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June 21, 2017

Sent via email/eFile

**FORTISBC INC. COMMUNITY SOLAR PILOT PROJECT**  
**EXHIBIT A-7**

Ms. Diane Roy  
Vice President, Regulatory Affairs  
FortisBC Inc.  
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**Re: FortisBC Inc. – Project No. 1598911 – Community Solar Pilot Project – Information Request No. 1**

Dear Ms. Roy:

Further to your April 26, 2017 filing of the above-noted application, please find enclosed British Columbia Utilities Commission Information Request No. 1. In accordance with the regulatory timetable, please file your responses no later than Friday, July 7, 2017.

Sincerely,

*Original signed by:*

Patrick Wruck  
Commission Secretary

/ad  
Enclosure



**FortisBC Inc.**  
**Application for a Community Solar Pilot Project**

**INFORMATION REQUEST NO. 1 TO FORTISBC INC.**

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**A. COMMUNITY SOLAR PILOT OPPORTUNITY AND PURPOSE**

- 1.0    **Reference:**    **COMMUNITY SOLAR PILOT OPPORTUNITY**  
            **Exhibit B-1, Application, Section 1, p. 1; FortisBC Energy Inc. Inquiry into the Offering of Products and Services in Alternative Energy Solutions and Other Initiatives, Order G-201-12 and Report dated December 27, 2012, pp. 6-17**  
            **Purpose of the Community Solar Pilot Project (CSPP)**

FortisBC Inc. (FBC) states the following on page 1 of the Application:

The CSPP is not a significant source of energy in the context of FBC's overall requirements; the Program is driven by customer considerations...The Program will provide customers with a new renewable energy option, and provide information to consider in the development of potential expanded offerings in the future.

FBC further states on page 1 of the Application that "there is no existing or mid-term power supply shortfall driving the need for solar energy".

- 1.1    What other service offerings have FBC provided in the past which have not been driven by public need? Please describe these service offerings.
- 1.2    Please confirm, or explain otherwise, that FBC does not consider the purpose of the CSPP as being either a new generation resource or a demand-side management (DSM) activity.

On December 27, 2012, the Commission issued Order G-201-12 and accompanying report regarding the FortisBC Energy Inc. (FEI) Inquiry into the Offering of Products and Services in Alternative Energy Solutions (AES) and Other New Initiatives (AES Inquiry Report).

On pages 6–7 of the AES Inquiry Report, the Commission outlined the following key principles and guidelines:

- Only regulate where required;
- Regulation should not impede competitive markets;
- Regulation is required when:
  - Natural monopoly characteristics are present and there is a need to regulate to protect the public interest; and/or
  - Legislation (such as the *Utilities Commission Act* or the *Clean Energy Act*), required an activity to be regulated.

- 1.3 Please confirm, or explain otherwise, that the CSPP would appropriately be characterized as a new service offering and/or a new business activity.
- 1.4 Please discuss how the proposed CSPP aligns with each of the principles and guidelines established in the AES Inquiry Report. Please identify and address each principle and guideline outlined in the AES Inquiry Report in this response.

**2.0 Reference: COMMUNITY SOLAR PILOT OPPORTUNITY**  
**Exhibit B-1, Executive Summary, p. ES-1**  
**Renewable Energy Certificate market**

FBC states on page ES-1 of the Application that it “seeks approval for two rate options that will provide customers with an opportunity for including solar power in the mix of energy used to power their home or business.”

- 2.1 Did FBC consider offering an unbundled renewable energy certificate (REC) product to its customers as an alternative to the CSPP? If not, why not? If yes, please explain why this option was not pursued.
- 2.2 Would FBC characterize the CSPP as providing a bundled renewable electricity product, meaning that the environmental attributes of solar generation are bundled with regulated electrical energy? Please explain.
- 2.3 Does FBC plan on having the environmental attributes from the CSPP certified by an environmental standards agency for renewable low-impact electricity products, such as EcoLogo? Please explain why or why not.
- 2.4 Please discuss the potential impact the CSPP will have on the REC market. In particular, does FBC consider there to be a potentially negative impact on the REC market as a result of the CSPP?

**B. CUSTOMER FEEDBACK AND ENGAGEMENT**

**3.0 Reference: CUSTOMER FEEDBACK AND ENGAGEMENT**  
**Exhibit B-1: Section 2, pp. 2–3; Appendices D and E**  
**Customer surveys**

FBC states on page 2 of the Application: “In order to gauge customer interest and preferences toward a FBC solar energy offering, the Company contracted Sentis Market Research Inc. (Sentis) to conduct two research surveys – one completed in February 2016 and the second in December 2016.”

- 3.1 Please provide the total cost incurred by FBC, both in terms of external and internal resources, to conduct, analyze and report on the customer surveys.

- 3.2 Aside from the February and December 2016 customer surveys conducted, did FBC undertake any other methods of research and/or consultation to assess the level of customer interest in a solar energy offering? If yes, please describe these other methods and the findings.
- 3.2.1 If FBC did not undertake any other methods of research and/or consultation, please explain why not.

On page 2 of the Application, FBC states that the February 2016 survey was of 506 residential customers and 217 commercial customers.

On page 3 of the Application, FBC states that during November and December 2016, it conducted an online survey of 305 residential and 102 commercial customers.

- 3.3 What is the total number of FBC residential customers and the total number of FBC commercial customers who would be eligible to participate in the CSPP?
- 3.3.1 Based on the above response, please provide the percentage of residential customers and the percentage of commercial customers who were surveyed in each of the February and December 2016 surveys.
- 3.4 Please confirm, or explain otherwise, that the participants for both the February and December surveys were chosen randomly.
- 3.5 From the February 29, 2016 survey, please provide the following information:
- A copy of the survey questions; and
  - A table showing the margins of error associated with each sample size at the 95 percent confidence level.

On page 2 of the Application, FBC states that it was “interested in assessing residential and commercial customer interest in, and willingness to pay for, electricity from solar PV [photovoltaic] installations, both at the ‘community level’ and the ‘rooftop level’.”

- 3.6 As part of the February 2016 or the December 2016 surveys, please explain if FBC asked questions related to the level of customers’ price sensitivity to participate in a community solar project.
- 3.6.1 If no, please explain why not.
- 3.6.2 If yes, please explain if FBC provided customers in the survey with ranges of potential rates to gauge the dollar value at which customers would consider subscribing to a community solar project.

FBC further states on page 2 of the Application: “Key results of the survey indicate broad support for FBC to begin offering solar energy as an alternative to help meet customer demand, with three-quarters of both residential and commercial customers stating that FBC should offer solar.”

- 3.7 Please clarify if FBC’s statement in the above preamble means that three-quarters of customers stated that FBC should offer solar or that three-quarters of customers stated that they would subscribe to a solar offering.

On page 8 of the February 2016 survey results provided as Appendix D to the Application, it states that 42 percent of residential customers are “likely” to consider joining a community solar project in the next 3 to 5 years. Of this 42 percent, 15 percent are “very likely” and 27 percent are “somewhat likely”. The results are similar for commercial customers.

- 3.8 Please explain why FBC considers these survey results to indicate a sufficient level of customer interest to support implementing the CSPP.
- 3.9 How low would the percentage of “likely” respondents need to have been for FBC to conclude that the CSPP does not have adequate support at this time? Please explain.

Page 11 of Appendix D states the following:

Among those who think FortisBC should offer solar electric energy as an alternative, 10% would definitely consider contributing a small amount on a monthly basis to help offset the increased cost of generating solar energy – 31% might consider it. 42% said that they would not consider it.

- 3.10 With regard to the above statement, please quantify in dollars the “small amount” which 10 percent of the customers surveyed would “definitely” consider to offset the increased cost of generating solar energy.
- 3.11 Please discuss why FBC considers a 10 percent “definitely” response level and a 31 percent “might” response level to be an adequate indication of customer interest to support implementing the CSPP.
- 3.12 At approximately what percentage of customers surveyed stating that they would “not consider it” would FBC have concluded that the CSPP is not adequately supported at this time? Please explain.

The December 2016 survey results were filed by FBC as Appendix E to the Application.

- 3.13 Please explain why the cover page of the December 2016 survey results in Appendix E states “Interim Draft Report”.
- 3.14 Does FBC have the “final” report? If not, why not? If yes, please provide the final report (if the final report differs from the report provided as Appendix E to the Application).

On page 10 of the December 2016 survey results in Appendix E, it states that customers were presented with two options for how they could pay for a rooftop solar electric system, including purchasing a solar panel for \$1,300 and leasing solar panels for \$115 per year.

On page 16 of the December 2016 survey results, it states: “Both residential and commercial customers consider rooftop solar more appealing than community solar.”

- 3.15 Please explain whether, similar to the question regarding rooftop solar, customers were asked if they would consider purchasing a community solar panel for a certain dollar value, and how likely they would be to do so.
  - 3.15.1 If yes, please provide the question asked related to this, including the purchase price quoted, and explain how the price per panel was derived.
  - 3.15.2 If this question was not asked, please explain why not. As part of this response, please explain how the comparison of rooftop and community solar is reasonable in the absence of purchase price comparisons.

On page 8 of the February 2016 survey results, it states that 42 percent of residential customers and 41 percent of commercial customers are likely to consider joining a community solar project in the next three to five years.

On page 14 of the December 2016 survey results, it states: "The primary driver to participate in a community solar installation is financial, particularly among commercial customers."

On page 4 of the Application, FBC states: "Both interest in renewable energy technologies generally, and solar PV systems in particular, are increasing. This is partially in response to the falling cost of solar PV components."

- 3.16 Given the survey results regarding the timing of when customers would likely consider joining a solar project and the importance of cost considerations to customers, please discuss whether FBC considered delaying the implementation of the CSPP for a couple more years to take advantage of potentially lower costs and greater customer interest in solar energy.
- 3.17 Please confirm, or explain otherwise, that FBC is planning to hold stakeholder consultation workshops over the summer related to its upcoming rate design application.
  - 3.17.1 If confirmed, please discuss whether FBC has considered obtaining additional customer feedback on the proposed CSPP as part of these workshops.

## C. PROJECT DESCRIPTION

- 4.0 **Reference:** **PROJECT DESCRIPTION**  
**Exhibit B-1, Section 4.1, p. 5**  
**Location**

On page 5 of the Application, FBC states:

Preliminary discussions with authorities at the Kelowna Airport have not uncovered any concerns on the part of the airport with the proximity of the array. FBC will seek NAV Canada approval for the location of the CSPP as part of the permitting process. Also as part of the permitting process, the Company has sent letters describing the Project details to landowners in close proximity to the Project location.

- 4.1 Has FBC received, or does it expect to receive, any feedback from the above parties or other parties?
  - 4.1.1 If feedback has been received, were any concerns raised by the parties? If yes, what were the concerns and how has FBC addressed them.

- 5.0 **Reference:** **PROJECT DESCRIPTION**  
**Exhibit B-1, Section 4.3, p. 7**  
**Operations and maintenance expenses**

On page 7 of the Application, FBC states that it expects that operations and maintenance (O&M) expenses for the facility will begin at \$9 thousand in 2019 and escalate at two percent inflation thereafter.

- 5.1 Please provide a breakdown and description of the \$9 thousand O&M expenses, including all assumptions made in determining this amount.
- 5.2 Please confirm, or explain otherwise, that the \$9 thousand is forecast to be incurred regardless of the level of customer subscription (i.e. the amount is not variable based on the number of customers subscribed in the program).

**6.0 Reference:** **PROJECT DESCRIPTION**  
**Exhibit B-1, pp. 7, 16**  
**Marketing and promotion**

FBC states on page 7 of the Application that it will begin promoting the CSPP as it nears completion.

FBC further states on page 16 of the Application:

Promotion will initially be limited to a series of news releases, along with a website presence, Twitter announcement, and e-mail to the Company's E-billing customers. Should these steps fail to reach full subscription to the Program, the Company will consider additional means of customer communication such as messaging via a paper bill insert.

- 6.1 Please discuss how much FBC plans to spend annually on marketing and administration (i.e. billing, maintaining a customer waitlist, etc.) for the CSPP.
- 6.2 Are the marketing and administration costs included in the estimated \$9 thousand of annual O&M costs? If not, please explain why not.
- 6.3 Aside from messaging via a paper bill insert, please describe any additional marketing FBC would consider undertaking to increase subscription to the CSPP.
- 6.4 In an event where the program is not fully subscribed and FBC proceeds with additional forms of customer communication and marketing, what would be the likely maximum amount of additional costs that FBC would consider spending on these activities?
- 6.5 What steps does FBC plan to take to ensure that customers have a full understanding of the CSPP, including its cost and bill impacts, prior to subscribing?

**7.0 Reference:** **PROJECT DESCRIPTION**  
**Exhibit B-1: Section 4.5, p. 7; Appendix B-2**  
**Energy production**

On page 7 of the Application, FBC states:

The expected annual energy output of the CSPP in the first year is approximately 290,000 kilowatt-hour (kWh), or about 400 kWh for each of the 720 panels. This output is expected to decline at approximately 0.5 per cent annually, which is typical for solar panels.

- 7.1 Please explain if FBC anticipates any downtime in the energy output of the CSPP in a typical year, such as from lack of sunshine, maintenance or other factors.
  - 7.1.1 Please confirm, or explain otherwise, that the 290,000 kWh expected annual energy output of the CSPP in the first year has taken into account all anticipated downtime of the CSPP.
  - 7.1.2 Please confirm, or explain otherwise, that all anticipated downtime of the CSPP has been factored into the financial model provided in Appendix B-2 of the Application.
- 7.2 Please explain how FBC determined the 290,000 kWh estimate for energy output and describe all assumptions made in arriving at this estimate.

8.0      **Reference:**    **REGULATORY TREATMENT**  
                         **Exhibit B-1, p. 8**  
                         **2014–2019 Performance-based Ratemaking Plan**

FBC states on page 8 of the Application that it operates under the terms of a Performance-based Ratemaking Plan (PBR) during the period from 2014–2019, which was approved by the Commission pursuant to Order G-139-14.

FBC further states the following on page 8 of the Application:

FBC will include the capital costs of the CSPP, estimated at \$961 thousand, within the 2017 formula capital spending envelope, and the O&M expense, estimated at \$9 thousand starting in 2019, within the 2019 formula O&M envelope. The timing of including the capital costs in rate base will depend on the level of FBC's actual 2017 capital expenditures....

Under the terms of the PBR Plan, only the allowed formula capital expenditure levels are included in rate base during the PBR term, unless the actual expenditures exceed the prescribed dead band...

- 8.1      Please provide FBC's total projected capital expenditures for 2017 (excluding capital expenditures that are outside the PBR formula-driven spending envelope).
- 8.2      Does FBC project that it will be exceeding the capital dead-band (either the one-year or cumulative dead-band) in 2017?
  - 8.2.1    If yes, please provide the expected amount by which FBC projects to exceed the dead-band.
  - 8.2.2    If no, please provide the amount by which FBC projects to be over the formula capital spending amount for 2017, and by how much the projected 2017 capital spending is below the capital dead-band.
- 8.3      In the event that FBC is projecting to exceed the capital dead-band in 2017, please discuss whether it would be appropriate to defer capital spending on the CSPP to a future year.

FBC states the following on page 8 of the Application:

Although FBC is not seeking any incremental funding for the capital expenditures or O&M expense associated with this Program, the Company recognizes that the 2013 base capital expenditures, and the formula capital under PBR, did not anticipate expenditures on new generation resources such as the CSPP, or other new resources.

- 8.4      Please explain if FBC plans to re-prioritize other capital expenditures (i.e. defer other capital expenditures) in order to incorporate the capital expenditures for the CSPP into its capital spending for 2017 (or 2018 if completion of the project is delayed).
  - 8.4.1    If yes, please describe the capital expenditures which FBC plans to defer and the impact of deferring these capital expenditures, if any, on FBC's ability to provide safe and reliable service to customers.

9.0	<b>Reference:</b> <b>REGULATORY TREATMENT</b> <b>Exhibit B-1, Table 5-1, pp. 1, 8–9; FBC 2016 Long Term Electric Resource Plan (LTERP) and Long Term Demand-side Management (LT DSM) Plan proceeding, Exhibit B-2, BCUC IR 11.6, 20.2</b> <b><i>Utilities Commission Act (UCA) section 44.2 requirements</i></b>
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FBC states on page 8 of the Application that the PBR Plan “did not anticipate expenditures on new generation resources such as the CSPP, or other new resources” and that FBC is therefore seeking acceptance of the capital expenditures pursuant to section 44.2 of the UCA.

In Table 5-1 on page 9 of the Application, FBC outlines the requirements under section 44.2 of the UCA, including consideration of its most recent LTERP and the interests of persons who receive or may receive service from the utility.

With regard to objective (e) in Table 5-1, FBC “submits the Solar Pilot Project is in the interests of its customers.”

- 9.1    Please confirm, or explain otherwise, that the primary public interest justification for the CSPP is customer interest in solar energy.
- 9.2    Notwithstanding the potential level of customer interest in solar energy, please provide other rationale to support the CSPP being in the public interest. As part of this response, please specifically address if the CSPP is expected to result in greenhouse gas reductions.

With regard to objective (c) in Table 5-1, FBC states that it is “not a prescribed utility for the purpose of the CEA [Clean Energy Act]” and further states that the CSPP is “nevertheless consistent with Sections 6 and 19 of the CEA.”

- 9.3    Please confirm, or explain otherwise, that the CSPP is not necessary for FBC to meet either its own clean energy objectives or to meet any clean energy objectives put forth by government.
- 9.4    Please explain whether the CSPP will impact FBC’s percentage of clean electricity generation.
  - 9.4.1    As part of the above response, please explain whether FBC’s current resource stack is considered to be 100 percent clean.

FBC states on page 1 of the Application:

The CSPP is not a significant source of energy in the context of FBC’s overall requirements; the Program is driven primarily by customer considerations... The Program will provide customers with a new renewable energy option, and provide information to consider in the development of potential expanded offerings in the future.

FBC further references its most recent LTERP on page 1 of the Application and states that there is no “existing or mid-term power supply shortfall driving the need for solar energy”.

In response to BCUC IR 11.6 in the FBC 2016 LTERP and LT DSM Plan proceeding, FBC states that the “community solar pilot project is not being relied upon to meet the load forecast and is not included in the recommended resource portfolio.” FBC also states that it considers the CSPP to be consistent with the action item in the LTERP which states: “Continue to monitor the energy planning environment”.

In response to BCUC IR 20.2 in the LTERP and LT DSM Plan proceeding, FBC states that “there are no other generation capital expenditures expected in the next four years that FBC intends to construct or extend to serve the estimated demand.”

- 9.5 Please confirm, or explain otherwise, that the CSPP is a new generation source to the extent that if the CSPP is not fully subscribed, the energy generated by the solar panels will be added to FBC's existing resource portfolio.
- 9.6 Given FBC's statement in response to BCUC IR 20.2 in the LTERP and LT DSM Plan proceeding that it does not expect to construct or extend other generation capital expenditures in the next four years, does this indicate that FBC considers it unlikely that the CSPP program offering would be expanded at the end of the two-year pilot period?
- 9.6.1 If yes, does this indicate that FBC considers there to be a fairly high level of uncertainty as to the success of the CSPP, particularly with regard to customer subscription? Please discuss.
- 9.7 Please discuss the appropriateness of applying to expand the CSPP program at the end of two years given that FBC has not included additional generation capital expenditures within the next four years as part of its LTERP and LT DSM Plan.
- 9.7.1 As part of the above response, please comment on whether there may be a misalignment between the CSPP and LTERP and DSM Plan.

#### **D. PROGRAM DESCRIPTION**

- 10.0 **Reference:** **PRICING METHODOLOGY AND RATE SCHEDULES**  
**Exhibit B-1, Section 6.2, p. 10**  
**Pricing methodology**

FBC states on page 10 of the Application:

FBC has designed two pricing mechanisms that could ultimately be used in the Program...While two pricing options have been developed, FBC proposes to offer only the FortisBC Virtual Solar option to customers at this time. The reasons for this approach is that this type of rate option was preferred by surveyed customers, and that a single option is easier to manage both administratively and in matching Program output to customer usage.

- 10.1 Given the relatively short term of the pilot project, the benefits of offering the single rate option (i.e. Rate Schedule 85A), and that FBC is proposing to only offer Rate Schedule 85A initially, please explain why it would not be more appropriate for the Commission to approve only Rate Schedule 85A at this time.
- 10.2 Please discuss the risk that the data derived from the two-year pilot program will be more difficult to analyze and reach conclusions on if FBC introduces the second rate schedule option partway through the pilot.

- 11.0 **Reference:** **RATE DESCRIPTIONS**  
**Exhibit B-1: Section 6.3.1, p. 11; Appendix B-1, p. 1**  
**Depreciation rate**

FBC states the following on page 11 of the Application:

The average service life of the Solar Photovoltaic Panels of 40 years was determined primarily based on panel degradation rates. Modern monocrystalline solar panels such as those proposed to be installed in the CSPP typically show output degradation of about 0.5 per cent per year. Based on this, the panels are still expected to be producing over 80% of rated output at the end of 40 years. The average service life of the

substation and the communication equipment is 50 years and 15 years respectively in line with standard industry practice.

- 11.1 Please confirm, or explain otherwise, that an average service life of 40 years for the Solar PV Panels is consistent with the average service life utilized by other US GAAP-reporting entities for this type of asset.
- 11.2 Please explain the research/analysis undertaken by FBC to ensure that 40 years is an appropriate average service life to assign to the Solar PV Panels, particularly given that the PV Panels are a relatively new technology.
- 11.3 Please discuss the risk of obsolescence associated with the PV Panels.
  - 11.3.1 Please discuss the appropriateness of calculating the levelized rate for the CSPP using a 40-year analysis period in the context of potential obsolescence issues.
- 11.4 Please provide the anticipated warranty period for the Solar PV Panels and discuss how this warranty period compares to industry standards.
- 11.5 Given FBC's statement in the above preamble that the communication equipment has an average service life of 15 years, please confirm, or explain otherwise, that FBC has included the cost of replacing the communication equipment as part of the 40-year levelized rate analysis.

On page 1 of Appendix B-1 to the Application, FBC states:

Attached as Appendix B-2 is the revenue requirements analysis for the proposed Community Solar Pilot Project (CSPP) over a 40 year period. The 40 year analysis period is chosen as the average composite depreciation rate is 2.45 percent based on the asset categories that account for the Project capital.

- 11.6 Please provide the same revenue requirements analysis as was provided in Appendix B-2, with the accompanying working excel model, using a 25-year analysis period (i.e. under the assumption that the incremental revenue requirement is recovered from CSPP customers over 25 years instead of 40 years).
  - 11.6.1 Please clearly indicate what the monthly and annual rate would be under a 25-year scenario for the FortisBC Virtual Solar rate option. Please also indicate what the rate would be under the FortisBC Solar Offset option.
- 11.7 If FBC were to amend the proposed rate schedules to charge rates based on a 25-year recovery period instead of the proposed 40-year period, please discuss the potential viability of the CSPP.

**12.0 Reference: RATE DESCRIPTIONS**

**Exhibit B-1, Section 6.3.5, pp. 11–12; British Columbia Hydro and Power Authority (BC Hydro) Electric Tariff Sixteenth Revision Effective April 1, 2016, Rate Schedule 3808 Power Purchase Displacement Rates**

On pages 11–12 of the Application, FBC states:

The BC Hydro Power Purchase Agreement (BCH PPA) has been assumed as the resource to value energy displacement cost due to solar generation. Also, a future renewal of the BCH PPA has been assumed. The year F2017 (1st April 2016 to 31st March 2017) BC Hydro rate of \$46.99 / MWh has been effectively increased by the rate increase of 3.5 percent effective April 1, 2017 (F2018) and 3 percent effective April 1, 2018 (F2019). Thereafter, FBC has assumed the B.C. Government's set target rate increases of 2.6 percent for each year until F2024 and 3 percent for the remaining period of the analysis.

- 12.1 Given that FBC has estimated the average service life of the Solar PV Panels at 40 years, please explain why FBC is not using the long run marginal cost, as provided in FBC's 2016 LTERP and LT DSM Plan to value the energy displacement cost from solar generation.
  - 12.2 Please confirm, or explain otherwise, that the \$46.99 per MWh cost quoted in the above preamble is based on BC Hydro's F2017 Rate Schedule 3808 Tranche 1 energy price.
  - 12.3 Please explain which source(s) of energy from FBC's resource stack the solar generated energy would likely be replacing.
- 13.0 **Reference:** **RATE DESCRIPTIONS**  
**Exhibit B-1, Section 6.3.6, p. 13**  
**FortisBC Virtual Solar Panel (Rate Schedule 85A)**

FBC states the following on page 12 of the Application:

Under the FortisBC Virtual Solar option (Rate Schedule 85A), the output of a defined number of panels from the solar array would be directly linked to a single customer. The customer would then receive a consumption credit equal to a portion of the actual total output of the Ellison solar array in proportion to the number of subscribed panels to the total number of panels in the CSPP...The value of the power to the customer depends on the rate under which the customer is normally billed as compared to the lease payment the customer is making.

- 13.1 Please confirm, or explain otherwise, that a customer who elects to subscribe to the CSPP would still be billed under the customer's existing rate schedule for its energy consumption (i.e. a residential customer would still be billed under Rate Schedule 1).
- 13.2 Please provide the amount of energy in kWh an average residential customer in FBC's service area consumes in an average year.
  - 13.2.1 Based on an average residential customer's energy consumption, please provide the annual savings in energy costs under each of the pricing options by completing the tables below. The excel workbook is attached with these IRs.

Virtual Solar Option		(based on annual subscription of \$81/panel)			
	Energy bill if no solar panels (\$)	Energy bill with one solar panel (\$)	Total bill (cost of energy + cost of panel) (\$)	Total savings or (cost) (\$)	
Year 1					
Year 5					
Year 10					
Year 20					
Year 30					
Year 40					

  

Solar Offset Option		(based on cost of solar energy at \$0.231/kWh)			
	Energy bill if no solar offset (\$)	Total bill with solar offset (cost of non-solar energy + solar energy subscribed) (\$)			Total savings or (cost) (\$)
		10% of consumption subscribed	50% of consumption subscribed	100% of consumption subscribed	10% of consumption subscribed
Year 1					
Year 5					
Year 10					
Year 20					
Year 30					
Year 40					

- 13.3 Based on FBC's proposed pricing model, please calculate how long it would take the average residential customer to start earning a return on its investment on the CSPP (i.e. the length of time before the customer would start to save money on their energy bill). Please show all calculations and explain all assumptions.

14.0 **Reference:** **INDIVIDUAL CUSTOMER SUBSCRIPTIONS**

**Exhibit B-1: Section 6.4, pp. 12–13; Appendix A, Rate Schedule 85A**

**FortisBC Virtual Solar Panel (Rate Schedule 85A)**

On page 13 of the Application, FBC states:

In the event that a material change in a customer's consumption will result in the persistent accumulation of unused output on an annual basis, FBC may require the customer to reduce the number of panels subscribed such that other customers will have access to them.

- 14.1 Please clarify what FBC would consider to be a "material change in a customer's consumption."
- 14.2 Please clarify when FBC would consider a customer to have a "persistent accumulation of unused output."

On the second page of Rate Schedule 85A of Appendix A to the Application, it states:

5. In the event that there is a balance in the kWh Bank at March 31, the balance will be reduced to zero. In the case where there is a balance in the kWh Bank at March 31, and the balance has been reduced to zero, FortisBC shall be deemed to have purchased that amount of electricity from the Customer, and shall pay the Customer for that electricity at the rate determined in accordance with Clause 6 below. If such amounts are not large, they will be carried forward and included in the billing calculation for the next period at the discretion of the Company.
  6. The rate paid for electricity represented by kWh remaining in the kWh Bank at the billing period immediately following March 31 in each year shall be the BC Hydro 3808 Tranche 1 energy rate in effect at the time.
- 14.3 With regard to a balance in the kWh bank at March 31, please clarify what FBC considers to be an amount that is not large and would be carried forward and included in the billing calculation for the next period.
- 14.4 Please explain why the rate proposed to be paid to customers is the BC Hydro 3808 Tranche 1 energy rate.

FBC states the following on page 12 of the Application:

- Assuming that the rates associated with the Project became permanent, this fee would not increase over time but, subject to periodic review, may need to be reduced in response to changes in Program participation or the competitiveness of the Program with other renewable options such as rooftop solar that may decrease in cost during the life of the Program.
- 14.5 In an event where the capital and/or operating costs at the conclusion of the CSPP end up being higher than forecast in this Application, please explain why FBC would not propose to increase the Rate Schedule 85A rate going forward.
- 14.5.1 As part of this response, please discuss the fairness of not increasing the rate from the perspective of FBC's non-solar subscribing ratepayers.
- 14.6 Please confirm, or explain otherwise, that if the solar fee were reduced in the future, the fee would no longer be reflective of the levelized cost of the solar offering and therefore part of the program's cost would be transferred to all ratepayers.
- 14.6.1 If confirmed, please explain why decreasing the fee would be appropriate from the perspective of FBC's non-solar subscribing ratepayers.
- 15.0 **Reference:** **RATE SCHEDULES AND TERMS AND CONDITIONS**  
**Exhibit B-1, Section 6.6, pp. 14-15**  
**Term and cancellation**

FBC states on page 14 of the Application: "After the initial 12 month term, customers can elect to leave the Program without penalty."

- 15.1 Please explain why FBC chose an initial 12 month term for subscribing to the CSPP.
- 15.2 Please explain what the penalty is for customers leaving the CSPP within the initial 12 month term. As part of this response, please explain if there is a penalty for customers who move out of the FBC service area within the initial 12 month term of the CSPP.

- 15.3 Please confirm, or explain otherwise, that a customer under the FortisBC Virtual Solar option can at any time reduce the number of panels they are subscribed to without penalty as long as they are subscribed to at least one panel.
- 16.0 **Reference:** **PROGRAM COST RECOVERY**  
**Exhibit B-1, Section 1, p. 1**  
**Sensitivity analysis**

FBC states on page 1 of the Application: "To the extent there is less than a full subscription, there will be costs associated with the CSPP that will not be recovered from participants that will be recovered from other customers."

- 16.1 Please provide in a fully functional excel workbook the levelized rate impact to FBC ratepayers under a scenario where there is zero subscription to the CSPP and at the end of the two-year pilot project FBC decides to terminate the program.

#### **E. PROJECT ALTERNATIVES**

- 17.0 **Reference:** **PROJECT ALTERNATIVES**  
**Exhibit A2-1, Nelson Hydro Community Solar Garden**  
**Nelson Hydro Community Solar Garden**

Provided as Exhibit A2-1 is the "Frequently Asked Questions" sheet from Nelson Hydro's website regarding its Community Solar Garden.

Certain aspects of Nelson Hydro's Community Solar Garden are summarized as follows:

- Investment in the project is for a term of 25 years;
  - There was a minimum level of subscription required prior to construction of the solar garden; and
  - Customers who wish to subscribe to the solar offering must pay for the full cost of the solar panel upfront, either through a lump sum payment or through the use of on-bill financing/loan.
- 17.1 Please discuss whether FBC considered offering a community solar program similar to Nelson Hydro's solar program.
- 17.1.1 If yes, please explain why this type of program was considered less appropriate than the proposed CSPP.
- 17.1.2 If no, please explain why not.
- 17.2 If FBC were to require customers to pay the full capital cost of the PV panel up front (as well as any other applicable capital costs), please provide the cost per panel which a customer would be required to pay. Please provide all calculations and assumptions.
- 17.3 Please discuss whether FBC would consider revising its proposed CSPP in one or both of the following ways to mitigate the risk that the CSPP costs will be passed on to all ratepayers as a result of lack of subscription to the program:
- Including a minimum subscription requirement prior to commencing construction of the CSPP, such as requiring that the CSPP be 75 percent subscribed prior to commencing construction; and/or
  - Extending the term of the subscription from a minimum of 12 months to a minimum of 5 years (or some other time period).

18.0    Reference:    PROJECT ALTERNATIVES  
Exhibit B-1, Section 4.2, Table 4-1, p. 7  
Treatment of CSPP costs

On page 7 of the Application, FBC provides the following table which shows the total estimated capital cost of the CSPP:

Table 4-1: Capital Cost Estimate

Item	Amount
Engineering and Construction	\$ 858,284
FBC Communications & Consultation	42,500
Contingency	44,368
AFUDC	15,592
Project Total	\$ 960,744

FBC further states on page 7 of the Application that it expects that the O&M for the facility will begin at \$9 thousand in 2019 and escalate at two percent inflation thereafter.

- 18.1    Please discuss whether FBC would consider, as an alternative to including the CSPP capital and O&M costs as part of the PBR Plan formula-spending, creating a separate deferral account to record the costs and revenues associated with the CSPP.
- 18.1.1    If yes, please describe how FBC would record revenues and expenses within the deferral account and what would be included in the deferral account. If possible, please also provide a hypothetical example based on the assumption of full subscription to the CSPP as to how the additions/reductions to the deferral account would be recorded annually.
- 18.1.2    If FBC would not consider separately tracking the costs and revenues associated with the CSPP in a deferral account, please explain why not.