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Our File No.: 05497-264

April 23, 2019

BY ELECTRONIC FILING

British Columbia Utilities Commission  
410 – 900 Howe Street  
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Email: [commission.secretary@bcuc.com](mailto:commission.secretary@bcuc.com)

**Attention: Patrick Wruck**  
**Commission Secretary and Manager, Regulatory Support**

Dear Mr. Wruck:

**Re: FortisBC Inc.**  
**Project No. 1598987**  
**Application for a Certificate of Public Convenience and Necessity for the**  
**Grand Forks Terminal Station Reliability Project – Final Submission**

Enclosed please find the Final Submission of FortisBC Inc., dated April 23, 2019 with respect to the above-noted matter.

Yours truly,

FARRIS, VAUGHAN, WILLS & MURPHY LLP

Per:



Jason K. Yamashita

JKY/csh  
c.c.: Registered Parties

BRITISH COLUMBIA UTILITIES COMMISSION

IN THE MATTER OF  
the *Utilities Commission Act*, R.S.B.C. 1996, c. 473

and

FortisBC Inc.  
Application for a Certificate of Public Convenience and Necessity  
for the Grand Forks Terminal Station Reliability Project

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**FINAL SUBMISSION OF FORTISBC INC.  
APRIL 23, 2019**

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**Attention: Jason K. Yamashita**

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## PART I - INTRODUCTION

1. On November 19, 2018, FortisBC Inc. (FBC or the Company) filed an application (the Application) with the British Columbia Utilities Commission (BCUC) for a Certificate of Public Convenience and Necessity (CPCN) for the Grand Forks Terminal Station Reliability Project (the GFT Reliability Project or the Project).

### **A. The GFT Reliability Project is in the public interest**

2. The GFT Reliability Project is necessary to maintain reliability of service for the Grand Forks area. The existing 63 kV backup supply for the Grand Forks area is unreliable and as such, it does not meet single contingency (N-1) transmission system planning criteria under peak load conditions.<sup>1</sup> The likelihood of a failure to GFT T1 and FBC's ability to restore customers are further impacted by the poor condition of the existing facilities at Grand Forks Terminal station (GFT), including Grand Forks Terminal 1 transformer (GFT T1), spare transformer (OLI T1)<sup>2</sup> and the transmission lines 9L and 10L.<sup>3</sup> The purpose of the Project is to ensure FBC customers continue to receive safe and reliable service in the event of an outage or failure of GFT T1.

3. FBC has evaluated all feasible alternatives in its Application and submits that its proposed alternative provides the best financial and technical solution that would allow the Company to meet all Project objectives and requirements. It mitigates the reliability risk and meets the Company's transmission planning criteria while also minimizing the financial impacts for ratepayers.

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<sup>1</sup> As noted in Exhibit B-1 – Application at p. 18, normal operation (also referred to as N-0 reliability) means that with all major elements of the power system in service, the network can be operated to meet projected customer demand in order to avoid a load loss (customer outage). Single contingency (also referred to as N-1 reliability) means that an outage of a single element, with all other elements of the power system in service, results in no load loss.

<sup>2</sup> Exhibit B-1 – Application at p. 3.

<sup>3</sup> Exhibit B-1 – Application at pp. 2-3 and Confidential Appendix C: 9L and 10L Condition Assessment Report.

4. The Project is estimated to have a capital cost of approximately \$13.171 million in as-spent dollars, including AFUDC of \$0.531 million and net removal costs of \$4.528 million. Based on total Project costs, the rate impact in 2022 is estimated to be 0.26 percent. For a typical FBC residential customer consuming an annual average of 11,500 kWh, this would equate to an approximate annual bill increase of \$3.36 in 2022.<sup>4</sup>
5. FBC submits that it has adequately engaged and consulted Indigenous communities and other key stakeholders to date. FBC will continue to address issues that may arise, and will continue to engage Indigenous communities and other stakeholders throughout Project detailed design and implementation.<sup>5</sup> No federal, provincial or municipal approvals, permits, licenses or authorizations are required to complete the Project. FBC will directly contact those residents and community businesses that would have some limited impact during Project construction. FBC has adequately mitigated all noise and light concerns raised by some local residents and has begun contacting residents in the area to discuss their further concerns with the Project.<sup>6</sup>
6. It is respectfully submitted that the evidentiary record, including FBC's Application and its responses to two full rounds of information requests, confirms that the CPCN that FBC seeks should be granted. While this submission summarizes various key points, FBC relies on the evidentiary record as a whole.
7. The remainder of this submission is organized as follows:
  - (a) Part II – The Evidentiary Record in this Proceeding is Sufficient;

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<sup>4</sup> Exhibit B-1 – Application at p. 4.

<sup>5</sup> Exhibit B-2 – FBC Response to BCUC IR 1.6.1 at p. 32; Exhibit B-4-1 – FBC Response to BCOAPO IR 1.14.1 at p. 20.

<sup>6</sup> Exhibit B-2 – FBC Response to BCUC IR 1.6.1 at p. 32;

- (b) Part III – The Project is Necessary to Address Reliability Risks in the Grand Forks Area;
- (c) Part IV – FBC Considered and Evaluated all Feasible Alternatives ;
- (d) Part V – Consultation Efforts Meet the Requirements and Will Continue;
- (e) Part VI – Noise and Light Concerns Have Been Mitigated; and
- (f) Part VII – Conclusion.

**PART II - THE EVIDENTIARY RECORD IN THIS PROCEEDING IS  
SUFFICIENT**

**A. The regulatory process included two rounds of Information Requests**

- 8. Pursuant to Order G-250-18, the BCUC established an initial regulatory timetable and ordered that certain information be held confidential. The regulatory timetable provided for one round of BCUC and intervener information requests (IRs) and FBC and intervener submissions on further process.
- 9. Six interveners (Alan Wait, Norman Gabana, British Columbia Municipal Electrical Utilities (BCMEU), Industrial Customers Group (ICG), British Columbia Old Age Pensioners' Organization and others<sup>7</sup> (together BCOAPO) and Commercial Energy Consumers Association of British Columbia (CEC)) and one interested party (Alvin Boyer, who provided a letter of comment) registered in the proceeding. In addition, six further letters of comment were submitted by members of the public.
- 10. FBC filed its responses to round one IRs on February 14, 2019 and submitted that the matter should move to written final argument. The BCMEU, BCOAPO, and CEC all submitted that they supported moving to final argument. ICG is the

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<sup>7</sup> British Columbia Old Age Pensioners' Organization, Disability Alliance BC, Council of Senior Citizens' Organizations of BC and the Tenant Resource and Advisory Centre.

only intervener that requested a second round of IRs as the next step in this proceeding.

11. On February 28, 2019, the BCUC issued Order G-43-19, which directed a second round of IRs and established a further regulatory timetable. The BCUC and interveners submitted a second round of IRs and FBC responded to the IRs on the record.
12. On March 25, 2019, the BCUC issued Order G-68-19 which granted an FBC request for an extension of time to respond to one BCUC IR and amended the regulatory timetable. FBC responded to the outstanding IR in accordance with Order G-68-19.<sup>8</sup>
13. On April 9, 2019, after FBC and interveners made written submissions on further process, the BCUC issued Order G-77-19 in which it denied a request by ICG to have FBC respond to additional IRs and established a regulatory timetable for written final arguments by FBC and interveners.

**B. The written record is substantial**

14. The written record in this proceeding is comprehensive. Over the course of this proceeding, FBC's detailed evidence in its Application has been supplemented by approximately 330 IRs over two rounds of requests. After the two rounds of IRs, interveners were given an opportunity to give notice of any intention to file evidence in the proceeding. None indicated that they wish to do so.

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<sup>8</sup> Exhibit B-9-3 – FBC Response to BCUC Confidential IR 2.9.2.

**PART III - THE PROJECT IS NECESSARY TO ADDRESS RELIABILITY  
RISKS IN THE GRAND FORKS AREA**

**A. The existing backup supply does not meet FBC's single contingency (N-1) transmission planning criteria under peak load conditions**

Reliability is the primary driver of the GFT Reliability Project. For Grand Forks area reliability, the application of the single contingency (N-1) transmission planning criteria means that if GFT T1 is not in service, FBC must be able to supply 100 percent of the Grand Forks area load from an alternate supply. The backup 63kV supply requires that both 9L and 10L be capable of operating in parallel. The Grand Forks area's peak loads are such that having only one of 9L and 10L in service during peak load periods would not suffice.<sup>9</sup> The GFT Reliability Project has been prioritized because the area's highest recorded seasonal peak loads (approximately 34 MVA in winter and 29 MVA in summer) have been above the backup supply capacity limitation (27 MW with a single line in service) several times in the past five years, because the area includes industrial loads, and because 9L and 10L backup supply is in poor condition.<sup>10</sup> FBC filed detailed information on the area's seasonal peak loads.<sup>11</sup>

**B. The poor condition of existing facilities poses additional reliability risks**

15. FBC filed reports from ABB and DBS Energy Services Inc., which provide robust expert reviews of the condition of the existing transformers at GFT (GFT T1 and OLI T1) and transmission lines 9L and 10L respectively.
16. The GFT T1 condition assessment concluded that the useful remaining life of the transformer is approximately 15 years, leaving sufficient time to plan for its replacement. Although it is not expected that the transformer would fail in the near term, if it were to fail during peak load conditions, FBC's ability to supply all

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<sup>9</sup> Exhibit B-1 – Application at pp. 14; Exhibit B-12 – FBC Response to ICG IR 2.6.1 at p. 6.

<sup>10</sup> Exhibit B-1 – Application at p. 14; Exhibit B-5 – FBC Response to CEC IR 1.5.1.1 at p. 8.



customer load would be restricted until either 10L could be energized or the on-site spare transformer (OLI T1) could be installed as a replacement.<sup>12</sup> The condition assessment calculated the Risk of Failure (RoF) for GFT T1 to be 2.6 percent based on the most recent Dissolved Gas Analysis (DGA) and the available test/maintenance data. The RoF for this unit is on the high side when compared to a typical utility population. FBC considers, based on industry standards, that an acceptable RoF for a transmission station should be no higher than 2 percent.<sup>13</sup>

17. A field inspection assessment of OLI T1 was performed in 2013 by ABB prior to its relocation to GFT. The field inspection assessment report was filed as Appendix D to the Application. The report concluded that the tensile strength of the insulation paper is in the upper “Mid-Life” category. This indicates that once refurbished, the unit could be used for another 10 to 15 years.<sup>14</sup> Known issues with OLI T1 include an oil leak between the load tap changer and main tank, load tap changer with an excessive number of operations and arcing contact issues, and a loose load tap changer motor and gear mechanism. Because of its history and the known issues with the load tap changer, FBC considers that operating OLI T1 beyond 15 years would expose customers and FBC to unacceptable risks.<sup>15</sup>
18. The 2016 condition assessment of transmission lines 9L and 10L concluded that they are in poor condition between the Christina Lake substation (CHR) and Cascade substation (CSC). The lines require extensive rehabilitation. Because of the extremely poor condition of 10L, it is normally de-energized between CHR

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<sup>11</sup> Exhibit B-4 – FBC Response to BCOAPO IR 1.4.1 at p. 5; Exhibit B-5 – FBC Response to CEC IR 1.7.1 at p. 11 and Attachment 1.7.1; Exhibit B-6 – FBC Response to ICG IR 1.7.3 at pp. 27-28.

<sup>12</sup> Exhibit B-1 – Application at p. 19.

<sup>13</sup> Exhibit B-1 – Application at p. 15 and Appendix B (pp. 17-19); Exhibit B-2 – FBC Responses to BCUC IRs 1.2.2-1.2.3 at pp. 8-9; Exhibit B-5 – FBC Response to CEC IR 1.10.3 at pp. 17-18; Exhibit B-9 – FBC Responses to BCUC IRs 2.17.1-2.17.2 at pp. 2-3; Exhibit B-12 – FBC Response to ICG IR 2.2.3 at p. 2.

<sup>14</sup> Exhibit B-1 – Application at p. 16 and Appendix D (p. 4).

and CSC. In an emergency, it may not be possible to energize the line if it cannot be accessed due to the mountainous terrain.<sup>16</sup>

### **C. Conclusion**

19. For the reasons discussed above, FBC cannot currently meet the single contingency (N-1) transmission planning criteria for the 63 kV system in the Grand Forks area since parallel operation of 9L and 10L cannot be relied upon due to their poor condition and accessibility issues during winter periods, which pose a greater risk to reliability to the Grand Forks area.<sup>17</sup> The condition of the existing facilities at GFT (GFT T1 and OLI T1) and transmission lines 9L and 10L further impact the likelihood of a failure of GFT T1 and the Company's ability to restore customers in the event of such a failure.<sup>18</sup> As a result, an outage to GFT T1 could cause widespread and prolonged outages for area customers.<sup>19</sup>

## **PART IV - FBC CONSIDERED AND EVALUATED ALL FEASIBLE ALTERNATIVES**

### **A. Three feasible alternatives were considered for evaluation**

20. FBC identified and explained three feasible alternatives that it considered before selecting Preferred Alternative B, the GFT Reliability Project, as the most suitable solution.
- (a) Alternative A: Install the on-site spare OLI T1 as a second transformer at GFT (GFT T2), remove 44.6 km of the 9L and 10L transmission lines, and repurpose 20.8 km of the 9L and 10L transmission lines for use as distribution lines;

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<sup>15</sup> Exhibit B-2 – FBC Response to BCUC IR 1.2.8 at p. 13.

<sup>16</sup> Exhibit B-1 – Application at pp. 19-20.

<sup>17</sup> Exhibit B-1 – Application at p. 19.

<sup>18</sup> Exhibit B-1 – Application at p. 19.

<sup>19</sup> Exhibit B-4 – FBC Response to BCOAPO IR 1.1.1 at p. 1.

- (b) Preferred Alternative B: Purchase and install a new 161/63kV transformer as the second transformer at GFT (GFT T2), remove 44.6 km of the 9L and 10L transmission lines, and repurpose 20.8 km of the 9L and 10L transmission lines for use as distribution lines; and
  - (c) Alternative C: Rehabilitate transmission lines 9L and 10L.
- 21. Doing nothing or maintaining the status quo was not considered an option because FBC cannot currently meet the single contingency (N-1) transmission planning criteria in the event of a GFT T1 failure during seasonal peaks.
  - 22. FBC also considered consolidating 9L and 10L into a single circuit using 477 ACSR (Aluminium Conductor Steel-Reinforced) but rejected this alternative because consolidating the circuits into a single line with 477 ACSR creates an even larger voltage drop in the Grand Forks area when supplied from Warfield Terminal Station (WTS) as compared to the parallel operation of 9L and 10L.<sup>20</sup>

**B. An in-depth evaluation of feasible alternatives was undertaken**

- 23. Based on the detailed technical and financial evaluation of the three feasible alternatives, FBC concluded that Alternative B is the preferred alternative.<sup>21</sup>
- 24. The technical and financial criteria evaluated by FBC included the following:

**Technical criteria**

- 1. Meets Single Contingency N-1 Transmission Planning Criteria: Ability to continue to serve all load during the outage of a single element.

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<sup>20</sup> Exhibit B-2-1 – FBC Responses to BCUC Confidential IRs 1.2.1-1.2.2, pp.4-5; Exhibit B-2 – FBC Responses to BCUC IRs 1.7.1 at p. 38; Exhibit B-6 – FBC Response to ICG IR 1.8.1 at p. 29; Exhibit B-9-3 – FBC Response to BCUC IR 2.9.2 at p. 1.

<sup>21</sup> Refer to Exhibit B-1 – Application at pp. 24-29 for more details. Note that Table 3-3, which appears at pp. 25-26 of the Application, was corrected in errata filed by FBC as Exhibit B-1-2 – Errata to the Application.

2. Operations Accessibility and Operability: Considers the accessibility and operability of the facilities by FBC employees and contractors working on system repairs, performing routine maintenance, or transferring load during real-time outages.
3. Lifecycle Utilization: Considers the full lifecycle of the existing assets.
4. Project Risk: Considers Project risks, such as schedule, lands, and unforeseen environmental and archeological discoveries.
5. System Reliability: Refers to the availability of electrical supply on the transmission, distribution and substation facilities.

### **Financial criteria**

6. O&M and Sustainment Capital Costs: Costs related to maintaining the assets in place.
  7. Present Value Incremental Revenue Requirement: The discounted value of the revenue requirement over 40 years.
  8. Rate Impact: The levelized rate impact over the 40 year period.
25. The financial analysis calculates the present value and levelized rate impact of the three alternatives over an assumed 40-year life for a new transformer. The financial analysis assumes that GFT T1 has a useful remaining life of 10 years and future capital requirements in Years 10, 15 and 25, which are not being requested for approval in this Application.<sup>22</sup>

### **(1) Technical evaluation**

26. All three alternatives would meet the Company's single contingency (N-1) transmission planning criteria for 63kV supply in the Grand Forks area. Alternative A and Preferred Alternative B achieve this through the installation of a second transformer at GFT, and Alternative C achieves this by rehabilitating 9L and 10L.

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<sup>22</sup> Exhibit B-1 – Application at p. 24

27. Unlike Alternative A and Preferred Alternative B, Alternative C would not meet forecast load growth in the Grand Forks area over the 20-year planning horizon even with the addition of reactive compensation for voltage support.<sup>23</sup>
28. Alternative A and Preferred Alternative B would make it easier to transfer load in the event of a GFT transformer outage, as the System Control Centre (SCC) could remotely operate the station switches to transfer load to the second GFT transformer (GFT T2). Load transfer would take longer under Alternative C, as field staff would have to manually close switches on 9L and 10L in order to reconfigure the 63 kV supply from WTS.<sup>24</sup>
29. Maintaining an on-site spare in Preferred Alternative B and Alternative C would also provide more operational flexibility as compared to Alternative A in the event GFT T1 fails, as the on-site spare could be installed as a replacement while a new transformer is procured.<sup>25</sup> OLI T1 is currently designated as an emergency spare in the FBC system for two other stations.<sup>26</sup>
30. All three alternatives utilize the full lifecycle of the existing assets. Alternative A makes use of the remaining life of OLI T1 by installing it as the second transformer GFT T2 and includes removal of portions of the transmission lines 9L and 10L. Alternative C makes use of OLI T1 as an on-site spare and rehabilitates the transmission lines 9L and 10L. Preferred Alternative B makes use of OLI T1 as an on-site spare and includes removal of portions of the transmission lines 9L and 10L.<sup>27</sup>
31. Preferred Alternative B provides an additional benefit over Alternative A. Because Preferred Alternative B includes installation of a new second transformer as opposed to installation of the on-site spare, it reduces the risk that

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<sup>23</sup> Exhibit B-4 – FBC Response to BCOAPO IR 1.3.1 at p. 3.

<sup>24</sup> Exhibit B-1 – Application at p. 27.

<sup>25</sup> Exhibit B-1 – Application at p. 27.

<sup>26</sup> Exhibit B-2 – FBC Response to BCUC IR 1.2.10.1 at p. 14

both GFT T1 and GFT T2 could fail simultaneously. As discussed above, GFT T1 has a useful remaining life of 10 years and the on-site spare has a useful remaining life of 10 to 15 years, whereas a new transformer would have a useful remaining life of at least 40 years.<sup>28</sup>

32. Alternative A and Alternative B further improve system reliability by reducing exposure to transmission line outages through the removal of 9L and 10L, compared to Alternative C which rehabilitates the lines.<sup>29</sup>
33. As discussed in the Application, both the existing GFT T1 transformer and the on-site spare OLI T1 will need to be replaced within the 40-year analysis period. Because Alternative A involves installation of the on-site spare now, these future capital requirements mean that two new transformers would later need to be installed at GFT for Alternative A, whereas only one new transformer will need to be installed in Preferred Alternative B and Alternative C.<sup>30</sup>
34. All three alternatives have Project risks associated with them. The schedule risk is lowest for Alternative A since OLI T1 is already on site, while Preferred Alternative B is dependent on the approximately one year lead time for procurement of a new transformer, and Alternative C has a greater likelihood of being impacted by seasonal construction windows. The lands risk is lowest for Alternative C since the distribution and transmission routes will not be changing, while Alternative A and Preferred Alternative B both require distribution rights-of-way to be confirmed for the portions of 9L and 10L that will not be removed. All alternatives have low unforeseen environmental and archaeological discovery risk during the construction phase based on FBC's historical experience in the GFT and along the 9L and 10L right-of-way.<sup>31</sup> FBC filed, on a

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<sup>27</sup> Exhibit B-1 – Application at p. 27.

<sup>28</sup> Exhibit B-1 – Application at p. 27; Exhibit B-5 – FBC Response to CEC IR 1.17.1 at p. 32.

<sup>29</sup> Exhibit B-1 – Application at p. 27; Exhibit B-5 – FBC Response to CEC IR 1.16.1 at p. 30.

<sup>30</sup> Exhibit B-1 – Application at p. 27.

<sup>31</sup> Exhibit B-1 – Application at pp. 27-28.

confidential basis, a GFT Reliability Project Risk Register listing preventative actions and mitigation plans FBC has taken to mitigate these identified risks.<sup>32</sup>

35. FBC considers overall schedule risk for all three alternatives to be low. Schedule risk associated with procurement of a new transformer for Preferred Alternative B is considered to be low because FBC has agreements in place with approved vendors to supply quality product and set lead times. Estimates have already been acquired for the GFT T2 transformer and lead times have been established.<sup>33</sup>
36. Lands risk for use of 9L and 10L as distribution rather than transmission differs because legal agreements granting land rights over the corridor have changed over the long history of the utility. Some statutory right of way formats may limit alterations. At this time, only approximately 15 properties have been identified as potentially requiring land rights for distribution right of way. Therefore, lands risk associated with Preferred Alternative B is considered to be low. FBC will conduct a more detailed analysis to identify specific issues if the CPCN is approved.<sup>34</sup>
37. Preferred Alternative B best addresses the technical criteria by supplying a second 161/63 kV supply at GFT, offering improved reliability compared to Alternative A because the second transformer installed at GFT would be a new one rather than the on-site spare which has an estimated useful remaining life of only 10 to 15 years. A new transformer would have an estimated useful life of 40 years. In addition, Preferred Alternative B is a more reliable option because OLI T1 would remain as an on-site spare at GFT. Preferred Alternative B best addresses the issue of transmission reliability for the Grand Forks area.<sup>35</sup>

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<sup>32</sup> Exhibit B-2 – FBC Response to BCUC IR 1.9.1 at pp. 41-42 and Confidential Attachment 1.9.1.

<sup>33</sup> Exhibit B-5 – FBC Response to CEC IR 1.18.1 at pp. 33-34.

<sup>34</sup> Exhibit B-2 – FBC Response to BCUC IR 1.9.2 at p. 42; Exhibit B-6 – FBC Response to ICG IR 1.11.10 at pp. 36-37.

<sup>35</sup> Exhibit B-1 – Application at p. 28.

**(2) Financial evaluation**

38. Alternative A and Preferred Alternative B will have a net reduction in O&M costs since a large portion of 9L and 10L will be removed. There will be no change in O&M costs for Alternative C. In addition, FBC transmission condition assessment and rehabilitation (sustainment capital) occurs on an eight-year cycle; removal of a portion of 9L and 10L will reduce these costs in Alternative A and Preferred Alternative B. All three alternatives will see a reduction in urgent repairs on 9L and 10L, with the largest reduction in Alternative A and Preferred Alternative B since a portion of the lines will be removed.<sup>36</sup>
39. Although the initial capital cost of Alternative A is less than that of Preferred Alternative B, the present value of the incremental cost of service between Alternative A and Alternative B is substantially equal, since the levelized rate impact percentage and the \$ / MWh is the same (the present value for Alternative A is only \$1 thousand lower than Alternative B). Even though Alternative C has the lowest initial capital cost, its present value of incremental cost of service is highest because of higher O&M and sustainment capital costs for 9L and 10L.<sup>37</sup>
40. Both Alternative A and Preferred Alternative B better minimize the financial impact of the Project than Alternative C. Of these two options, the Company prefers Alternative B since it results in the same rate impact to customers as Alternative A based on a levelized lifecycle analysis over a 40 year period and offers improved reliability based on the technical criteria as explained above.<sup>38</sup>

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<sup>36</sup> Exhibit B-1 – Application at p. 28; Exhibit B-5-2 – FBC Response to CEC Confidential IR 1.5.2 at p. 7.

<sup>37</sup> Exhibit B-1 – Application at p. 28; Exhibit B-2 – FBC Responses to BCUC IRs 1.12.1, 1.14.1-1.14.2 at pp. 50-51, 53-54; Exhibit B-2-1 – FBC Response to BCUC Confidential IR 1.4.1 at p. 12; Exhibit B-4 – FBC Response to BCOAPO IR 1.8.1 at p. 11.

<sup>38</sup> Exhibit B-1 – Application at p. 28.



41. Detailed financial summaries for each of the alternatives were filed as Confidential Appendix J to the Application.<sup>39</sup>

**C. Alternative B is the Preferred Alternative**

42. Based on the technical and financial evaluation of the three alternatives considered above, the best option is Preferred Alternative B, which involves installing a new second transformer at GFT, removing 44.6 km of 9L and 10L transmission lines, and repurposing 20.8 km of 9L and 10L transmission lines as distribution lines.
43. Preferred Alternative B offers increased reliability as compared to Alternative A because it includes installation of a new second transformer as GFT T2 rather than installation of the on-site spare, which has a useful remaining life of only 10 to 15 years. A new transformer would have a useful remaining life of at least 40 years. In addition, Preferred Alternative B leaves OLI T1 available as an on-site spare at GFT. Preferred Alternative B therefore best addresses the issue of reliability for the Grand Forks area.
44. From a financial perspective, Alternative A and Preferred Alternative B are very similar, with both alternatives resulting in the same rate impact to customers based on a levelized lifecycle analysis over a 40-year period.
45. Preferred Alternative B provides the best financial and technical solution. It mitigates the reliability risk and meets the Company's transmission planning criteria. When all Project cost of service components are taken into account, Preferred Alternative B provides the best technical solution to meet all Project objectives and requirements while minimizing the financial impacts and providing the best value for investment over a 40 year analysis period.

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<sup>39</sup> Also refer to Exhibit B-5 – FBC Response to CEC IR 1.19.1 at p. 36 and Confidential Attachment 1.19.1.

**PART V - CONSULTATION EFFORTS MEET THE REQUIREMENTS AND  
WILL CONTINUE**

46. FBC regards its responsibility to engage Indigenous communities and other stakeholders in a meaningful and comprehensive consultation process as a key consideration in the successful development and execution of its projects. Consultation activities are determined on a project by project basis.

47. All the proposed work is either being completed within the existing property and fence boundaries of the GFT substation or within the established ROW over the Rossland Mountain Pass.

**A. Indigenous Consultation**

48. FBC is committed to building good working relationships with Indigenous communities. FBC seeks to engage with the identified Indigenous communities in a thorough, timely, and meaningful way.

49. FBC has focused its Indigenous engagement on this Project on the transmission line component, which includes the salvaging of a portion of 9L and 10L and the repurposing to distribution of another portion of 9L and 10L. The transformer component work will be entirely within the current FBC substation and as such will have no effect on Indigenous communities or their rights.

50. A list of potentially affected Indigenous communities was developed using the Province of British Columbia's Consultative Areas Database to create a comprehensive list of Indigenous groups whose territory is located along the transmission line route. FBC identified eight Indigenous communities.<sup>40</sup>

51. On July 13, 2018, notification letters were sent to all Indigenous communities identified. The letters provided information about the Project including the types of work that may occur, mapping to show the proposed areas where there may

be pole replacements, and contact information for FBC's Community & Indigenous Relations Manager.<sup>41</sup>

52. On November 22, 2018, FBC sent a further letter to the Indigenous communities identified above to inform them that the Application had been filed and where to find information about how to register as an interested party, submit a request to intervene, or obtain documents filed on the public record before the BCUC.<sup>42</sup>
53. FBC has had ongoing dialogue with the Osoyoos Indian Band, which is the Lead Band for the Okanagan Nation, to discuss the Project scope and has not received feedback to date.<sup>43</sup> None of the other communities contacted has requested a meeting with FBC or otherwise responded to date.<sup>44</sup> FBC remains engaged with Indigenous communities should any questions arise about the Project.<sup>45</sup>
54. The Osoyoos Indian Band requested from FBC the exact locations of poles that would be replaced as part of the Project. FBC has completed its condition assessment of 9L and 10L between CHR and CSC, including identification of the poles which require replacement.<sup>46</sup> FBC will provide Osoyoos Indian Band with the requested information once the CPCN for the Project is approved, and will then consult with the band or other Indigenous communities about specific locations they may want to be present for during ground disturbance.<sup>47</sup>

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<sup>40</sup> Exhibit B-1 – Application at p. 30.

<sup>41</sup> Exhibit B-1 – Application at p. 31, Appendix E; Exhibit B-4 – FBC Response to BCOAPO IR 1.13.4 at p. 18 and Attachment 1.13.3.

<sup>42</sup> Exhibit B-2 – FBC Response to BCUC IR 1.5.4 at p. 31; Exhibit B-9 – FBC Response to BCUC IR 2.21.1 at pp. 10-11.

<sup>43</sup> Exhibit B-2 – FBC Responses to BCUC IR 1.5.1, 1.5.2 at pp. 29-30; Exhibit B-9 – FBC Response to BCUC IR 2.21.2.2.

<sup>44</sup> Exhibit B-4 – FBC Responses to BCOAPO IR 1.13.1-1.13.2 at p. 17.

<sup>45</sup> Exhibit B-2 – FBC Response to BCUC IR 1.5.2 at p. 30.

<sup>46</sup> Exhibit B-1 – Application at p. 31; Exhibit B-4 – FBC Response to BCOAPO IR 1.13.4; Exhibit B-1-1 – Confidential Appendix C (9L and 10L Condition Assessment Report).

<sup>47</sup> Exhibit B-4 – FBC Response to BCOAPO IR 1.13.4.1 at p. 18.

55. FBC filed an estimate for consultation and accommodation costs associated with Alternatives A, B and C on a confidential basis. The estimates are based upon the amount of land disturbance and previous work with the Indigenous communities in the area.<sup>48</sup>

**B. Public and Stakeholder Consultation**

56. As the substation is located within a rural/farming area on the outskirts of Grand Forks, public impact will be limited to increased transportation on various roads on days when equipment is brought to site during mobilization.<sup>49</sup> Neither the substation nor the transmission line components of the GFT Reliability Project are expected to have any impact on the physical, biological, or social environments as the proposed work will take place within the existing substation and existing rights of way. FBC anticipates that the transportation impacts will be minimal.<sup>50</sup>
57. No federal, provincial or municipal approvals, permits, licenses or authorizations are required to complete the Project.<sup>51</sup>
58. FBC will directly contact those residents and community businesses that will experience some limited impact during Project construction. FBC has begun contacting residents in the area to discuss their concerns with the Project.<sup>52</sup>
59. Customers supplied from 9L and 10L distribution underbuild will be affected by some brief outages near the end of the Project schedule. These customers will

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<sup>48</sup> Exhibit B-6 – FBC Response to ICG IR 1.11.8 at pp. 35-36; Exhibit B-6-1 – FBC Confidential Response to ICG IR 1.11.8 (unredacted p. 36).

<sup>49</sup> Exhibit B-1 – Application at p. 31; Exhibit B-1-2 – Errata to the Application (revised p. 31); Exhibit B-2 – FBC Responses to BCUC IR 1.6.2-1.6.3.1 at pp. 33-36.

<sup>50</sup> Exhibit B-2 – FBC Response to BCUC IR 1.6.1 at p. 32.

<sup>51</sup> Exhibit B-2 – FBC Response to BCUC IR 1.6.1 at p. 32; Exhibit B-4 – FBC Response to BCOAPO IR 1.14.1 at p. 20.

<sup>52</sup> Exhibit B-2 – FBC Response to BCUC IR 1.6.1 at p. 32;

be notified at least 48 hours in advance of the outage by either email or field staff (door knock or outage notification sheet if customer not home).<sup>53</sup>

60. FBC has also discussed the Project with Grand Forks Electric and the City of Grand Forks, who are the non-Indigenous key stakeholders in the Project. FBC remains engaged with these key stakeholders should any questions arise about the Project.<sup>54</sup>
61. Letters of comment expressing noise, light and property value concerns were filed with the BCUC. These issues are addressed below in Part VI of the Final Submission.

### **C. Conclusion**

62. FBC submits that its activities to date, as summarized above, have been and will continue to be adequate and appropriate in the circumstances. FBC has adequately engaged and consulted with Indigenous communities and other key stakeholders to date, and will continue to do so throughout Project detailed design and implementation. FBC submits that no public consultation is required due to the Project's minimal impact, but will continue to discuss with local residents and commercial businesses any concerns they might have.

## **PART VI - NOISE AND LIGHT CONCERNS HAVE BEEN MITIGATED**

63. A number of residents filed letters of comment in this proceeding to voice their concerns regarding noise and light impacts from GFT and potential impacts on the property values of those located nearby.<sup>55</sup> These issues were thoroughly addressed in the evidence before the BCUC.

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<sup>53</sup> Exhibit B-2 – FBC Response to BCUC IR 1.4.6 at p. 27.

<sup>54</sup> Exhibit B-2 – FBC Response to BCUC IR 1.5.2 at p. 30.

<sup>55</sup> Exhibit E-1 – Letter of Comment from Wayne Hall, Exhibit E-2 – Letter of Comment from Laurine and Terry Vaugeois, Exhibit E-3 – Letter of Comment from Daniel Zabinsky, Exhibit E-4 – Letter of Comment from Roy and Colleen Schiesser, Exhibit E-5 – Letter of Comment from David Murphy and Exhibit E-6 – Letter of Comment from Bonita Hall.

64. FBC considers community impacts when designing and constructing substation equipment within residential areas (as noted above, GFT is located in a rural/farming area on the outskirts of Grand Forks). FBC has confirmed that the Project will not increase day-to-day light levels at the station.<sup>56</sup> Four new lights will be permanently installed around the new equipment at GFT, but these will be used for a limited period during evening construction or future emergency events. FBC has confirmed that residents will not see any increase in lighting during normal operations.<sup>57</sup>
65. To mitigate noise from the new transformer as much as possible, FBC plans to construct an engineered sound wall around the new GFT T2 transformer similar to that installed around the existing transformer to absorb and re-direct any sound away from the nearby residential area. The transformer will include a reduced noise level specification, which is FBC's usual practice when designing and constructing substation equipment, in addition to the engineered sound wall to be built around GFT T2. While FBC is unable to quantify the potential change in noise levels, it is possible that noise will be reduced.<sup>58</sup>

## **PART VII - CONCLUSION**

66. For the reasons stated above and in FBC's filings in this proceeding, FBC submits that the GFT Reliability Project as detailed above and in the Application, as amended, is necessary for the public convenience and properly conserves the public interest, and accordingly requests that the BCUC grant a CPCN for the GFT Reliability Project.

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<sup>56</sup> Exhibit B-2 – FBC Response to BCUC IR 1.6.1 at p. 33; Exhibit B-4 – FBC Response to BCOAPO IR 1.14.1 at p. 20.

<sup>57</sup> Exhibit B-9 – FBC Response to BCUC IR 2.22.2 at p. 15.

<sup>58</sup> Exhibit B-4 – FBC Response to BCOAPO IR 1.14.1 at p. 20; Exhibit B-9 – FBC Response to BCUC IR 2.22.1 at pp. 14-15.

ALL OF WHICH IS RESPECTFULLY SUBMITTED.

Counsel for FortisBC Inc.:

[original signed by Jason K. Yamashita]

Jason K. Yamashita

Dated: April 23, 2019