



bcuc
British Columbia
Utilities Commission

Patrick Wruck
Commission Secretary

Commission.Secretary@bcuc.com
bcuc.com

Suite 410, 900 Howe Street
Vancouver, BC Canada V6Z 2N3
P: 604.660.4700
TF: 1.800.663.1385
F: 604.660.1102

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Sent via email/eFile

FBC CPCN – GRAND FORKS TERMINAL STATION RELIABILITY PROJECT EXHIBIT A-5
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Mr. Doug Slater
Director, Regulatory Affairs
FortisBC Inc.
16705 Fraser Highway
Surrey, BC V4N 0E8
electricity.regulatory.affairs@fortisbc.com

Re: FortisBC Inc. – Application for a Certificate of Public Convenience and Necessity for the Grand Forks Terminal Station Reliability Project – Project No. 1598987 – BCUC IR No. 2

Dear Mr. Slater:

Further to the above-noted application, enclosed please find British Columbia Utilities Commission Information Request No. 2. Please file your responses by Thursday, March 21, 2019.

Sincerely,

Original signed by:

Patrick Wruck
Commission Secretary

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Enclosure



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

INFORMATION REQUEST NO. 2 TO FBC

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A. PROJECT NEED AND EXISTING SYSTEM

**17.0 Reference: RISK OF FAILURE
Exhibit B-2, BCUC IR 2.3
GFT T1 Risk of Failure Limit**

In FortisBC Inc.’s (FBC) response to British Columbia Utilities Commission (BCUC) information request (IR) 2.3, FBC states:

FBC considers that an acceptable risk of failure (RoF) for a transmission station should be no higher than 2 percent based on industry standards. The RoF for GFT T1 is higher than this and was calculated by ABB as 2.6 percent.

17.1 Please indicate whether the 2 percent Risk of Failure (RoF) included in FBC’s response applies to the entire substation or to the individual transformers.

17.1.1 In either scenario, please discuss how this RoF compares to the industry practice.

17.1.2 If the RoF applies to the entire substation, please provide the station RoF if Oliver T1 transformer (OLI T1) was installed as a second transformer at Grand Forks Terminal (GFT) as proposed in Alternative A.

17.1.3 If the RoF included in FBC’s response applies to the individual transformers, please explain why FBC is proposing to keep GFT T1 in service despite exceeding the industry standard for RoF.

**18.0 Reference: OLI T1 FIELD INSPECTION ASSESSMENT REPORT
Exhibit B-2, BCUC IR 2.7, 2.9
Exhibit B-1, Section 3.4, p. 24
OLI T1 Condition and Installation**

In FBC’s response to BCUC IR 2.9, FBC states, “Annual lab results indicate no change in unit health and therefore FBC believes that storing OLI T1 on-site for 10 years has not negatively impacted the serviceable lifespan of OLI T1.”

In FBC’s response to BCUC IR 2.7, FBC states, “FBC expects the life of the two transformers to be

extended if they are operated in parallel, evenly sharing the load...”

On page 24 of the FBC Certificate of Public Convenience and Necessity Application for the GFT Reliability Project application (Application), FBC outlines the following plan of transformer additions for Alternative B:

- Year 10 – Replace GFT T1 with OLI T1
- Year 25 – Replace OLI T1 with new transformer

18.1 Please confirm that FBC expects no change in transformer health to OLI T1 between now and its proposed installation at GFT in 10 years or later, if the service life of GFT T1 is extended.

**19.0 Reference: PROJECT NEED AND EXISTING SYSTEM
Exhibit B-2, BCUC IR 2.10, 2.10.1
Spare Transformers**

In response to BCUC IR 2.10, FBC states “OLI T1 is currently designated as an emergency spare in the FBC system. There are two other stations in FBC’s system for which OLI T1 could potentially be used.”

In response to BCUC IR 2.10.1, FBC states:

OLI T1 is the only designated emergency spare for the two other stations noted in the response to IR 1.2.10. FBC is currently developing a spare parts equipment strategy that evaluates the impact on system performance for the unavailability of certain major transmission equipment, including the transformers for which OLI T1 is a potential spare.

19.1 If OLI T1 is installed permanently at GFT, as in Alternative A, please explain the sparing strategy for the other two stations in FBC’s system where OLI T1 is currently designated as an emergency spare.

19.1.1 Please provide the name, location, current age and risk of failure for the transformers at the other two stations where OLI T1 is designated as an emergency spare.

19.1.2 Please explain the risks to FBC’s operations if OLI T1 is not available as an emergency spare.

19.1.3 Please explain whether there are other similarly sized spare transformers in the FBC system that could be used as emergency spare transformers at GFT and the other two stations referenced in the preamble, if OLI T1 was not available.

**20.0 Reference: OLI T1 FIELD INSPECTION ASSESSMENT REPORT
Exhibit B-4, BCOAPO IR 6.1, p. 8; Exhibit B-1, Appendix D - ABB OLI T1 Field Inspection
Assessment Report, p. 5
OLI T1 Condition**

In FBC’s response to British Columbia Old Age Pensioners' Organization et al. (BCOAPO) IR 6.1, FBC states:

Inspection of the load tap changer by ABB revealed the possibility that acetylene was originating from the tap changer compartment. Given these findings, FBC investigated repairing the load tap changer. Based on the known history of the unit, the only realistic operation would have been an onsite load tap changer replacement. Considering OLI T1 was an emergency spare at the time, FBC deemed this approach too costly.

FBC plans to replace the load tap changer if OLI T1 is refurbished and installed as the

second transformer at GFT.

On page 5 of Appendix D of the Application, in the condition report for OLI T1, ABB states:

The tap selector and contactor assembly were inspected; contact wear is normal with no sign of arcing on the main and selector contacts. Spring and contact pressure is good. Inspection of the tap changer switch components including geneva gears and drivers, push rods, bearings, levers, and operating shafts revealed no abnormal wear or defects. Inspection of mechanical fasteners revealed no loose, broken or missing components.

... The motor drive mechanism appeared in generally good condition for the age of tap changer. The tap changer was operated through all positions, end stops functioned correctly, dynamic brake operated correctly, limit switches and cams are secure and operate correctly, and the drive shaft oil seal shows no signs of oil leak.

20.1 Please explain the reasons for FBC's plans to replace the load tap changer of OLI T1, with respect to the ABB inspection report or other inspection results.

B. CONSULTATION PROCESS

21.0 Reference: Consultation Exhibit B-2, BCUC IR 5.4 Indigenous Consultation

In response to BCUC IR 5.4, FBC states "FBC sent a letter on November 22, 2018 to the same list of affected Indigenous communities as included in Section 4.1.1 of the Application".

21.1 Please provide a copy of the November 22, 2018 letter sent to the affected Indigenous communities.

21.2 Please indicate if FBC has received a response from any of the Indigenous communities who received the November 22, 2018 letter.

21.2.1 If responses have been received, please provide details of each response.

21.2.2 If FBC did not receive any response from the Indigenous communities, please indicate if FBC has followed up to ensure these communities received the notification.

21.2.2.1 If FBC has followed up, please indicate the method of notification (i.e. phone call, email, letter).

21.2.2.2 If FBC has not followed up, please indicate why FBC did not follow up further.

22.0 Reference: Consultation Exhibit B-2, BCUC IR 6.1 Public Consultation

In response to BCUC IR 6.1, FBC states:

FBC believes that a broader public consultation is not required, but rather FBC will directly contact those residents and commercial businesses that would have some limited impact during construction. As mentioned in response to BCOAPO IR 1.14.1, FBC has already begun contacting residents in the area to discuss their concerns with the project... The letters of comment in Exhibits D-1-1 and E-1 through E-6 focus on three concerns of local residents in the Copper Ridge Subdivision regarding the current and future work at the substation:

- a. Potential increased noise levels;
- b. Increase in the amount of outdoor lighting; and
- c. Impact on property values and resale value of properties.

FBC considers community impacts when designing and constructing substations equipment within residential areas... 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 Copper Ridge residential area, which will minimize noise from the new transformer. Evening lighting will not increase at the substation as a result of installing the new transformer. The additional lights that will be installed during construction will only be turned on during the evening hours if an emergency occurs or crews are required to perform work during the evening hours, thereby minimizing any concerns about increased lighting.

22.1 Please indicate if noise levels will change as a result of the proposed GFT Station Reliability Project (Project).

22.1.1 If yes, please describe in detail any change in noise levels from the current level as a result of the proposed Project.

22.1.1.1 Please indicate if these changes are temporary or permanent in nature.

22.2 Please indicate if lighting at the substation will change from the current level as a result of the proposed Project.

22.2.1 If yes, please describe in detail any change in lighting that may occur.

22.2.1.1 Please indicate if these changes are temporary or permanent in nature.

22.3 Please indicate how many residents and commercial businesses will be impacted by the proposed Project.

22.3.1 Please confirm that FBC has contacted all of the residents that will be impacted by the proposed Project to discuss their concerns.

22.3.1.1 If not confirmed, please indicate how many residents and commercial businesses have been contacted and provide a timeline of when the other affected parties will be contacted.

22.3.1.2 Please provide a copy of communication sent to the residents and commercial businesses.

C. PROJECT DESCRIPTION AND PROPOSED ALTERNATIVES

**23.0 Reference: ALTERNATIVES AND RECCOMENDED SOLUTION
Exhibit B-6, Industrial Customers Group IR 10.1, p. 32
Remote Disconnect Switches**

In FBC's response to Industrial Customers Group (ICG) IR 10.1, FBC states:

Adding a motor operator to the existing switches may be technically feasible. To meet the communication requirements to operate it remotely either fibre or cell communications would be required. Since there is no fibre network at these sites, it would be necessary to use cell communications. However, due to the remoteness of these areas, even cell communications may have limited reliability at these sites. Additionally, FBC has historically had issues with cell communication networks being used on remote switching applications.

- 23.1 Assuming FBC could meet communications requirements to install remotely-operated disconnect switches, please discuss how the installation of remotely-operated switches would affect reliability for lines 9L and 10L, and estimate any impact this would have on O&M costs.