July 7, 2017

British Columbia Public Interest Advocacy Centre
Suite 208 – 1090 West Pender Street
Vancouver, B.C.
V6E 2N7

Attention: Ms. Leigha Worth, Executive Director

Dear Ms. Worth:

Re: FortisBC Inc. (FBC)

Project No. 1598911

Application for Community Solar Pilot Project

Response to the British Columbia Public Interest Advocacy Centre representing the British Columbia Old Age Pensioners’ Organization, Disability Alliance BC, Council of Senior Citizens’ Organizations of BC, and the Tenant Resource and Advisory Centre et al. (BCOAPO) Information Request (IR) No. 1

On April 26, 2017, FBC filed the Application referenced above. In accordance with the British Columbia Utilities Commission Order G-89-17 setting out the Regulatory Timetable for the review of the Application, FBC respectfully submits the attached response to BCOAPO IR No. 1.

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

Sincerely,

FORTISBC INC.

Original signed:
Diane Roy

Attachments

cc (email only): Commission Secretary
Registered Parties
1.0 Reference: Exhibit B-1, page ES-1

1.1 The pilot project is to be constructed on land currently owned by the Company at its existing Ellison Substation. In the event the pilot is successful and expanded, are there other sites currently owned by FortisBC that would be suitable for a solar installation of a similar size?

Response:

Please refer to the response to ICG IR 1.4.2.

1.2 If yes, how many such sites are there?

Response:

Please refer to the response to BCOAPO IR 1.1.1.

1.2.1 Where are the sites the Company has identified as potential locations for solar installations?

Response:

Please refer to the response to BCOAPO IR 1.1.1.

1.3 If no, when does the Company anticipate identifying and leasing/purchasing additional sites suitable for solar installations of a similar size?

Response:

The response to BCOAPO IR 1.1.1 was yes.
2.0 Reference: Exhibit B-1, page 1

2.1 While the Application is for a “pilot project”, will the resulting installation be considered as contributing to FortisBC’s future load/resource balance?

Response:

Please refer to the response to BCUC IR 1.1.2.

2.2 If not, please explain why the project will not be included in FBC’s future load/resource balance.

Response:

Please refer to the response to BCUC IR 1.1.2.

2.3 Whether yes or no, please indicate what contribution a 240 kW solar array installation would or could be assigned in terms of the energy and capacity.

Response:

As discussed in Section 4.5 of the Application, the expected annual energy output of the CSPP in the first year is approximately 290,000 kWh, or 0.29 GWh. This output is expected to decline at approximately 0.5 per cent annually, which is typical for solar panels. The capacity of the CSPP is about 200 KW (AC), or 0.2 MW, during peak summer sunlight conditions; however, winter peak capacity is expected to be minimal. For reference, as discussed in Section 3.2 of the FBC 2016 LTERP, FBC’s 2016 gross load was 3,544 GWh and peak demand was 731 MW for the winter and 590 MW for the summer.
**Reference:** Exhibit B-2, pp. 2-3

**Preamble:** The February 2016 Survey indicated that main reason residential and commercial customers may not consider rooftop solar is that it will be too expensive to install and that the strongest secondary reason is that it will take too long to get a full return on investment.

3.1 Please compare the proposed cost per kWh under FortisBC’s solar offset model with the cost of incremental purchases under FortisBC’s current Residential and Commercial rates.

**Response:**

The rate included in the Solar Offset pricing model is $0.246/kWh. The current energy rates for Residential and Commercial service are below.

<table>
<thead>
<tr>
<th>Rate</th>
<th>Tier 1 Rate (Threshold) ($/kWh)</th>
<th>Tier 2 Rate ($/kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS01 (Residential default rate)</td>
<td>0.10117 (1,600 kWh bi-monthly)</td>
<td>0.15617</td>
</tr>
<tr>
<td>RS03 (Exempt Residential rate)</td>
<td>0.11749</td>
<td>n/a</td>
</tr>
<tr>
<td>RS20 (Small Commercial)</td>
<td>0.10195</td>
<td>n/a</td>
</tr>
<tr>
<td>RS21 (Commercial)</td>
<td>0.08663 (8,000 kWh monthly)</td>
<td>0.07191</td>
</tr>
<tr>
<td>RS30 (Large Commercial – Primary)</td>
<td>0.05571</td>
<td>n/a</td>
</tr>
<tr>
<td>RS31 (Large Commercial – Transmission)</td>
<td>0.05516</td>
<td>n/a</td>
</tr>
</tbody>
</table>

3.2 How many years does FortisBC expect it would be before the cost (per kWh) of incremental Residential and Commercial purchases under FortisBC’s Tariff rates would exceed the proposed levelized rate of $0.231/kWh?

**Response:**

Please refer to the response to BCUC IR 1.13.3.

---

1 Rate updated in the Errata to the Application filed concurrently with these IR Responses.
4.0 Reference: Exhibit B-1, page 4

4.1 Is there not a risk that, if the cost of solar PV continues to fall as predicted by Elon Musk, then customers who sign up for FortisBC community solar program may, due to the high front end costs of self-installation, later choose to opt-out and install their own systems — particularly if it is clear that the cost of the solar energy is less if they install/own a new (lower cost) system?

Response:

The risk described in the question exists. There are risk-mitigating factors, such as:

1. FBC expects that customers that enroll in the Program may not have the ability to install their own solar panels due to physical or building ownership constraints.

2. Although the cost of solar installations may fall, electricity prices will increase and the relative financial benefit of the FBC CSPP will increase.

The CSPP is a pilot program and as such, changes to the Program may be required in the future to respond to various changes in the environment or other factors.

4.2 Has FortisBC considered how it would address such a risk if the pilot is expanded to a full program?

Response:

Please refer to the response to BCOAPO IR 1.4.1.
5.0 Reference: Exhibit B-1, pp. 5-6

5.1 Will the CCSP installation at the Ellison substation be a roof-top or a ground mounted system?

Response:

The CCSP installation at the Ellison substation will be a ground mounted system.

5.2 If ground mounted, could the land be used for some other purpose (e.g. storage of inventory, etc.) or sold?

Response:

The land which is to be used for the CSPP is currently zoned Agriculture 1 (A1). Although most of the principle uses for this zone are largely agriculture related, there is one use referred to as “Utility Services, Minor Impact”, which is defined as follows:

Utility Services, Minor Impact means development for utility infrastructure purposes which is likely to have only minor impact on the environment or adjacent land uses by virtue of its appearance, noise, size, traffic generation or operational characteristics.

Following consultations with the City of Kelowna, the CSPP meets the definition of “Utility Services, Minor Impact”. Any alternative use for the property would need to be reviewed by the City of Kelowna.

The current zoning and the proximity to the substation has considerable impact on the commercial value of the property. While FBC has the option to sell the property, it is unlikely to gather much interest from developers.
6.0 Reference: Exhibit B-1, pp 6-7

6.1 Please confirm that the capital cost is based on “incremental costs” and does not include any compensation for or contribution towards the use of the existing land or facilities owned by FortisBC.

Response:

Confirmed. The estimated capital cost does not include any compensation for or contribution towards the use of the existing land or facilities owned by FBC.

6.2 Is the AFUDC rate used based on FortisBC’s incremental cost of capital in 2017?

Response:

No; the AFUDC rate utilized is the one that has been approved in FBC’s Annual Review for 2017 Rates. The actual AFUDC rate used will depend on the timing of the capital spending; FBC’s AFUDC rate will be revised January 1, 2018 when a new rate is approved in the Annual Review for 2018 Rates.

As stated in the Annual Review for 2017 Rates at page 52, FBC applies AFUDC to projects that are greater than 3 months in duration and greater than $100 thousand. FBC’s approved treatment is consistent with the BCUC Uniform System of Accounts for Electric Utilities which discusses Allowance for Funds Used During Construction at page 101.

As it is FBC’s standard practice to utilize the approved AFUDC rate, FBC has not calculated an AFUDC rate based on an incremental cost of capital.

6.2.1 If not, what is it based on and why is this value appropriate if the project is to be priced on an incremental basis as indicated at page 1 (lines 18-19)?

---

Response:

Please refer to the response to BCOAPO IR 1.6.2.

6.2.2 If not, what is the difference between FortisBC’s incremental cost of capital in 2017 and the AFUDC rate that will be used?

Response:

Please refer to the response to BCOAPO IR 1.6.2.

6.3 Does the capital cost include all costs that will be incurred in connecting the solar facility to FortisBC’s distribution system?

Response:

Yes, the estimate provided in the Application includes all of the costs to connect the solar facility to the FBC distribution system.

6.4 Will FortisBC incur any additional distribution costs in order to integrate the power received from the solar facility into its system?

Response:

No. Please refer to the response to BCOAPO IR 1.6.3.

6.4.1 If so, what are they and have they been fully included in the cost estimate?
Response:

6.5 How was the expected annual energy output from the CCSP for its first year of operation determined?

Response:

Please refer to the response to BCUC IR 1.7.2.
Please confirm (or correct) the following understanding of the treatment of the proposed CSPP capital expenditures under the PBR Plan:

- If the total capital spending for 2017 (including the CSPP spending) is inside the dead band then there will be no adjustment to the rate base during the PBR term for purposes of setting rates.

- If the total capital spending for 2017 (including the CSPP spending) is inside the dead band then the associated additions to rate base are included in the calculation of any earnings sharing between customers and FortisBC for 2017.

- If the total capital spending for 2017 (including CSPP spending) is outside the dead band then the excess capital will be added to rate base for the following year (i.e., 2018) for purposes of setting rates.

- If the total capital spending for 2017 (including CSPP spending) is outside the dead band then the excess capital is excluded from the earnings sharing calculation for 2017.

Response:

FBC confirms this treatment of the CSPP capital expenditures under the 2014 – 2019 PBR Plan, with the understanding that the third and fourth bullets refer to capital spending being not just outside the dead band but also in excess of the dead band and that “excess capital” refers to the amount by which the capital expenditures exceed the dead band.

Please confirm (or correct) the following understanding of the incremental O&M costs that will be incurred in 2019:

- There will be no adjustment to the determination of O&M costs in 2019 for rate setting purposes.

- Variances in O&M (including the O&M for the CSPP) will be subject to the earnings sharing mechanism.

---

This is as opposed to a scenario where capital expenditures are outside the dead band, but below the dead band, in which case the rate base for the following year will be reduced by the amount the capital expenditures vary from the dead band.
Response:

FBC confirms this treatment of the incremental O&M expenses related to the CSPP under the 2014 – 2019 PBR Plan.
8.0 Reference: Exhibit B-1, page 10 and Appendix A

8.1 According to Appendix A, all customers of FortisBC (excepting those specifically noted) are eligible for both rates. Does this mean that FortisBC’s transmission connected customers would also be eligible?

Response:

Please refer to the response to BCSEA IR 1.11.1.

8.2 Have any of FortisBC’s transmission connected customers expressed interest in solar energy?

Response:

FBC has not been contacted by any of its transmission connected Commercial customers regarding solar energy. The Company assumes that Nelson Hydro is interested in solar energy since it is also in the process of commissioning a community solar project, but it has not expressed interest in acquiring solar energy from FBC.

8.3 If not, please provide a schedule setting out those Rate Schedules under which currently served customers would be eligible to participate.

Response:

Not applicable as transmission customers are eligible. Please refer to the response to BCOAPO IR 1.8.1.
9.0 Reference: Exhibit B-1, pp. 10-13

9.1 Is there any experience from other jurisdictions or FortisBC’s service area to support the 40 year expected life?

Response:

FBC did not use direct experience from other jurisdictions or the FBC service area to support the 40-year life. Please refer to the responses to BCUC IRs 1.11.1 and 1.11.2.

9.1.1 If so, please provide the materials that have informed FortisBC’s 40 year expected life.

Response:

Please refer to the responses to BCUC IRs 1.11.1 and 1.11.2.

9.2 Page 10 (lines 15-18) indicate that FortisBC does not intend to adjust the rates on an annual basis. However, at page 12 (lines 30-33) and page 13 (lines 10-13) the Application indicates that, while the rates will not be increased in the future, they may be decreased.

9.2.1 Please provide examples of circumstances that could lead to a reduction in the rates.

Response:

There are three primary circumstances in which the rates could be reduced:

1. The panel degradation is less than expected.

2. The capital or operating costs of the CSPP are materially less than expected.

3. There are significant changes in CSPP participation rates.
9.2.2 At pages 12 and 13 it is suggested that the rates may be decreased in response to the competitiveness of the Program with other renewable options. Does this mean that the rates could be set at levels that would not recover the incremental cost of the Program? If so, please explain why this is appropriate.

Response:

In the future, if FBC believes it has become more economic from a general ratepayer perspective to reduce rates and increase subscription levels than it is to maintain rates and have lower subscription levels, FBC would apply to reduce rates. This may result in rates that do not fully recover the incremental cost of the Program but would minimize any negative rate impacts on non-participants.

9.3 There appears to be no allowance in the determination of the rates for incremental costs associated with attracting customers to the Program and, subsequently, administering customer participation in the program, including any revisions that may be necessary to billing systems and maintenance of a waiting list. Please confirm that this is the case.

Response:

Any costs associated with activities noted in the question are expected to be negligible and can be carried out by FBC staff in the normal course of work responsibilities. As such, they are not expressly recognized in the rate derivation.

9.3.1 What are the estimated incremental costs of such activities?

Response:

Please refer to the response to BCOAPO IR 1.9.3.
9.3.2 If yes, please explain why these costs are not included in the associated solar rates.

Response:
Please refer to the response to BCOAPO IR 1.9.3.

9.4 There appears to be no separate provision for taxes in the determination of the rates. Please explain how any incremental taxes (income tax or other) attributable to the Project are addressed and included in the rate calculation.

Response:
Incremental taxes due to the Project are included in the financial analysis and rate derivation. Please refer to Appendix B-2 of the Application, Line 4 for the Property Taxes and Line 6 for the Income Taxes.

9.4.1 If not included in the calculation, what would be the impact of including taxes?

Response:
Please refer to the response to BCOAPO IR 1.9.4.

9.4.2 If not included in the calculation, please explain why these costs are not included in the associated solar rates.
Response:

Please refer to the response to BCOAPO IR 1.9.4.
10.0 Reference: Exhibit B-1, page 14

10.1 The text at lines 13-14 indicates that any unsubscribed power from the CSPP will be absorbed into the FBC resource stack and displace other sources of power. Wouldn’t the “subscribed power” also be absorbed into FBC’s resource stack and offset other sources of power? What is different about the subscribed vs. unsubscribed power in terms of FBC’s resource stack and the operation of its system?

Response:

FBC confirms that, from an FBC power supply operational perspective, there is no difference between subscribed and unsubscribed power.
11.0 Reference: Pages 14-15

11.1 If the pilot were to lead to a Community Solar Program with multiple installations, please confirm (per page 14, lines 16-2) there would be a separate “rate” for each installation based on its costs.

Response:

Please refer to the response to BCSEA IR 1.18.1.

11.1.1 Under such circumstances, please confirm that the proposed terms and conditions do not prevent customers from opting out of participating in an earlier installation and then subscribing for participation in a later (lower cost) installation?

Response:

FBC is offering a pilot program only at this time and cannot speculate on how this Program may evolve.

11.1.2 If no such provisions are contemplated, is there not a risk of earlier (higher cost installations) becoming stranded assets?

Response:

Please refer to the responses to BCOAPO IR 1.11.1. and 1.11.1.1.

11.2 Why are the term and cancellation provisions not included in the actual tariffs in Appendix A?
1 **Response:**

2 For the Solar Offset rate, the term is included in the rate schedules attached as Appendix A in Special Provision 2.

3 For the Virtual Solar Rate, it appears that the final page of the rate schedule was omitted from the original filing. This page has been included as part of the Errata filed concurrently with the submission of these IR responses and includes the term as Special Provision 1.