Diane Roy
Vice President, Regulatory Affairs

Gas Regulatory Affairs Correspondence
Email: gas.regulatory.affairs@fortisbc.com

Electric Regulatory Affairs Correspondence
Email: electricity.regulatory.affairs@fortisbc.com

FortisBC
16705 Fraser Highway
Surrey, B.C. V4N 0E8
Tel: (604) 576-7349
Cell: (604) 908-2790
Fax: (604) 576-7074
Email: diane.roy@fortisbc.com
www.fortisbc.com

April 6, 2017

Via email:
dscarlett@kaslo.org

Attention: Mr. Don Scarlett

Dear Mr. Scarlett

Re: FortisBC Inc. (FBC)

Project No. 3698896

2016 Long Term Electric Resource Plan (LTERP) and Long Term Demand Side Management Plan (LT DSM Plan)

Response to Mr. Don Scarlett (Scarlett) Information Request (IR) No. 1

On November 30, 2016, FBC filed the Application referenced above. In accordance with Commission Order G-197-16 setting out the Regulatory Timetable for the review of the Application, FBC respectfully submits the attached response to Scarlett IR No. 1.

If further information is required, please contact Joyce Martin at 250-368-0319.

Sincerely,

FORTISBC INC.

Original signed:

Diane Roy

Attachments

cc (email only): Commission Secretary
Registered Parties

1. FBC stated in its application at 2.3.4 "Rate Design Considerations" that:

"...the growth in interest and participation in small scale customer-owned generation, such as the installations that qualify for the Company's Net Metering Program, may begin to pose rate stability challenges for all customers. While the current participation rates and installed capacity are not a cause for concern, FBC recognizes that a proliferation of grid-connected customers with greatly reduced, zero, or periodic load is problematic for the current regulatory model where the costs of providing all aspects of service are recovered primarily through volumetric rates. FBC, like many other utilities, is concerned that the result of the widespread installation of customer-owned generation will be the transfer of costs to customers who either cannot participate, or choose not to participate".

a) Please explain how growth in participation in small scale customer-owned generation, such as the installations that qualify for the Company's Net Metering Program, may begin to pose "rate stability challenges" for all customers.

Response:

Please refer to the response to BCUC IR 1.11.4.

b) Other than loss of energy sales, what is problematic about a proliferation of grid-connected customers with greatly reduced or zero load in the current regulatory model where the costs of providing all aspects of service are recovered primarily through volumetric rates?

Response:

Please refer to the responses to BCUC IR 1.11.4, and Shadrack IRs 1.3i and 1.5i.

c) Please explain what is meant by customers with "periodic load."

Response:

Periodic load refers to the ability of some customers with customer-owned generation to be a consumptive load in some billing periods and, by virtue of the generation, to be absent of a load in other billing periods.

d) Please explain how widespread installation of customer-owned generation differs from widespread adoption of Demand-Side Management in transferring costs to customers who either cannot participate, or choose not to participate.

Response:

Please refer to the response to BCUC IR 1.11.4. As noted in that response, customers with low consumption, whether as a result of consumption habits or participation in DSM, still make a standard contribution towards the fixed costs of the system through the Customer Charge. Only customers with DG that have the ability to reduce bills to zero (or negative) can avoid this contribution completely. This means that DG customers, who still rely on and benefit from connection to the electric grid, are being subsidized by other non-DG customers.

2.a) When designing substations and powerline extensions to serve a community or neighbourhood, does FBC take into account differences in timing and magnitude of customers' daily energy consumption as a function of their work schedules, lifestyles, family size, age and composition, etc.?

Response:

Expected peak load for a new subdivision is calculated based on the number and type of planned dwellings. This calculation of expected peak load typically incorporates a diversity factor, which captures the differences in timing of customers' individual peak loads referenced in the question. Specific demographic information such as age and family size is not part of the analysis.

b) Does the statistical nature of energy use by large numbers of customers enable FBC to reduce the cost of transmission and distribution infrastructure relative to what it would take to serve those customers if they all had identical timing of their energy demand?

Response:

Yes, FBC is generally able to reduce the cost of infrastructure required to connect new customers when the peak load calculation includes the diversity factor as described in the response to Scarlett IR 1.2a.

c) Would transmission and distribution infrastructure that is near maximum capacity handle new additional customers more easily if their daily energy demand timing is substantially different from that of existing customers?

Response:

New customers whose peak demand occurs outside of system peak load periods have a reduced impact on available infrastructure peak capacity as compared to customers whose peak demand coincides with system peak load periods.

d) Will customers who self-generate a substantial portion of their daily energy consumption have significantly different daily demand profiles than customers who do not self-generate?

Response:

The answer to this question is highly dependent on the individual customer's consumption patterns and generation profile. However, a typical residential customer has daily peak load in the early morning and early evening. If such a customer has a solar PV installation, energy production begins to increase in the morning and begins to tail off in the late afternoon. Therefore, energy provided by the utility during the day will be even lower than normal, and the peaks will be reduced. The general shape of the load profile remains as morning and evening peaks with a trough through much of the day.

3. Please explain any differences in FBC's costs incurred to set up a Net Metering customer—and for billing and management of that customer enrolled in the Net Metering program—compared to those costs for a Net Metering customer that produces Net Excess Generation.

Response:

Please refer to the response to Shadrack IR 1.1i.

NM customers that produce Net Excess Generation (NEG) during a billing period do not impose additional costs over those that do not. If a NM customer produces unused annual excess generation and requires that FBC provide a refund of a credit balance on the customer's account, there are additional costs related to processing the transaction. FBC estimates this cost to be approximately $30 per occurrence, which is over and above the approximately $24 required to produce each manual bill.

4. Please explain any difference between the effect on the FBC generation, transmission and distribution system of the excess energy ("received energy") produced by nearly every Net Metering customer from time to time, and the excess energy produced by a Net Metering customer who produces Net Excess Generation.

Response:

NEG is simply the cumulative total of instantaneous excess energy produced by a net metered installation over some period of time. As such, NEG does not have any system impact that is distinct from the instantaneous transfers.

5a) Please explain the difference, if any, in the effect on FBC's generation, transmission and distribution infrastructure between

i. energy no longer purchased from FBC by a customer due to participation in a Demand-Side Management program,

Response:

Generally speaking, the impact on infrastructure of activities at a particular customer site is smaller, the further upstream in the system the impact is being measured. An individual customer will not have a perceptible impact through DSM or small-scale DG on the generation or transmission facilities of FBC.

At the distribution level, it is most useful to examine the differences that DSM, load reductions due to DG, and injections of energy due to DG may have under the assumption that the primary benefit would be a reduction in load on local facilities such as transformers.

In the case of DSM, such load reductions typically reduce the base load of a customer and are persistent. Small-scale DG that is typically less than customer load may provide some benefit but since the impact may be intermittent and be non-present when generation is nil, the benefit is reduced.

For DG that periodically injects power into the local system, the benefit may be similar to DG generally, but if the scale is sufficient, flows of power may have the same effect of straining the local system that would be experienced for an increase in customer load.

ii. energy no longer purchased from FBC by a Net Metering customer due to the customer's self- generation and

Response:

Please refer to the response to Scarlett IR 1.5ai.

iii. energy released into FBC's distribution network by a Net Metering customer who happens to produce Net Excess Generation.

Response:

Please refer to the response to Scarlett IR 1.5ai.

b) Please explain the difference, if any, in the effect on FBC's net income between

i. the value of energy no longer purchased from FBC by a customer due to participation in a Demand-Side Management program,

Response:

All variances in revenue and power purchase expense are returned to or received from FBC's customers in subsequent years' revenue requirements by way of the Flow-through deferral account, and there will be no effect on FBC's net income.

ii. the value of energy no longer purchased from FBC by a Net Metering customer due to the customer's self-generation and

Response:

Please refer to the response to Scarlett IR 1.5bi.

iii. the value of energy released into FBC's distribution network by a Net Metering customer who happens to produce Net Excess Generation.

Response:

Please refer to the response to Scarlett IR 1.5bi.