if the kWh Bank mechanism is approved, a provision that would allow FBC to settle financially with the customer for any positive amount of power remaining in the NM customer's kWh Bank at year end,
4. if the kWh Bank mechanism is approved, compensation for any positive kWh balance in a participant's kWh Bank at the end of the annual period, which FBC proposes to be March 31, at a rate equal to FBC's \$/kWh cost of Tranche 1 power from BC Hydro under the Power Purchase Agreement between FBC and BC Hydro,¹ and
5. endorsement of a bill calculation methodology applicable to NM customers on the Residential Conservation Rate such that the threshold between Step 1 and Step 2 in the RCR is applied to the net consumption or generation after the two registers (power from FBC to the customer, and power from the customer to FBC) are netted.

In addition, FBC states that if the kWh Bank mechanism is not approved, then "FBC would as an alternative proceed with an application to provide compensation for NEG on a billing period basis at the rate proposed in this Application for annual unused NEG."²

3. BCSEA-SCBC's Positions

In summary, BCSEA-SCBC's respectfully state the following positions on the approvals FBC seeks in this proceeding:

1. The existing NM tariff does not include a provision, explicitly or implicitly, that excludes from participation in the NM program a customer whose annual net generation output exceeds the customer's annual consumption. FBC's requested "clarification" of the existing tariff in this respect should be denied. Nor should such a provision be added to the tariff.
2. BCSEA-SCBC support a "kWh Bank" mechanism for accounting for net excess generation within a billing period. This would replace the current "Dollar Bank" mechanism.
3. With approval of the kWh Bank mechanism, it follows that there should be a provision allowing FBC to settle financially with the customer for any positive amount of power remaining in the NM customer's kWh Bank at year end.
4. FBC's proposal to base the price for annual net excess generation on the price of Tranche 1 of the Power Purchase Agreement should be denied. Instead, annual NEG should be reimbursed at FBC's long-run marginal cost of acquiring electricity generated from clean or renewable resources in British Columbia. At present, this is \$0.112/kWh (discussed further, below).
5. BCSEA-SCBC support Commission endorsement of FBC's preferred interpretation of the billing calculation methodology for NM customers on the RCR (i.e., the inflow and outflow meter registers are netted before the RCR threshold is applied).

¹ "BC Hydro RS 3808 Tranche 1 rate (currently 4.303 cents per kWh plus a 5% rate rider)"
Exhibit B-1, pdf p.15

² FBC Final Submission, footnote 3, page 5, underline added.

In addition, BCSEA-SCBC respectfully submit the following alternative arguments:

1. If the kWh Bank mechanism is not approved, then in BCSEA-SCBC's view the existing Dollar Bank mechanism should continue. While FBC would of course be free to make a subsequent application for approval of a different mechanism, in BCSEA-SCBC's view a mechanism in which compensation for positive net excess generation from billing period to billing period is compensated at less than the customer's retail rate would be inconsistent with the seasonal netting concept of the NM Program.
2. If the Commission approves the kWh Bank mechanism (supported by BCSEA-SCBC) but is inclined to approve a price for annual net excess generation that is based on FBC's cost of Tranche 1 PPA power, then BCSEA-SCBC would submit that the price should be fully grossed up for distribution line losses.
3. If the Commission is inclined to approve a new provision (or to clarify a putative existing provision) aimed at precluding routine annual NEG, then BCSEA-SCBC make several alternative points set out in the text below.

4. Is annual generation limited to annual consumption?

FBC contends that:

“The Program, as originally intended, limits the annual generation output of any net metered system to the annual consumption of the associated load.”³

The crux of FBC's argument is that the existing wording of Rate Schedule 95 already contains a limit on annual energy. FBC states:

“This aspect [limit on annual energy] of the Rate Schedule 95 Eligibility is currently summarized in the tariff by specifying that, “...generation equipment must be located on the Customer's Premises, Service only the Customer's Premises and must be intended to offset a portion or all of the Customer's requirements for Electricity.”⁴

BCSEA-SCBC respectfully disagree with FBC's argument that the words “generation equipment...must be intended to offset a portion or all of the Customer's requirements for Electricity” in RS95 express a limit on annual generation output of a net metered system.

BCSEA-SCBC submit that the gist of these words in the eligibility criteria section of RS 95 is that the generation equipment must be connected to the customer's load so that the customer's load is displaced before any customer generated power is provided to the utility, as distinct from the generation being connected directly to the utility. A NM participant's generation equipment that is “intended to offset a portion or all of the Customer's requirements for Electricity” may or may not be of a size that results in annual net excess generation. Indeed, whether or not there is annual net excess generation is not a function of the size of the generation equipment alone but is also determined by the customer's consumption, which FBC acknowledges may change from year to year.

³ FBC Final Submission, para.5.

⁴ FBC Final Submission, para.5, underline added.

FBC claims that its proposed changes to the wording of RS 95 are “minimal,”⁵ and elsewhere FBC even claims that it is not proposing any change to the NM eligibility criteria.⁶ However, BCSEA-SCBC submit that an examination of FBC’s proposed wording changes reveals that the proposed additional wording changes the substantive meaning of the text. FBC sets out the proposed tariff amendments as follows:

An insertion is proposed to the DEFINITIONS as follows,

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

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

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

The existing definition of Net Metered System simply describes the generation facility as being one intended to be used to offset part or all of the consumption of the customer owner of the generation. Nothing in the definition indicates that a generation facility used to offset part or all of the customer’s consumption does not meet the definition if it also produces electricity in excess of the customer’s load. On the contrary, the meaning of “net” in “net metering system” implies that from time to time the facility will produce electricity in excess of the customer’s electricity requirements. This is consistent with the fact that the existing definition says nothing about any comparison of electricity generated and electricity consumed, about a concept of “excess” electricity, or about “annual” or any other time period over which a comparison is to be made. All of these substantive elements are not contained in the existing definition but are introduced by the proposed amendment.

Furthermore, the proposed addition of the word “only” fundamentally changes the meaning from a description to a description plus a limitation. Presumably, creating a limitation is the precise purpose of adding the word “only.” In doing so, the amendment would add a limitation that is not present in the existing wording.

FBC’s proposed amendment of the Eligibility section uses the same wording as the proposed amendment of the definition of “net metering system” and the same analysis applies. The amendment would add a limitation that is not present in the existing wording. This is not a clarification; this is a new provision.

⁵ Exhibit B-1, p.8, pdf p.12.

⁶ E.g., FBC Final Submission, para.3; Exhibit B-6, BCSEA IR 5.2.

Whatever may have been FBC's intention when it first designed the NM Program, what matters in terms of the original intention is how the Commission Panel understood the NM Program when it first approved it. The program that was presented to the Commission for approval did not include a provision that limits the annual generation output of any net metered system to the annual consumption of the associated load. Indeed, it is the absence of such a provision that prompts FBC to ask to have the provision added now.

Notably, Decision and Order G-92-09, which originally approved the NM Program as proposed with modifications, does not discuss the topic of annual net excess generation or a limit on annual net excess generation. The Commission's original approval of the NM Program was silent regarding any limit on the annual generation output of the NM participant's generation facility, as distinct from the 50 kW maximum generator size.

BCSEA-SCBC are not entirely clear whether it is FBC's position that if the Commission determines that the *status quo* does not limit the annual generation output of a net metered system to the annual consumption of the associated load then FBC seeks a change to the NM tariff that would introduce such a limit. However, BCSEA-SCBC will provide its reasons for opposing the introduction of such a limit, in case the Commission addresses the point.

First, it is important to note that the topic being addressed here is entirely different than either (a) the maximum generator size (currently 50 kW) or (b) any limitations on generator size or usage related to general or location-specific technical requirements.

It appears that FBC's main reason for asking that a customer's annual NM generation be limited to the customer's annual consumption is that under the *status quo* Dollar Bank mechanism annual net excess generation would be compensated at the retail rate which FBC says exceeds the value of the delivered energy.

BCSEA-SCBC have two points in response. First, it is only under the *status quo* Dollar Bank mechanism that annual net excess generation is or would be compensated at the equivalent of the customer's retail rate. If the Commission approves the kWk Bank mechanism (proposed by FBC and supported by BCSEA-SCBC – addressed below) then the Commission will have to approve a mechanism for determining a price for annual NEG.

Second, the concern that the price for annual net excess generation would exceed the value of the avoided delivered energy would be, and should be, eliminated by properly setting the price paid for annual net excess generation. BCSEA-SCBC accept that in principle the retail rate is not an appropriate referent for the price for annual NEG. BCSEA-SCBC argue below that the price for annual NEG should be based on FBC's avoided cost of electricity generated from clean or renewable resources in B.C. In any event, if the price for annual NEG produces an unacceptable outcome (e.g., not in the public interest, or unduly discriminatory) then the solution, say BCSEA-SCBC, is to set an acceptable price for annual NEG, not to ban NM systems that produce annual NEG.

BCSEA-SCBC oppose the concept of exclusion of systems with annual net excess generation for another reason. There is no practical way for either FBC or a prospective NM participant to anticipate the future annual load at the premises with accuracy and certainty. In residential premises, the number of occupants may change. In commercial premises, the nature or size of the business may change. New sources of load may be added, existing sources of load may be

removed. Conservation and efficiency measures may be implemented. The premises, including the generation equipment, may be sold to a new owner who uses the premises differently. There is also potential uncertainty on the generation side. While some types of generation equipment, such as PV, may support fairly accurate estimates of annual energy generation, the output of other types of generation equipment, such as run-of-river, is variable and harder to forecast.

As a result of these uncertainties, an exclusion of NM participants with annual net excess generation would be difficult to apply. And it would certainly be contentious, as the negative financial consequences to an excluded existing or would-be NM participant would be much larger than the consequences of adopting the kWh Bank and setting a price for annual NEG.

Putting the point affirmatively, BCSEA-SCBC submit that the Commission should welcome annual NEG from participants in the FBC NM program as being in the public interest and consistent with the B.C. energy objectives. As the Commission panel stated its Reasons for Decision in Order G-26-04 regarding BC Hydro's net metering program, "[net metering] provides customers with the means to take responsibility for their own production and to lower their environmental impact." In BCSEA-SCBC's view, the FBC NM program, including annual NEG, promotes commercialization of distributed micro-generation technologies in B.C., and promotes public awareness of electricity generation and usage.

In its final submission, FBC argues that its proposed changes to RS 95 (to preclude regular annual NEG) would have "no financial impact to customers since this does not represent a change to the current program."⁷ With respect, this argument should be rejected for the same reasons set out above for why FBC's argument that its proposed amendments to RS 95 constitute no change should be rejected. For the small minority of existing NM participants who have regular annual NEG a provision barring regular annual NEG from the NM program would certainly have a negative bill impact. That said, BCSEA-SCBC do not rely on this bill impact for their opposition to the proposed amendments to RS 95.

In conclusion on this point, BCSEA-SCBC say that the existing wording of the NM tariff does not contain any limitation to do with annual NEG. This is consistent with the fact that the decision approving the NM tariff was silent about annual NEG and certainly did not exclude annual NEG from the NM program. FBC's proposed amendment of the NM tariff would be a substantial change in a direction contrary to the B.C. energy objectives. While most of the NM participants do not produce annual NEG on a regular basis, some do. Annual NEG is not undesirable. Setting an appropriate price for annual NEG is a reasonable approach. Trying to exclude annual NEG would be fraught with uncertainty and controversy.

Alternative arguments

If, contrary to BCSEA-SCBC's submissions, the Commission is inclined to approve a new provision (or to clarify a putative existing provision) aimed at precluding routine annual NEG (as distinct from pricing it differently), then BCSEA-SCBC would propose the following characteristics:

1. The consequence of a NM participant being out of compliance with the rules applicable to routine annual NEG (addressed in the next points) should be focused on, and limited

⁷ FBC Final Submission, para.34.

to, the amount of compensation for non-compliant annual NEG – not removal from the NM program. As the saying goes, “Don’t throw the baby out with the bathwater.” Even if there is a problem with regular annual NEG (despite BCSEA-SCBC’s arguments above), the underlying participation in the NM program still has value for both the participant and the utility. BCSEA-SCBC would strongly oppose an outcome in which an otherwise compliant net metering system is denied any participation in the net metering program due solely to non-compliance with a limit to do with regular annual net NEG.

2. The limitation (regarding regular annual NEG) should be expressed in terms of the nameplate capacity of the customer’s generation facility at the time the customer is enrolled into the NM program, and at such time as the nameplate capacity of the customer’s generation facility(ies) increases. The objective of this point is to reduce ongoing uncertainty about continued compliance with program conditions in the event of changes in consumption patterns. For example, it would not be desirable for a NM participant to have to worry that implementing conservation and efficiency measures would make them ineligible to remain on the NM program.
3. To elaborate on the previous point, after a customer is enrolled in the NM program, the customer should not become subject to the consequences of being out of compliance with the regular annual NEG provisions due to an actual or anticipated change in the customer’s electricity consumption, so long as the nameplate capacity of the customer’s generation facility(ies) does not increase above what it was when the customer enrolled (or when the Commission makes its decision).
4. Further, a new customer who takes over the premises of an existing NM participant should be entitled to participate in the net metering program based on the size of the generator at the premises. It would not be desirable to require the purchaser (or other new occupant) of premises with a net metering system to have to re-qualify the net metering system. Customers would be inhibited from investing in a net metering system in the first place if there was going to be uncertainty about whether a purchaser would be able to use the net metering system.
5. As a transition measure, existing NM participants’ net metering systems as of the time of the Commission’s decision should be deemed to comply with the regular annual NEG requirement.⁸ Future increases to the capacity of a net metering system would be subject to the rules then in effect.
6. The limitation should be expressed such that enrollment is not allowed where the combination of the customer’s generation and the customer’s existing or reasonably foreseeable electricity consumption would clearly result in substantial and persistent annual net excess generation. There should be flexibility to enable a NM participant to

⁸ BCSEA-SCBC are concerned about FBC’s assertion [Exhibit B-6, BCSEA IR 5.2.] that the current wording of the NM tariff allows it to remove a participant from the NM Program if the participant has persistent annual net excess generation, and that there are several existing participants who meet this description. It is noted, however, that FBC has not indicated that it intends to remove anyone from the NM program and that FBC has made the present application instead.

implement a NM system that is designed to fully offset the customer's existing and anticipated electricity consumption. The participant should not have to scale down the size of the NM system merely to provide a 'margin of error.'

5. kWh Bank versus Dollar Bank

Currently, the FBC NM program uses what can be described as a Dollar Bank mechanism to account for net excess generation. NEG in one billing period is priced at the customer's rate for energy and credited as a dollar amount to the customer's account in the next billing period. FBC asks the Commission to approve replacement of the Dollar Bank mechanism with a kWh Bank mechanism. In a kWh Bank mechanism, net excess generation within one billing period is carried forward as an offset in kWh applied to the next billing period.

BCSEA-SCBC support Commission approval of a kWh Bank mechanism for the FBC NM program. BCSEA-SCBC concur with FBC that a kWh Bank is better than a Dollar Bank. However, BCSEA-SCBC put a different emphasis on the reasons for this conclusion than does FBC.

For BCSEA-SCBC, the kWh Bank is superior to the Dollar Bank first and foremost because the kWh Bank is consistent with the "net" concept that gives the NM Program its name. A participant in the NM Program draws power from the utility at times and provides power to the utility at other times. It is the net power between the utility and the participant that determines the effect on the financial relationship between the participant and the utility. And, since both typical consumption and typical generation by NM participants have strongly seasonal variations, the ebb and flow of electricity is netted between seasons and not merely within a single billing period. Put another way, the NM Program is at its core a swap of electricity between the utility and the participant, not a swap of money.

A second, related, factor is that the kWh Bank mechanism in net metering programs is used by BC Hydro and by other surveyed electrical utilities across Canada. In BCSEA-SCBC's view, this jurisdictional support for the kWh Bank mechanism is presumably because the kWh Bank mechanism is logically consistent with the nature of a net metering program.

Another factor in favour of the kWh Bank is that for NM participants on FBC's two-tier Residential Conservation Rate, the Dollar Bank can put a different financial value on a kWh of NEG (Step 1 or Step 2) due to circumstances concerning the timing of the NM participant's consumption from the grid rather than to any difference in value of the NEG to the utility.

This aspect of the kWh Bank mechanism has non-existent or positive bill impacts for most NM participants. For a small number of NM participants with relatively high self-generation there would be a negative bill impact. Retaining the Dollar Bank mechanism would implicitly have the reverse bill impacts. With the bill impacts being mixed, BCSEA-SCBC favour the kWh Bank mechanism for the reasons set out above.

Finally, for the small minority of NM participants who accumulate net excess generation over a full year (annual NEG), the Dollar Bank mechanism has the effect of valuing the annual NEG based on the customer's retail price. In BCSEA-SCBC's view, the retail price is not an appropriate referent for valuing annual NEG. This is not because the retail price is too high or too low but because the retail price covers not only the utility's cost of delivered energy but also

the utility's cost of being able to meet system peak demand (which includes transmission) and a large portion of the utility's cost of providing billing and customer contact services (the rest being covered by the basic charge). The kWh Bank is conceptually superior to the Dollar Bank because the kWh Bank requires a price to be set for settling outstanding positive balances in NM participants' kWh Bank.

BCSEA-SCBC support FBC's proposal for a March 31 year end for the kWh Bank if it is approved. BCSEA-SCBC agree with FBC that March 31 "allows customers to take full advantage of any banked kWh through the high consumption winter season."⁹

6. Setting the price for annual NEG in the context of a kWh Bank mechanism

FBC intertwines its arguments for the kWh Bank mechanism (in place of the Dollar Bank mechanism) with its arguments for a particular price for annual NEG (which FBC says should be based on Tranche 1 PPA power). To be clear, in BCSEA-SCBC's view, the kWh Bank mechanism should replace the Dollar Bank mechanism regardless of what price is determined to be appropriate for annual NEG.

Turning to the price for annual NEG, BCSEA-SCBC respectfully disagree with FBC's position that the Tranche 1 PPA price is the appropriate referent.

In BCSEA-SCBC's view, the price that FBC pays to the NM participant for annual net excess generation should be based on FBC's long-run marginal cost of acquiring electricity generated from clean or renewable resources in British Columbia. This is same referent for avoided cost that is used to determine the cost-effectiveness of demand-side measures. At present, FBC's LRMC of acquiring electricity generated from clean or renewable resources in B.C. is \$0.112/kWh. This figure is from FBC's 2012 Long Term Resource Plan (2012 LTRP) as accepted in the Commission's decision regarding FBC's 2015-16 DSM Plan.¹⁰

7. Billing calculation

FBC seeks Commission endorsement of a billing calculation methodology in which for RCR NM participants the inflow and outflow meter registers are netted before the RCR threshold is applied. BCSEA-SCBC support this request. To be clear, while FBC proposes endorsement of the 'net before threshold' methodology it is understood that the *status quo* is that FBC applies the alternative interpretation in which the threshold is applied separately to the two meters.¹¹

BCSEA-SCBC believe the 'net before threshold' interpretation aligns most closely with the net metering concept. Also, it is noted that this billing interpretation is said to be preferred by two NM participants who raised this issue in complaints with the Commission.¹²

⁹ Exhibit B-1, p.10, footnote 11.

¹⁰ FBC 2017 DSM Expenditure Schedule, Exhibit B-1, pp.1-2, BCUC Project No. 3698889 (at http://www.bcuc.com/Documents/Proceedings/2016/DOC_47076_B-1_FBC_2017-DSM-Application.pdf)

¹¹ "Using the current billing interpretation, the net-consumption and net-generation are considered separately for the application of the RCR threshold of 1,600 kWh." Exhibit B-5, BCOAPO IR 7.2.1.

¹² Exhibit B-6, BCSEA IR 8.1.

8. Conclusion

BCSEA-SCBC believe the FBC Net Metering program can best be strengthened by changing the Dollar Bank mechanism to a kWh Bank mechanism, basing the price for annual net excess generation on FBC's LRMC of B.C. clean or renewable resources, and by adopting the 'net before threshold' bill calculation methodology for RCR NM customers. BCSEA-SCBC respectfully oppose FBC's proposed amendments to the Net Metering tariff.

All the above is respectfully submitted.

Yours truly,

William J. Andrews



Barrister & Solicitor

cc. Distribution List by email