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
www.fortisbc.com

August 20, 2020

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, B.C.
V6Z 2N3

Attention: Ms. Marija Tresoglavic, Acting Commission Secretary

Dear Ms. Tresoglavic:

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 British Columbia Utilities Commission (BCUC) Information Request (IR) No. 2

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

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC INC.

Original signed:

Diane Roy

Attachments

cc (email only): Registered Parties

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A. PROJECT NEED AND JUSTIFICATION

34.0 Reference: PROJECT NEED AND JUSTIFICATION

Exhibit B-1, Section 3.3.2, p. 16; Exhibit B-2, BCUC IR 4.4

Kelowna area load forecast

In response to British Columbia Utilities Commission (BCUC) Information Request (IR) 4.4, FortisBC Inc. (FBC) described how the system-wide 1-in-20 load forecast is developed in a bulleted list. The first bullet stated:

The hour for each peak (excluding self-generating customers and wheeling losses) in January, February, November, December, as well as June, July and August for each year in the period 2000-2019 is recorded.

34.1 Please explain how the historical system-wide peak values are determined.

Response:

Historical system-wide peak values are determined using hourly telemetered data. The sum of system-wide generation meter readings and net actual interchange readings, which are the meter readings over all interconnections between the area served by FBC and adjacent systems, equals system-wide load for each hour. Load not served by FBC, but connected to the system, is also removed from the calculation.

With respect to BCUC IR2 34.1 through 34.3.1, FBC is submitting a replacement to its response to BCUC IR1 4.4 concurrently with this filing. The restated bullet list is provided below.

The system-wide 1-in-20 load forecast is developed in a series of steps:

- The system-wide peak loads, excluding self-generating customers and BC Hydro wheeling losses, for the winter season (November, December, January, February) and the summer season (June, July, August) for each year in the most recent 20 year period (1999-2018) is recorded.
- Historical gross energy growth rates are derived from actual 2000-2018 sales. Forecast gross energy growth rates are used to escalate the peaks into future years as described below.
- The forecast 2020 summer peak, for example, is obtained by first multiplying the 1999 summer peak by the cumulative gross energy growth rates (actual plus forecast) of the subsequent years up to 2020. This calculation is repeated for the remaining 19 "base" years from 2000 to 2018.

- The method yields 20 values for the 2020 summer peaks corresponding to the 20 base years from 1999 to 2018. The maximum peak of these 20 values is defined as the 1-in-20 summer peak for 2020.
- Further escalation of the 1-in-20 summer peak for 2020, using forecast energy growth rates, yields the 1-in-20 forecast peaks over the planning horizon.
- Area peak forecasts are created by allocating the 1-in-20 system peak forecast among FBC's substations. This is done by scaling the Distribution Planning forecast, which is the sum of non-coincident substation peak forecasts, to the system peak (the coincident peak). The Kelowna area peak forecast in Table 3-5 is the sum of the load distributed to Kelowna area substation buses in that manner, taking into account the need to ensure adequate capacity on the Duck Lake substation based on the peak forecast provided by BC Hydro, as described in the response to BCUC IR1 2.3.1.

The second bullet in response to BCUC IR 4.4 stated:

> Historical net energy growth rates are derived from actual 2000-2019 sales. Forecast net energy growth rates are used to escalate the peaks into future years as described below.

34.2 Please explain how the forecast net energy growth rates are determined.

<u>Response:</u>

Please refer to the response to BCUC IR2 34.1 and the revised response to BCUC IR1 4.4, filed concurrently.

FBC's <u>gross</u> load forecasts are prepared using a combination of econometric and customer survey data as described in its annual rate filings.[1] Gross energy growth rates as used in the system peak load forecasting process comprise the series of annual increases in gross energy load, for example:

$$\frac{Forecast\ Gross\ Load_{2020}}{Forecast\ Gross\ Load_{2019}} - 1 = Percent\ Increase_{2020}$$

[1] See, for example, Section 3 and Appendix A3 of FBC's Annual Review for 2020 and 2021 Rates, filed on August 19, 2020. For long-term forecasts, FBC escalates industrial and wholesale survey data using forecasts of Gross Domestic Product.

The fourth bullet in response to BCUC IR 4.4 stated:

> The method yields 20 values for the 2020 winter peaks corresponding to 20 base years from 2000 to 2019. The maximum peak of these 20 values is defined as the 1-in-20 winter peak for 2020. The 1-in-20 summer peak is derived in the same manner. The resulting 2020 peaks are then escalated with growth rates to compute the 1-in-20 forecast peaks over the planning horizon.

34.3 Please confirm, or otherwise explain, whether these growth rates are the same as the 'forecast net energy growth rates' referred to above in the second bullet in response to BCUC IR 4.4.

Response:

Please refer to the response to BCUC IR2 34.1 and the revised response to BCUC IR1 4.4, filed concurrently.

34.3.1 If they are not the same, please explain how the 'growth rates', as referred to in the fourth bullet in response to BCUC IR 4.4, are determined.

Response:

Please refer to the response to BCUC IR2 34.1 and the revised response to BCUC IR1 4.4, filed concurrently.

On page 16 of FBC's Application for a Certificate of Public Convenience and Necessity (CPCN) for the Kelowna Bulk Transformer Addition Project (KBTA Project) (Application), FBC states:

> After forecasting peak load from historical data, FBC includes the impact of known or highly probable load developments, such as community developments

that have an expected connection date and defined loads. It is reasonable to expect that other incremental loads may materialize in the near to medium term. For example, FBC has received transmission service interconnection inquiries related to cannabis, cryptocurrency and data processing facilities. Additionally, electric vehicle (EV) adoption and electrification of transit fleets and new government policy all have the potential to result in further increases to the Kelowna area load forecast.

34.4 Based on the steps FBC described in response to BCUC IR 4.4 regarding how the system-wide 1-in-20 load forecast is developed, please discuss where FBC includes the impact of known or highly probable load developments in developing its peak load forecast.

Response:

FBC would add the incremental demand for such new loads to the area peak demand at the conclusion of the process described in the revised response to BCUC IR1 4.4, filed concurrently. In its response to CEC IR1 5.2, FBC confirmed it has not included any new large connections in this forecast.

35.0 Reference: PROJECT NEED AND JUSTIFICATION

Exhibit B-2; BCUC IR 6.9

FBC planning criteria

In response to BCUC IR 6.9, FBC stated:

> There are currently no power system elements in the Kelowna area that are at risk of not maintaining the N-1 planning criteria within the 2020-2030 time period.

35.1 Please provide a list of the power system elements in the Kelowna area where N-1 planning criteria applies.

<u>Response:</u>

In its response to BCUC IR1 6.4, FBC identified the power system elements to which N-1 planning criteria are applied as follows:

> transmission lines, transformers, generating units, and power-conditioning units. A power-conditioning unit includes a shunt capacitor bank, a shunt reactor bank, a series capacitor, a series reactor, a synchronous condenser, a static VAR compensating device, a filter bank, or other similar device that can be removed from the system by protection equipment.

In response to BCUC Confidential IR2 9.1, FBC identifies the substations and transmission lines to which N-1 planning criteria apply. N-1 planning criteria also apply to all of the power system elements identified in the response to BCUC IR1 6.4 that are associated with those substations and transmission lines.

36.0 Reference: PROJECT NEED AND JUSTIFICATION

Exhibit B-1, Section 3.4.1, p. 19; Exhibit B-2, BCUC IRs 7.3, 7.7

Seasonal peaks forecast to reach emergency limits in N-1 conditions

In response to BCUC IR 7.3, FBC stated:

> The summer emergency rating is 125 percent of the maximum transformer nameplate rating as provided by the manufacturer.

Further in response to BCUC IR 7.3, FBC stated:

> The winter emergency rating is 135 percent of the summer normal rating.

36.1 Please explain how FBC determined the 125 percent and 135 percent factors noted above.

<u>Response:</u>

Transformer ratings used by FBC are consistent with and are based on the methodology described in the IEEE Guide for Loading Mineral-Oil-Immersed Transformers and Step-Voltage Regulators (IEEE Standard C57.91-2011) and CSA Standard C88-2016 Power Transformers and Reactors.

On page 19 of the Application, FBC states:

> For example, summer emergency limits for LEE [Transformer 3] and [Transformer 4] are both much lower in summer at 159 MW, as compared to their respective winter emergency limits of 189 MW and 195 MW.

In response to BCUC IR 7.3, FBC provided a table of summer and winter normal and emergency ratings for LEE Transformer 3 (T3), LEE Transformer 4 (T4) and DG Bell Terminal Station (DGB) Transformer 2 (T2). This table is reproduced below:

Line	Particulars		LEE T3	LEE T4	DGB T2
1	Equipment Ratings (MVA)				
2	Maximum Nameplate Rating (40° C)		168	168	200
3	Summer Normal Rating	100% * Line 2	168	168	200
4	Summer Emergency Rating	125% * Line 2	210	210	250
5	Maximum Nameplate Rating (0° C)		199.5	205.8	237.5
6	Winter Normal Rating	100% * Line 5	199.5	205.8	237.5
7	Winter Emergency Rating	135% * Line 3	226.8	226.8	270.0
8					
9	System Load (MW)				
10	Summer Normal Rating	95% * Line 3	159	159	190
11	Summer Emergency Rating	95% * Line 4	199	199	237
12	Winter Normal Rating	95% * Line 6	189	195	225
13	Winter Emergency Rating	95% * Line 7	215	215	256

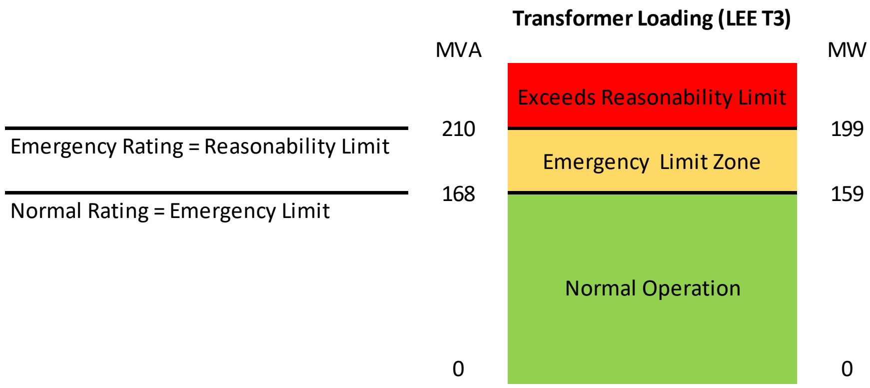
36.2 Please reconcile the summer and winter emergency limits as described on page 19 of the Application with the summer and winter emergency ratings provided in the table above.

Response:

The terms "rating" and "limit" are not interchangeable in this context. The normal ratings provided in response to BCUC IR1 7.3 establish the maximum continuous rating for the transformer. When the maximum continuous (normal) rating is exceeded, loading would be in the emergency limit zone and would be considered to have exceeded the emergency limit. Therefore, any loading above the normal rating exceeds the emergency limit. Accordingly, the values for normal rating and emergency limit are equivalent.

In operating terms, the emergency rating of the transformer is referred to as the reasonability limit.

The following diagram illustrates the relationships described above with respect to LEE T3:



36.2.1 Please clarify which ratings are correct or explain otherwise.

Response:

The statements and the table in the preamble above are both correct. As discussed in the response to BCUC IR2 36.2, "Normal Rating" and "Emergency Limit" refer to the same figures in the table. As seen in the diagram provided in that response, emergency limits and emergency ratings are not the same.

In response to BCUC IR 7.7, FBC provided power flow analysis for various scenarios. For the summer 2022 scenario when either LEE T3 or T4 is out and after the system reconfiguration, FBC provided note (6). Note (6) stated:

(6) Flow on 60L (DGB-BEV) is 103% of normal rating 92% of emergency rating.

36.3 Please discuss the risks to Kelowna area customers should power flow on 60L (DGB-BEV) reach 103 percent of normal rating, as indicated for the summer 2022 scenario, should LEE T3 or T4 be out.

36.3.1 If applicable, please discuss how FBC is planning for and mitigating these risks.

Response:

The 60L power flows of 103 percent of normal rating or 92 percent of emergency rating occur when either LEE T3 or T4 is out and the system is reconfigured in an effort to reduce the loading on the remaining transformer. After the installation of the third transformer at LEE, the system will not have to be reconfigured post contingency and line 60L will not have such high power flows.

FBC's operating procedures allow operation above the normal rating for only six hours. FBC is not expecting that the normal rating would be exceed for more than 6 hours in summer 2022, so there is limited risk of load curtailment in the event of a LEE transformer outage.

B. DESCRIPTION AND EVALUATION OF ALTERNATIVES

37.0 Reference: OVERVIEW

Exhibit B-2, BCUC IR 10.3

Description and evaluation of alternatives

In response to BCUC IR 10.3, FBC stated:

> In addition, a condition that may result in premature failure of LEE T4 is a recently observed increase in acetylene concentration over the past five years. Recent trending shows the acetylene concentration is currently 15 ppm, but is now considered stable. The cause of the increase in acetylene concentration is unknown but was likely a result of the acetylene leaching out of the transformer solid insulation after the 2017 unit refurbishment. The transformer will continue to be monitored

37.1 Please explain how the transformer will continue to be monitored.

Response:

To early detect any signs of premature failure, FBC has implemented a monitoring program that includes:

- Increased frequency of preventive maintenance testing. The maintenance cycle has been reduced from the regular six year period to a three year period;
- Oil samples are taken every three to six months and tested on site. If the unit condition becomes unstable, the frequency of testing will be increased; and
- In 2021-2022 an online dissolved gases monitor will be installed on LEE T4.

37.2 Please explain under what conditions, such as increased acetylene concentration, LEE T4 would be considered to be at risk of premature failure.

Response:

IEEE C57-104 2008 provides some guidance for Dissolved Fault Gases data interpretation. According to IEEE:

- For Condition 1 - Transformer “operating satisfactorily”, acetylene levels have to be below 1 ppm (microliters/liter).

- For Condition 2 – If acetylene levels are between 2 and 9ppm (microliters/liter) it is possible that “fault(s) may be present”
- For Condition 3 – If acetylene levels are between 10 and 35 ppm (microliters/liter) it is possible “fault(s) are probably present.”
- For Condition 4 -“Continued operation could result in failure of the transformer” the threshold for dissolved acetylene is less than 35 ppm (microliters/liter). Levels higher than this threshold could indicate an imminent failure.

FBC’s assessment is that LEE T4’s condition is stable is based on the trend of laboratory results for dissolved fault gases, as set out in the table below. According to IEEE, this unit would be rated at Condition 3, or “fault(s) are probably present.”

Dissolved Gas Analysis

Lab Report Number	7347518	7258835	7245228	7129773	7080451	
Sample date	2020-05-15	2019-07-15	2019-05-15	2018-05-03	2017-11-10	
Sample temp	19	24	19	22	9	°C
Hydrogen (H2)	4	4	4	3	2	µL/L
Methane (CH4)	4	3	3	2	2	µL/L
Ethane (C2H6)	1.0	1.0	1.0	1.0	0.0	µL/L
Ethylene (C2H4)	4.0	3.0	3.0	2.0	1.0	µL/L
Acetylene (C2H2)	**15.0***	**15.0***	**14.0***	**10.0***	**8.0***	µL/L

38.0 Reference: ALTERNATIVES FOR FURTHER REVIEW

Exhibit B-1, Section 4.3.1, p. 26; Exhibit B-2, BCUC IRs 12.2, 17.7

Ring bus vs. split bus configuration

On page 26 of the Application, FBC lists several advantages of the ring bus configuration over the split bus configuration, including: "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."

In response to BCUC IR 12.2, FBC provided the following table:

Event	Year	Annual Outage Minutes
1	2015	147
2	2015	4,265
3	2017	200

38.1 Please confirm, or otherwise explain, whether the annual outage minutes provided in the table above represent the only outages experienced over the past five years.

Response:

Confirmed. The outages provided in the table in response to BCUC IR1 12.2 were the only LEE station outages in the past five years for a total of 4,612 station outage minutes. Thus, the annual average outage minutes for the past five years at LEE equals 922 minutes.

38.1.1 If yes, please confirm, or otherwise explain, that the total outage minutes for the past five years is the sum of the outage minutes provided in the table above, equating to 4,612 minutes.

Response:

Please refer to the response to BCUC IR2 38.1.

38.1.2 If yes, please confirm, or otherwise explain, that the average annual outage minutes for the past 5 years is calculated by taking the total outage minutes provided in the table above and dividing the total by five, equating to 922 minutes.

Response:

Please refer to the response to BCUC IR2 38.1.

In response to BCUC IR 17.7, FBC stated:

> However, the reliability disadvantage of a split bus was evident in the circumstances of the February 2015 outage, caused by the failure of a breaker at LEE. In this instance, the LEE CB CAP1 circuit breaker failed. This failure tripped 50 Line and 46 Line, causing an outage to 24,667 customers until the faulted equipment could be isolated and bypass switches used to feed the customers from a separate line breaker while equipment was repaired. CB CAP1 was isolated and load was restored via 55 Line. If LEE had been configured as a ring bus, the customer outages would not have occurred.

38.2 Please explain how a reduction of 50 percent in annual outage minutes would be of benefit to FBC.

Response:

When outage frequency and duration are reduced, FBC primarily benefits in that it provides more reliable service to its customers, improving SAIFI/SAIDI metrics while also positively impacting customer satisfaction.

38.3 Please explain how a reduction of 50 percent in annual outage minutes would be of benefit to FBC's customers. In your response please include a discussion on the benefits if outages do not impact customers.

Response:

Outages are disruptive to customers in all classes. When the utility supply of electricity is interrupted, homes, businesses and other institutions are not able to operate normally. Power outages can have financial implications for commercial customers. For example, during an outage, restaurants and retail stores may be unable to serve their customers due to the loss of electrical service where cooking equipment and/or electronic payment systems are not able to be operated. Similarly, even outages of a short duration can be disruptive and costly for certain industrial customers. Therefore, station configurations that result in less frequent customer outages (such as the example given in the response to BCUC IR1 17.7) or shorter duration customer outages benefit customers by reducing these disruptions.

C. PROJECT DESCRIPTION

39.0 Reference: PROJECT ENGINEERING AND DESIGN

Exhibit B-1, Section 5.2, p. 41; Appendix E, p. 1; Appendix G to Appendix E, p. 5; Exhibit B-2, BCUC IR 22.2

Noise mitigation

In BCUC IR 22.2, FBC was requested to confirm that the proactive noise mitigation measures that FBC intends to implement are to "install 6m high barrier walls around the proposed T2 and the existing T3 and T4 transformers," as recommended by Patching Associates.

In response to BCUC IR 22.2, FBC stated:

> FBC expects that the addition of a third transformer will lower loading on the existing transformers and thereby reduce noise levels. Accordingly, FBC will conduct field diagnostic noise measurements as recommended by Patching Associates prior to considering the implementation of any additional noise mitigation measures provided in the "Noise Control Recommendations (Optional)" section on Page 14 of Appendix E and as documented in Section 11 5.2 on Page 41 of the Application.

39.1 Please explain when FBC will conduct the field diagnostic noise measurement.

Response:

The field diagnostic noise measurement will be conducted shortly after the third LEE transformer is in service.

39.2 Please explain under what circumstances FBC would implement the noise mitigation measure of installing the "6m high barrier walls around the proposed T2 and existing T3 and T4 transformers" recommended by Patching Associates.

Response:

As described in the response to BCUC IR1 22.2, FBC expects that the additional transformer will reduce overall noise levels. Therefore, FBC's field diagnostic noise measurements taken after the installation of the new transformer will be analyzed to determine whether additional noise mitigation measures are required, including those measures suggested in Appendix E.

FBC will include the results of the noise measurements and any mitigating measures as part of the Project final report.

D. PROJECT COST AND FINANCIAL EVALUATION

40.0 Reference: PROJECT COST AND FINANCIAL EVALUATION

Exhibit B-2, BCUC IRs 25.3, 25.4

Project capital cost estimate

In response to BCUC IR 25.3, FBC provided the following table:

Alternative	Project Cost	Low Estimate		High Estimate		
		Cost Decline 20%	Cost Decline 10%	Cost Increase 10%	Cost Increase 20%	Cost Increase 30%
A	$23.288M	$18.630M	$20.959M	$25.617M	$27.946M	$30.274M
B	$17.008M	$13.606M	$15.307M	$18.709M	$20.410M	$22.110M
C	$32.332M	$25.866M	$29.099M	$35.565M	$38.798M	$42.032M

In response to BCUC IR 25.4, FBC stated:

> FBC has not employed probabilistic methods to evaluate its estimation and therefore, cannot quantify the probabilities at the extremes of the estimating ranges. However, from an estimating standpoint, all of the alternatives, and in particular Alternatives A and B, are very similar in nature. The civil works for the site expansion are identical and there are no significant differences in the items identified in the project risk register (Table 5-1) between the alternatives. Therefore, FBC expects that cost variances would be similar in direction and magnitude between the alternatives.

40.1 Based on the similarities between Alternative A and B in civil work, risks and cost range overlap, please discuss the major differences between the two alternatives.

Response:

The similarities between Alternatives A and B discussed in the response to BCUC IR1 25.4 were emphasized in order to demonstrate that FBC expects that any variances from the cost estimates would be similar in direction and magnitude regardless of the alternative chosen.

As set out in the Application, the most significant difference between Alternatives A and B is that Alternative A would see the existing 138 kV split bus reconfigured into a ring bus configuration, while Alternative B would only include an expansion of the existing 138 kV split bus. The result is that Alternative A requires significantly more station work as well as more line and removal work.

These differences in scope are described in detail in Section 4.4.1.1 and Section 4.4.2.1 of the Application.

41.0 Reference: PROJECT COST AND FINANCIAL EVALUATION

Exhibit B-2, BCUC IRs 21.1.1, 21.1.2, 23.4

Construction costs

In response to BCUC IR 21.1.1, FBC stated:

> FBC typically issues a Request for Proposal (RFP) with material specifications to a variety of vendors for large items such as the circuit breakers and power transformers. As part of the process, FBC completes a formal evaluation of the proposals based on both Commercial and Technical criteria. This review is completed by Procurement and Project Management before a Purchase Order is awarded to the successful candidate.
>
> Similarly, once the engineering packages are complete FBC will issue an RFP for construction services to a group of pre-qualified construction contractors. FBC will then review and award a contract to the successful bidder following a commercial and technical review of the proposals.

In response to BCUC IR 21.1.2, FBC stated:

> As part of the procurement process, vendors submit proposals based on drawings and specifications issued by FBC. The contract with the vendor is based on their submission and sets the baselines for cost expectations and scope. The contracts are typically fixed price for the known scope coupled with force account/unit prices for less certain quantity driven activities. During the life of the Project any deviation from the original contract with the vendor will be monitored and controlled by the on-site FBC representative and approved by the Project Manager before proceeding.
>
> All scope changes will be controlled through the FBC Change Management Program. Change Notices are used to identify the scope change and mutually agreed upon by both the vendor and FBC before proceeding. This Change Notice identifies the out-of-scope work required to complete the task and the financial impact to the Project.
>
> The Project Manager will be responsible for monitoring the Project, approving scope changes, and forecasting financials to monitor and track costs for the duration of the Project. The Project Engineer will approve any design changes, and the Construction Manager will be the FBC on site representative, which will monitor scope, quality assurance, and safety.

In response to BCUC IR 23.4, FBC stated:

Material delivery time of major equipment such as circuit breakers and the power transformer are the largest risk foreseen at this time. To mitigate this risk, FBC has created an internal task force to identify critical long-lead items, communicate with vendors and monitor the supply chain. In addition, FBC will consider earlier order times and will include scheduled flexibility in the project schedule.

41.1 Please discuss how a material delay on long lead items would affect the fixed price negotiated in the vendor contracts and explain how FBC would account for any material delays.

Response:

FBC is responsible for supplying all material and major equipment to the awarded construction contractor during the project. If the supply is delayed beyond critical dates as a result of an act or failure to act by the supplier, the supplier may be solely responsible to FBC for all costs and damages incurred. For some major equipment such as large power transformers, FBC does have late delivery penalties as part of the purchase order terms and conditions which are usually an order of magnitude of 0.5 to 1 percent of the contract total per week up to a maximum of 10 percent of contract value. This helps alleviate the risk and impact of such a delay.

Further, material purchase orders are continually monitored by FBC to ensure that these materials are received on time. In the case of a material delay, FBC will work with the vendor to reach an agreeable solution and/or exercise its rights within the contract.

42.0 Reference: PROJECT COST AND FINANCIAL EVALUATION

Exhibit B-2, BCUC IR 27.3

Project contingency

In response to BCUC 27.3, FBC stated:

> The construction and removal contingencies were initially set at the same values for both applications. A CPI [Consumer Price Index] increase of 4.2 percent was added to the contingency for the Grand Forks Terminal Application to convert the construction estimate from 2016 dollars to 2018 dollars.

42.1 Please confirm, or explain otherwise, whether a CPI increase was applied to the contingencies in this Application.

42.1.1 If not confirmed, please explain why it is not required in this Application.

Response:

Not confirmed. CPI escalation was added to the contingency in the case of the Grand Forks Terminal Station Reliability Project to bring the construction estimate in 2016 dollars current to the time of filing. CPI increases were not applied to the contingencies for the KBTA Project, as the estimate was completed using current pricing. In both cases, future escalation was included in the financial models.

43.0 Reference: PROJECT COST AND FINANCIAL EVALUATION

Exhibit B-1, Section 6.4.2, p. 55; Exhibit B-2, BCUC IRs 23.4, 28.1

Incremental revenue requirements and rate impact

On page 55 of the Application, FBC states:

> At the time of filing, FBC's proposed 2020-2024 Multi Year Rate Plan (MRP) is awaiting BCUC approval. The bulk of FBC's O&M expense under the proposed MRP is determined by escalating a Base O&M amount annually by inflation and customer growth. The assets that are the subject of this Application are included in the Base O&M amount and upon completion of the Project, FBC will pass the O&M savings to customers by adjusting the Base O&M downward by approximately $28 thousand.

43.1 FBC's 2020-2024 Multi-Year Rate Plan (MRP) was approved by BCUC Decision and Order G-166-20 dated June 22, 2020 (MRP Decision and Order). Please discuss whether the MRP Decision and Order will affect the project's O&M expense. Please quantify any impacts and include updated financial schedules as necessary.

Response:

As discussed in the response to CEC IR1 19.1, Order G-166-20 will not affect the project's O&M expenses. As set out in Section 6.3 of the Application, the Project is expected to reduce gross O&M expenditures by approximately $28 thousand annually beginning in 2024. The O&M reduction is included in the cost of service financial schedules provided in Confidential Appendix C-1 and does not require adjustment.

The response to CEC IR1 19.1 is reproduced below for ease of reference. FBC notes that the response erroneously indicated a reduction to O&M expense beginning in 2023. The reduction will begin in 2024.

> 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, 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.

In response to BCUC IR 23.4, FBC stated:

> Material delivery time of major equipment such as circuit breakers and the power transformer are the largest risk foreseen at this time. To mitigate this risk, FBC has created an internal task force to identify critical long-lead items, communicate with vendors and monitor the supply chain. In addition, FBC will consider earlier order times and will include scheduled flexibility in the project schedule.

In response to BCUC IR 28.1, FBC provided the following table:

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**

43.2 Please discuss what affect, if any, material delays on long-lead items would have on the rate increases provided in the table above.

Response:

Material delays on long-lead items could possibly extend the project period and as a result, extend the period that costs remain in work in progress (WIP), thereby attracting additional allowance for funds during construction (AFUDC). Additional AFUDC caused by material delays on long lead items would be covered by the contingency amount included in the project evaluation, so it is unlikely that such delays would materially affect the estimates provided in the table. FBC also notes that any material delays would affect each alternative similarly, and would not affect the ranking of the alternatives.

E. CONSULTATION

44.0 Reference: CONSULTATION

Exhibit B-2; BCUC IR 33.2

Engagement with Indigenous communities

In response to BCUC IR 33.2, FBC stated:

> While this letter was drafted shortly after the filing of the Application, in preparing these responses to Information Requests, FBC determined that the letter had inadvertently not yet been sent. The letter was sent to Indigenous communities by email on June 27, 2020, confirming the Application filing date, providing information on how to contact the BCUC, and extending a further offer to host a conference call or meeting, if requested.

44.1 Please discuss if there has been any additional communication with Indigenous communities regarding the KBTA Project since the June 27, 2020 email.

44.1.1 If so, please provide details of any additional communications.

<u>Response:</u>

FBC has received additional communication from two Indigenous communities since the June 27, 2020 email. Specifically:

- FBC received a request for a meeting with an Indigenous community and is in the process of scheduling this meeting for mid to late August; and
- A second Indigenous community emailed to inquire about the project and then deferred further communication about the Project with FBC to the community mentioned above.