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August 20, 2020

Commercial Energy Consumers Association of British Columbia
c/o Owen Bird Law Corporation
P.O. Box 49130
Three Bentall Centre
2900 – 595 Burrard Street
Vancouver, BC
V7X 1J5

Attention: Mr. Christopher P. Weafer

Dear Mr. Weafer:

Re: FortisBC Inc. (FBC)

Project No. 1599088

Application for a Certificate of Public Convenience and Necessity for the Kelowna Bulk Transformer Addition Project (the Application)

Response to the Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2

On April 24, 2020, FBC filed the Application referenced above. In accordance with the British Columbia Utilities Commission Order G-107-20 setting out the Regulatory Timetable for the review of the Application, FBC respectfully submits the attached response to CEC IR No. 2.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC INC.

Original signed:

Diane Roy

Attachments

cc (email only): Commission Secretary
Registered Parties

22. Exhibit B-1, page 30 and Exhibit B-4, CEC 1.1 and CEC 1.19.1

4.4.2.2 Cost of the Alternative

The capital cost of this alternative is $17.008 million (Class 3 Estimate) including removal costs and AFUDC.

The annual gross O&M reduction associated with this option is approximately $0.023 million and is mainly attributable to the avoided maintenance costs associated with the elimination of the 13 kV distribution equipment. The reduction in O&M is slightly lower than for Alternative A because of maintenance requirements for a net increase of two breakers in the split bus configuration.

1. Reference: Exhibit B-1, page 1

1. APPLICATION

1.1 *EXECUTIVE SUMMARY*

In this application (the Application) FortisBC Inc. (FBC or the Company) is seeking approval of the British Columbia Utilities Commission (BCUC) for a Certificate of Public Convenience and Necessity (CPCN) for the Kelowna Bulk Transformer Addition Project (referred to as the KBTA Project or the Project).

In summary, FBC seeks approval from the BCUC to install a third terminal transformer at the F.A. Lee Terminal Station (LEE) on McCurdy Road in Kelowna, BC, including the reconfiguration of the 138 kV bus into an industry standard ring bus configuration. The estimated total cost of the Project in as-spent dollars is $23.288 million, which includes Allowance for Funds Used During Construction (AFUDC) and the cost of equipment removal.

If the Application is approved, FBC plans to initiate the detailed design, procurement and construction for the Project early in the first quarter of 2021. The new transformer is scheduled to be in service by the end of 2022, with Project completion and close-out during the second quarter of 2023.

1.1 What is FortisBC's financial threshold for CPCNs?

Response:

FBC's threshold for CPCN applications is $20 million, as recently confirmed by Order G-166-20.

19.1 Please explain if there would be any change in treatment or other impacts depending on the form of regulation (i.e. cost of service or MRP).

Response:

The regulatory regime does not have any impact on the treatment of CPCN project costs. Under the recently approved MRP[4], CPCN projects are recorded on a cost of service basis. That is, actual project costs are recorded in rate base in the year subsequent to being placed in service. The Project will result in a reduction to Gross O&M Expense of approximately $28 thousand upon project completion, beginning in 2023. Under the MRP, the majority of O&M expense is determined by formula and FBC will reduce the formula amount for the KBTA Project savings. Under cost of service regulation, a similar adjustment to O&M Expense would also be required.

22.1 The CEC notes that Alternative B falls under the CPCN threshold. Please confirm that under the current MRP there is no impact to ratepayers as a result of the selected project alternative exceeding the CPCN threshold.

22.1.1 If not confirmed, please explain and provide quantification of any impact to ratepayers.

Response:

Not confirmed. Capital expenditures under FBC's MRP are classified as either Regular Capital or Major Projects (which are approved by way of a separate CPCN or other application). Order G-166-20 approved the level of spending for Regular Capital for the period 2020-2022. The KBTA Project is classified as a Major Capital Project (please refer to Section C3.4.2 on page C-106-108 of the MRP Application for examples of Major Capital Projects, including the Kelowna Bulk Transformer Project, which are excluded from Regular Capital); therefore its impact to ratepayers is incremental to any impacts arising from Regular Capital expenditures, regardless of which of the alternatives is approved by the BCUC.

23. Exhibit B-4, CEC 1.2.2 and Exhibit B-1, pages 26 and 30, and Exhibit B-2, BCUC 1.4 series

1.2.2 Please explain the costs of providing and the benefits of the ring bus configuration in relation to the Project costs.

Response:

The fundamental difference between Alternatives A and B is that Alternative A would include upgrading the existing 138 kV split bus at LEE to a ring bus configuration. As such, the cost differential between Alternatives A and B in the Application represents the cost of providing a ring bus configuration.

For a description of benefits of the ring bus configuration, please refer to Section 4.3.1 of the Application. Please also refer to the responses to BCUC IR1 12.4 to 12.5.

As between the ring bus configuration and the split bus configuration, the ring bus configuration has a number of advantages:

- Research on substation reliability shows that a ring bus configuration results in a more than 50 percent reduction in outage minutes per year as compared to a split bus configuration.[24] Further, a breaker failure on a split bus causes a larger outage than on a ring bus. This is due to the redundant path for power to flow created by the ring configuration.
- The ring bus configuration is easier to maintain and operate than split bus because any single breaker can be taken out of service without the need for bus reconfiguration.
- The ring bus configuration reduces safety risk as compared to split bus because it provides a clear zone of isolation when working on equipment that is free from complex transfer buses and switches.
- The ring bus configuration has less complicated protection and switching schemes than split bus because each transformer and transmission line has its own discrete node in the bus between two breakers.
- The ring bus configuration is less prone to human error when operating, resulting in fewer instances of mis-operation than a split bus. The ring bus configuration is FBC's modern standard and is an industry standard that does not require complex transfers to maintain service when isolating station equipment. A ring bus reduces both the amount of initial training

4.4.2.2 Cost of the Alternative

The capital cost of this alternative is $17.008 million (Class 3 Estimate) including removal costs and AFUDC.

The annual gross O&M reduction associated with this option is approximately $0.023 million and is mainly attributable to the avoided maintenance costs associated with the elimination of the 13 kV distribution equipment. The reduction in O&M is slightly lower than for Alternative A because of maintenance requirements for a net increase of two breakers in the split bus configuration.

23.1 Please confirm or otherwise explain the CEC's understanding that the approximate $6 million capital cost differential between Alternatives A & B is justified primarily on the basis of the above cited benefits.

Response:

Confirmed. The capital cost differential between Alternatives A and B is justified primarily on the basis of the above cited benefits. Please also refer to the responses to BCUC IR1 12.4 and 12.5 for additional discussion on the benefits of the ring bus configuration.

23.2 Please identify and provide $ value quantification of each of the benefits to the extent possible, such as $ savings from reduced maintenance.

Response:

FBC believes that the BCUC reference in this question should be to the BCUC IR1 12.4 series.

In the Application, FBC estimated the gross O&M savings to be $28 thousand for the ring bus (Alternative A) and $23 thousand for the split bus (Alternative B). In its response to BCOAPO IR2 36.1, FBC further estimated incremental O&M related to switching and equipment isolation, not included in the Application, of $15,700 for the split bus as compared to the ring bus.

FBC has not estimated any financial value related to the increased reliability or safety benefits of the ring bus.

24. Exhibit B-2, BCUC 1.28.1

28.1 For Alternatives B and C, please provide the annual bill increase for an average residential customer using 11,000 kWh at: (i) the Cost of Service; and (ii) 40 year levelized rate.

Response:

FBC provides the requested amounts in the table below:

Item	Alternative A	Alternative B	Alternative C
2024 Cost of Service Rate Increase	0.54%	0.40%	0.74%
2024 Bill Impact *Avg. Residential Customer Using 11,000KWH*	$ 6.87	$ 5.05	$ 9.35
40 Year Levelized Rate Increase	0.39%	0.29%	0.75%
40 Year Levelized Bill Impact *Avg. Residential Customer Using 11,000KWH*	$ 4.96	$ 3.69	$ 9.49

24.1 Please provide the same table for small and large commercial rate classes and include total average bills for each rate class and for the residential rate class.

Response:

The following table has been amended to include the average bill impacts for the small and larger commercial rate class.

Bill Impacts	Alternative A	Alternative B	Alternative C
2024 Cost of Service Rate Increase	0.54%	0.40%	0.74%
2024 Bill Impact *Avg. Residential Customer Using 11,000KWH*	$ 6.87	$ 5.05	$ 9.35
2024 Bill Impact *Avg. Small Commercial Customer Using 24,000KWH*	$ 14.98	$ 11.01	$ 20.39
2024 Bill Impact *Avg. Large Commercial Customer Using 6,900,000KWH*	$ 4,306.50	$ 3,165.30	$ 5,862.34
40 Year Levelized Rate Increase	0.39%	0.29%	0.75%
40 Year Levelized Bill Impact *Avg. Residential Customer Using 11,000KWH*	$ 4.96	$ 3.69	$ 9.49
40 Year Levelized Bill Impact *Avg. Small Commercial Customer Using 24,000KWH*	$ 10.82	$ 8.05	$ 20.70
40 Year Levelized Bill Impact *Avg. Large Commercial Customer Using 6,900,000KWH*	$ 3,111.24	$ 2,313.09	$ 5,950.22

The additional table below provides the estimated total average bills for each of the residential, small commercial and larger commercial rate classes. The estimated values are based on the 2020 interim rates with the addition of bill impacts from the table above.

Total Bills	Alternative A	Alternative B	Alternative C
2024 Bill Impact *Avg. Residential Customer Using 11,000KWH*	$ 1,508	$ 1,506	$ 1,511
2024 Bill Impact *Avg. Small Commercial Customer Using 24,000KWH*	$ 2,718	$ 2,714	$ 2,723
2024 Bill Impact *Avg. Large Commercial Customer Using 6,900,000KWH*	$ 571,063	$ 569,922	$ 572,619
40 Year Levelized Bill Impact *Avg. Residential Customer Using 11,000KWH*	$ 1,506	$ 1,505	$ 1,511
40 Year Levelized Bill Impact *Avg. Small Commercial Customer Using 24,000KWH*	$ 2,714	$ 2,711	$ 2,723
40 Year Levelized Bill Impact *Avg. Large Commercial Customer Using 6,900,000KWH*	$ 569,868	$ 569,070	$ 572,707

25. Exhibit B-2, BCUC 1.2.1

2.1 Please update Table 3-1 to include the overall load composition broken down for each rate class (i.e. the percent of overall load attributed to each rate class shown).

Response:

Based on 2019 billed consumption data for FBC direct customers in the Kelowna area, the table has been updated to include overall load composition:

Rate Class	Customer Count	Percent of Load Attributed to Rate Class (2019 Consumption)
Small Commercial/Commercial	9,781	41.87%
Large Commercial	22	8.88%
Irrigation	212	0.31%
Lighting	467	1.27%
Residential	66,133	47.68%
Total	76,615	100.00%

25.1 Please provide historical load and load growth for each rate class.

Response:

For clarity, peak load, not energy growth, is the relevant driver for the KBTA Project.

The following table provides energy consumption in GWh by rate class from 2015 to 2019. The average annual energy growth rate over the period is 1.0 percent.

	2015	2016	2017	2018	2019	Ave. Annual Growth Rate
Residential	641	610	683	671	669	1.1%
Commercial	555	559	588	582	588	1.4%
Large Commercial	119	132	125	130	125	1.2%
Irrigation	7	7	7	6	4	-9.9%
Lighting	29	25	35	25	18	-11.5%
Total	1,350	1,332	1,437	1,415	1,403	1.0%

25.2 Please estimate the proportion of the total cost of the Project that will be paid for by each rate class.

Response:

The cost of this project will be recovered by way of a general rate increase. As a result, the estimate of the proportion of the total cost of the project that would be paid for by each rate class would approximately match the percent of load attributed to rate class, as provided in the response to BCUC IR1 2.1 above.

25.3 Please provide a discussion of any differences between the impacts that are likely experienced by different rate classes as a result of outages; the risk of which is being addressed by the project. For instance, would businesses experience more or longer outages than residential ratepayers?

Response:

In terms of annual outage minutes per customer, the expectation is that the outage impacts would be similar across all rate classes. However, FBC tries to reduce duration and number of outages for customers like hospitals, schools, and lighting in areas of high traffic, for example.