

Andy Shadrack
Box 484
Kaslo, British Columbia
V0G 1M0

June 15th, 2016

Ms. Diane Roy
Director, Regulatory Affairs
FortisBC Inc.
16705 Fraser Highway
Surrey, BC
V4N 0E8

Dear Ms. Roy:

Re: FortisBC Inc.
Project No. 3698875
Net Metering Program Tariff Update Application

Further to your April 15, 2016 filing of the above noted application, please find enclosed Andy Shadrack's Information Request No. 1.

All of which is respectfully submitted,
Andy Shadrack

Net Metering Program Tariff Update Application Information Request No 1

1. In its previous 2009 Net Metering Tariff Application, FortisBC provided to interested parties a copy of the proposed application for comment prior to submitting it to the BCUC.
 - a. Why didn't FortisBC provide a copy of its current "Update" application to its net metering customers for comment prior to submitting it to the BCUC?
2. FortisBC states: "The Company's interactions with customers, both prior to and after interconnection of a Net Metering System, have demonstrated to FBC that misconceptions exist about the intent of the Program." (Exh. B-1, FortisBC Net Metering Update Application, p. 7, lines 12-14)
 - a. What misconceptions did Fortis BC customers demonstrate to FortisBC both prior to and after interconnection of their net metering systems?
 - b. What steps did FortisBC take to clear up such misconceptions?
 - c. If FortisBC failed to take any steps to clear up such misconceptions, please explain why.
3. FortisBC states: "The Program was designed with the intent that a customer's generation be sized to meet no more than its electricity consumption." (Exh. B-1, FortisBC Net Metering Update Application, p. 5, lines 1-2) and then proceeds to say that it has brought

this application because it wishes: “. . . to avoid situations where a customer incurs an expense from installing a system larger than is necessary . . . “ (Exh. B-1, p. 7, lines 12-14)

- a. In circumstances in which FortisBC customers have already invested in systems larger than “necessary”, how does FortisBC propose to compensate those customers for:
 - i. diminished ability to offset their total electricity costs;
 - ii. diminished ability to reclaim the cost of their installation in a reasonable time, or at all; and/or
 - iii. loss of future income from their investment?
4. Please explain in detail FortisBC’s method of determining the “necessary” size of a net metering system and how FortisBC determines, or intends to determine, whether or not a system is “larger than necessary”, and its criteria for ensuring that a customer’s system is sized to meet “no more” than the customer’s electricity consumption.
5. Despite the primary stated intent of the program being to allow customers to offset their own consumption, is it accurate to say that both FortisBC and its net metering customers have at all times been fully aware that the Program imposed no limitation on the amount of customer-generated power as long as the customer’s system met the 50 kW design capacity limit?
6. On what basis was the Net Metering Program design capacity limit of 50 kW, 750 volts established?
 - a. Was this choice in any way related to the fact that the typical residential service entrance size maximum is 200 amps?
7. FortisBC states in its application: “What will be disallowed under the [proposed] Net Metering Tariff is generation sized to routinely exceed a customer’s annual requirements . . . “ (Exh. B-1, FortisBC Net Metering Update Application, p. 7, lines 32-34)
 - a. How would FortisBC define or determine “routinely” in such instance?
 - b. How does FortisBC propose to calculate or otherwise determine or relate a customer’s annual requirements with the customer’s proposed design capacity, and how, and at what point, or on what basis would FortisBC disallow a proposed application for the Net Metering Program? Please provide a full and detailed explanation.
8. FortisBC continues: “For parties that wish to connect generation in excess of the size allowable under the program, FBC permits interconnection of customer-owned generations with capacities of 50 kW and greater [i.e. s. 10 commercial installations] utilizing existing interconnection standards . . . FBC does not therefore have any capacity related gaps . . .” (Exh. B-1, FortisBC Net Metering Update Application, p. 7, lines 35-38 & p. 8, lines 1-2)
 - a. If the FortisBC proposal has no capacity-related gaps, please explain how FortisBC would accommodate a system, under 50 kW, but disallow it from the Net Metering Program for reasons of being “in excess of a customer’s annual

requirements”, but which, being under 50kW, fails to meet the “50 kW and greater” s. 10 criteria?

9. Does FortisBC ask Net Metering program applicants to provide an estimate of their potential average kWh production level?
 - a. If so, has FortisBC ever refused to enroll an applicant on the basis of his or her system’s average kWh production level?
10. What expectations does FortisBC have as to the effect of its application if approved as presented, in particular:
 - a. does FortisBC expect its changes will encourage or discourage participation in the Program? Please provide a full explanation.
11. In FortisBC’s 2009 application, FortisBC stated: "The rate impact of the above projections is effectively nil, considering the 2009 Revenue Requirement of \$233.1 million . . . At the participation levels currently anticipated, FortisBC does not expect that revenue to cost ratios will be affected." (FortisBC Net Metering Tariff Application Exh. B-2, FortisBC Response to Information Request No 1, Responses A3.3 & A3.3.1, p. 8)
 - a. Has the Net Metering Program caused FortisBC to exceed current average market cost payout for electrical energy as described in Table 7.4.4.2.2 in FortisBC’s Resource Plan filed with the Commission on May 29, 2009?

(FortisBC Net Metering Tariff Application Exh. B-2, FortisBC Response to Information Request No 1, Responses A3.3 & A3.3.1, p. 8)
 - b. If so, have current revenue requirements and cost ratios been affected and, if so, by how much?
12. What is the value of the electricity generated by each rate class of customers participating in the Net Metering Program which offsets all or part of their consumption of FortisBC-supplied electricity for each of the years during which the Program has been operating?
13.
 - a. What are the amounts paid directly by FortisBC to each class of customers participating in the Net Metering Program for "Net Excess Generation" (NEG) during each of those years?
 - b. Is the amount paid directly by FortisBC before or after deducting the Basic Charge, GST and any other charges incurred by a customer?
 - c. How would the payout differ depending on which scenario is used?
14. With reference to FortisBC’s 2009 Application, what is the “Green Rate” referred to, how is it determined and calculated, how is it paid or charged, and to whom is it paid or charged, and what relationship does it have to the Net Metering Program? (FortisBC Net Metering Tariff Application Exh. B-2, FortisBC Response to Information Request No 1, Response A8a, p. 6)
15. In its Net Metering Tariff Application, FortisBC was asked if NEG credits could be "applied against late payment and other non-consumption customer charges", to which

FortisBC responded: "Billed NEG credits will be applied to the total outstanding account balance which could include both consumption and non-consumption charges (FortisBC Net Metering Tariff Application, Exh. B-2, FortisBC Response to Information Request No 1, Response A6.1, p. 11)

- a. Please explain the rationale behind the change to banking NEG credits as soon as a customer reaches net-zero, but before a customer has paid off non-consumptive charges, such as the Basic Charge and GST taxation.
 - b. Will FortisBC be paying interest on the banked NEG credits in the same manner that Canada Customs and Revenue Agency pays interest on a balance owing to a taxpayer from the date of assessment?
16. FortisBC states in its application: "The impact of these changes will be minimal to most Program participants." (Exh. B-1, FortisBC Net Metering Update Application, p. 1, lines 26-29)
- a. Please provide an analysis of the projected financial benefit and detriment expected to result, if approved, from the changes proposed in FortisBC's Update Application for each of FortisBC's current Net Metering Program customers.
17. If the FortisBC Net Metering program is simply an exchange of kWh between FortisBC and the customer, please explain why it changed the way it charged GST from net kWh sold to a customer to the gross number of kWh sold, after the October 2015 billing period.
18. In this application, FortisBC proposes to cease paying Tier 2 rates for electricity generated under the Net Metering Program, yet it will continue paying time of use premium rates in excess of 15 cents/kWh for time of use customers by crediting them into a separate kWh bank. (Exh. B-1, FortisBC Net Metering Update Application, p. 1, lines 26-29)
- a. Please explain the rationale for paying and crediting one group, the "time of use" net metering customers, at a peak time rate in excess of 15 cents per kWh while simultaneously refusing to pay or credit non-time-of-use net metering customers at the lower Tier 2 rate.
19. In making the current tariff proposal, has FortisBC factored in the considerable seasonal variability and annual cyclical variability that exists for some net metering renewable energy producers, especially solar and wind?
20. a. What is the average and median total cost that FortisBC residential and small commercial customers are paying per kWh, Tier 1, Tier 2 and Basic Charge costs combined, excluding taxes?
- b. What is the average and median total cost that FortisBC residential and small commercial Net Metering customers are paying per kWh, Tier 1, Tier 2 and Basic Charge costs combined, excluding taxes?
21. Although the spectre of potential negative effects on non-participant customers is raised repeatedly, FortisBC's application never once mentions the Net Metering Program as

having any benefits or positive effects. (Exh. B-1, FortisBC Net Metering Update Application, p. 9, lines 33-34 & p. 10, lines 6-9, 13-16, p. 11, lines 6-8) According to FortisBC's application, the intent of the Net Metering Program is, in fact, explicitly limited to simply providing customers with a means to offset their own electricity consumption, and, beyond that, has no broader goals or purposes at all.

a. Please describe fully the broader goals and purposes of the Net Metering Program, if any, and its positive attributes, if any, including any present and future, direct or indirect benefit to the customer base as a whole, including non-participating customers.

22. During FortisBC's 2009 application, in response to the BCUC question 13.3: "In FortisBC's opinion, is net metering a cost effective means for its ratepayers to supply energy to FortisBC?", FortisBC replied, in part:

"Acquiring power through net metering is expected to be below the average BC market cost of energy of \$98.25 per MWh as provided in Table 7.4.4.2.2 in FortisBC's Resource Plan filed with the Commission on May 29, 2009.

Ratepayers considering the net metering tariff may also consider reducing their energy consumption. Ratepayers can reduce energy use in various ways, including behavioural changes and participation in demand side management programs and incentives already offered by the Company. In the Company's opinion, although net metering is not the least cost means for customers to reduce their purchased electricity, it may be cost effective for customers when balancing all factors, including social and environmental factors."

(FortisBC Net Metering Tariff Application Exh. B-2, FortisBC Response to Information Request No 1, Response A13.3, pp. 25 & 26)

a. Please list:

- i. the demand side and energy conservation programs which FortisBC is referring to in its answer, including the yearly cost of each program to FortisBC during the past five years, or for however long each program has been operating;
- ii. the total annual amounts of any grants, subsidies, incentives and/or reimbursements paid by FortisBC under such programs to each class of customer for each year of operation;
- iii. the costs of the Net Metering Program to FortisBC for each year of operation since the program's inception;
- iv. "all of the factors, including social and environmental factors" which FortisBC is referring to in its answer to A13.3 above, whether actual or potential, and how such factors might relate, if at all, to the demand side and conservation programs referred to.

23. What percentage of each demand side and energy conservation program cost is covered by FortisBC's overall customer rate base, what percentage is covered by the individual customer participating in the program, and how does this compare to the apportioned costs for FortisBC and the enrolled customers in the Net Metering Program?

24. What is the total amount spent, including the cost of staff time, for promotion of each of FortisBC's demand side and energy conservation programs?

25. What is the total amount spent, including the cost of staff time, for promotion of FortisBC's Net Metering Program?
26. How do the positive (if any) and negative attributes of the Net Metering Program compare with the positive and negative attributes of FortisBC's other demand side and energy conservation programs?
27. How has participation in the FortisBC Net Metering Program changed on an annual basis since it was first introduced in 2009, and how does this rate of participation compare with the enrollment rates in all of FortisBC's other demand side and energy conservation programs?
28. Does FortisBC expect that the changes it proposes in this application will have an encouraging or discouraging effect on future renewable energy production in B.C? Please explain fully.
29. B.C. Hydro completed a study in 2012 which projects a 12% to 31% decrease, below the 1961-1990 average, in summer inflows to Kootenay Lake by the 2050s, and which states:

“Summer stream-flow and hence water availability during summer will very likely decline across the province. Snow-melt will start earlier and flows will peak earlier. This has already been observed over the past few decades. Snow-melt-dominated watersheds in southeastern B.C., for example Arrow and Kootenay Lakes, will experience higher flows during winter and lower flows during late summer, but will very likely remain snow-melt-dominated.

. . .

“Glaciers are projected to continue retreating under all future climate scenarios. Under a warming climate, the contribution of glacier melt to stream-flow initially increases but eventually declines as glaciers shrink. Evidence shows that B.C. glaciers are already shrinking and studies suggest that the glacier melt contribution to stream-flow is already declining. In the Mica basin, approximately 60 per cent of glacier cover is projected to disappear by 2050 and 85 per cent by 2100. Some scenarios show a complete loss of glaciers in the region by 2100.”

(Jost, G. & Weber, F., 2012. “Impacts of Climate Change on B.C. Hydro's Water Resources” at pp. 24-25)

Has FortisBC made or commissioned any studies on how changing climate and melting glaciers may affect the long term generation of electricity due to changes in the volume of water flowing through the Kootenay-Columbia River system?

30. It has been suggested that summer peak kWh usage is growing more rapidly than winter peak. To what does FortisBC attribute this growing summer electrical consumption?
31. Have there been any changes in electricity demand, whether on a seasonal, annual, specific billing period, or any other basis, which FortisBC can attribute to climate change?

32. A 2009 study by Lausanne's EPFL technical university forecasted a decline in Swiss hydro generation from 46 to 60 per cent by the year 2035 as precipitation declines and total energy use increases. And that's based on a forecast runoff decrease of just 7 per cent by the year 2049, and includes forecasted precipitation changes ("Glacier BC Hydro's Melting Batteries", Tyee, February 6th 2012 <http://thetyee.ca/News/2012/02/06/Glacier-Hydro/>)

Has FortisBC experienced any change in its ability to generate electricity due to changing river flows attributable to climate change either recently or during the past twenty years?
33. What percentage of FortisBC's annual sales of electricity comes from hydroelectric generation?
34. How much has FortisBC paid out annually for electricity purchases from each of FortisBC's other electricity suppliers, including spot market purchases, for each year since 2009 and what is the average price per kWh or MWh from each supplier?
35. What percentage of FortisBC's annual sales are purchased from other suppliers?
36. Of the percentage of FortisBC's purchases of electricity from other suppliers, what percentages come from hydroelectric generation, fossil fuels, and other sources? Please explain fully.
37. Is FortisBC planning or implementing diversification of its portfolio of self-generated and purchased power to meet growing customer demand, that is not sourced in either hydro-power generation or fossil fuels?
38. Is FortisBC aware of Nelson Hydro's decision to build a "solar farm" using capital raised from enrolled customers, who then offset their household consumption with power generated from the solar panels and equipment purchased from Nelson Hydro?
39. Has FortisBC considered expanding its Net Metering Program to include "solar farms" or similar installations?
40. BCHydro recently provided information which indicates that approximately 2.65% of their residential customers are enrolled in BCHydro's net metering program in the Lardeau Service Area, and that these customers produced approximately 5% of all electrical power consumed by residential customers in that service area.
 - a. Can FortisBC provide similar information for its Net Metering Program by, say, the Regional Districts in its service area?
41. FortisBC recently stated on its website that in the 2010 Conservation Potential Review "average [residential household] electrical consumption is 10,966 kilowatt hours per year".
(<https://www.fortisbc.com/Rebates/SavingEnergy/SavingEnergyForBusiness/Awards/Pages/default.aspx>)

- a. Would that be an appropriate household annual average in the residential class in 2016?
- b. What would the median consumption be?
- c. What would the average annual household consumption be for the residential net metering customers?
- d. What would the median consumption be for the residential net metering customers?