

September 16, 2008

Via Email
Original via Courier

Ms. Erica M. Hamilton
Commission Secretary
BC Utilities Commission
Sixth Floor, 900 Howe Street, Box 250
Vancouver, BC V6Z 2N3

Dear Ms. Hamilton:

***Re: An Application for a CPCN for the Copper Conductor Replacement (CCR) Project
No. 3698518***

Please find enclosed FortisBC Inc.'s Final Submission with regard to the above noted project. Twenty copies will be couriered to the Commission.

Sincerely,



David Bennett
Vice President, Regulatory Affairs
and General Counsel

cc: Registered Intervenors

FINAL SUBMISSION OF FORTISBC INC.

A. INTRODUCTION

1. On June 27, 2008, FortisBC Inc. (“FortisBC” or “the Company”) applied (the “Application”) to the British Columbia Utilities Commission (“the Commission”) for a Certificate of Public Convenience and Necessity (“CPCN”) for the Copper Conductor Replacement Project (“the Project”).
2. On July 7, 2008, the Commission issued Order G-108-08, establishing a written Public Hearing process and Regulatory Timetable for the Project.
3. The Regulatory Timetable established a schedule for Information Requests to be issued by the Commission, a Workshop on the Application, which was held in Kelowna on August 12, 2008, and a further round of Information Requests by the Commission and Intervenors.
4. FortisBC submits this Final Argument in support of the Application for a CPCN.

B. DESCRIPTION OF THE PROJECT

5. The Project involves the replacement of approximately 428 circuit kilometres (Exhibit B-1, page 11) of FortisBC’s No. 8, No. 6, and No. 90 MCM “legacy” copper distribution conductor, all of which has been in service for more than fifty years.
6. The Project is required to address safety concerns and incidents that have resulted from failures of the legacy copper conductor.
7. The Project consists of:
 - replacement of all No. 8, No. 6 and 90 MCM Copper Distribution Conductors with Aluminum Conductor Steel Reinforced (ASCR) Conductor;
 - assessment of poles for age and safety and replacement subject to the assessment results;
 - updates to the GIS (Geographic Information Systems) Database;

- standardization as per FortisBC existing standards for distribution lines; and
- disposal of the replaced copper conductors through sale.

(Exhibit B-1, page 7, lines 18-25).

8. The Project is expected to start in the first quarter of 2009 and to be completed by the fourth quarter of 2018, with estimated capital expenditures of approximately \$103 million (Exhibit B-1-1, Updated Page 50) over the ten year life of the Project.
9. FortisBC is requesting a determination that the Project is in the public interest, and approval for expenditures of approximately \$0.3 million in 2008, \$4.8 million in 2009 and \$6.6 million in 2010, for a total of \$11.7 million. The Company will seek approval for future years' expenditures as part of its Capital Expenditure Plan applications beginning in 2011.

C. ISSUES ARISING ON THE APPLICATION

10. It is submitted that there are no issues of any substance or controversy arising out of the Application.
11. FortisBC intends to outline herein the justification for the Project and also to generally refer to the Project schedule, costs, and other benefits associated with the Project.

(a) Project Justification

12. The types of copper conductor that are the subject of this Application were commonly used for distribution lines 50 years ago because of availability and excellent electrical characteristics. However, the metallurgical characteristics of the conductors have deteriorated over time resulting in a number of issues which are described in the Application at page 17, line 11 to page 18, line 17.
13. The legacy copper accounts for a disproportionate number of distribution conductor failures in the FortisBC system. The Application states (Exhibit B-1, page 4, lines 18-23) that during the last five years approximately 57 percent of all distribution conductor failures (approximately 200) involved legacy copper, even though the legacy copper comprises only ten percent of all conductor in service. Between August 2004 and April

2008 there were approximately twelve incidents where downed copper conductor remained energized on the ground, creating a public and employee electrocution risk and a fire hazard.

14. FortisBC commissioned an independent analysis by PowerTech Labs Inc. to address this issue (Exhibit B-1, Appendix A). The analysis concluded that the legacy copper conductors tested showed annealing and mechanical property values that do not meet current requirements and that additional failures can be expected (Exhibit B-1, page 5, lines 1-4).
15. There is no means of maintaining bare overhead conductors such as these legacy copper conductors and therefore they should be replaced if they are inadequate and vulnerable (Exhibit B-1, page 5, lines 21-23). There is no technical alternative to replacement of the conductor.
16. Other Canadian utilities have replaced similar copper distribution conductor in response to load growth and to improve public and employee safety (Exhibit B-1, page 22, lines 10-19).
17. The primary driver for this Project is public and employee safety.

(b) Project Schedule

18. In the Application, FortisBC evaluated three implementation plans involving 10 year, 13 year and 15 year schedules. The recommended 10 year implementation plan provides the fastest elimination of the legacy copper conductor from the 187 sensitive public areas identified as well as the fastest overall elimination of the legacy copper conductor from FortisBC's distribution system, and has the lowest Net Present Value and lowest rate impact of the three plans.
19. Conductor failure in public areas is of particular concern to FortisBC since the probability of public safety risk increases with the volume of public access.

20. The conductor replacement schedule for 2009 - 2011 will address in order of priority 187 locations in school zones, public parks, and high density residential and commercial areas (Exhibit B-1, page 15, lines 2-7).
21. Approximately 85 percent of all legacy copper conductor is expected to be replaced as part of the Project. The remaining 15 percent is located on distribution lines that will be replaced for other reasons such as line upgrades or due to load growth, rehabilitation of distribution line based on condition assessment, or forced line relocations.
22. The Application cost estimate is based on replacing an average of 9 poles per kilometre, and assumes that approximately 3,900 distribution poles will be replaced over the life of the Project (Exhibit B-4, response to BCOAPO Information Request Q5.2). During Project execution, any pole older than 50 years will be replaced unless it is in good condition and the replacement involves significant effort such as involving underground service attachments. Poles less than 50 years old will be replaced if they are deteriorated or become out of alignment as a result of a route change, or if replacement is more cost effective for the affected line section (Exhibit B-4, response to BCUC Information Request No. 2 Q36.4).
23. The estimated number of pole replacements in future years will be reviewed on the basis of experience gained in the initial years of the Project. A sample of poles recovered will be subjected to destructive testing and analysis and the result of this analysis will influence the percentage of poles replaced in subsequent years (Exhibit B-1, page 26, line 27 – page 27, line 3).

(c) Costs

24. The costs for the Project have been thoroughly reviewed through the Information Request process and the responses provided by FortisBC.
25. Costs have been estimated to a level of accuracy of +/- 20 percent through 2011, based on average unit construction costs (Exhibit B-2, response to BCUC Information Request No. 1 Q5.1). The basis for the unit construction costs have been thoroughly reviewed through the Information Request process. In addition, FortisBC agrees to file Annual Reports on

the program and its expenditures for Commission review (Exhibit B-4, response to BCUC Information Request No. 2 Q40.1).

26. The Company has not undertaken detailed engineering design for expenditures beyond 2010 because it believes that the option of not reconductoring the locations identified as Sensitive Public Areas is not viable, and because, as stated in paragraph 23, the number of pole replacements for future years may be refined based on Project experience and in that event will impact the current estimates for the 2011 and future periods. Approval of the revised estimates will be requested in future Capital Expenditure Plans.
27. Factors used to develop the Project cost estimates are explained in Section 6 of the Application (Exhibit B-1, pages 48-50). The Project cost has been reduced by the \$1.43 million that will result from the sale of the salvaged copper conductor.

(d) Other benefits

28. The Application states that the Project will have benefits in addition to safety, including improved reliability, reduced losses, and increased circuit capacity.
29. Customer reliability is expected to improve where existing deteriorated legacy copper conductor is replaced. However during the Project implementation period the distribution system reliability will be negatively affected as a result of the planned outages necessary to carry out the work (Exhibit B-1, page 40, line 5 – page 41).
30. The Company states in its response to BCUC Information Request No. 1 Q13.2 that it may apply in future Revenue Requirements applications to track and exclude these impacts from its measured Performance Standards in the area of system reliability (Exhibit B-2, page 25).
31. Electrical line losses are the result of line resistance and line current. The reduced line resistance and increased current carrying capacity of the new conductor provides energy savings over the projected life of the refurbished lines. The estimated value of the energy saved during the first fifteen years is approximately \$6.3 million (Exhibit B-1, page 42, lines 10-12).

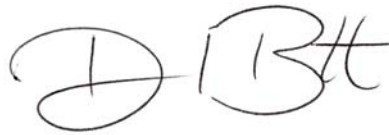
32. The reduction in distribution line losses associated with the Project will ultimately assist in optimizing transmission capacity, which meets the government's energy objective (d) as defined in the Utilities Commission Act, to encourage public utilities to develop adequate energy transmission infrastructure and capacity in the time required to serve persons who receive or may receive service from the public utility.
33. In addition, the Project supports energy conservation through the reduction of line losses, which is consistent with the government's energy objective (e)(ii) as defined in the Utilities Commission Act, to encourage public utilities to use innovative energy technologies that support energy conservation or efficiency or the use of clean or renewable sources of energy.
34. The replacement conductor will have higher capacity and lower resistance than the existing conductor. As a consequence of the higher capacity levels it will also have enhanced line end voltage regulation (Exhibit B-1, page 43, lines 4-7).
35. In its 2009/2010 Capital Expenditure Plan Application, FortisBC reduced the cost of two Capital Projects, Distribution Urgent Capital Repairs, by \$0.05 million in 2010, and Distribution Rebuilds, by \$1.0 million in each of 2009 and 2010 (Exhibit B-1, page 44, line 8 - page 45, line 4). In addition the Company states in response to BCUC Information Request No. 1 Q29.1 (Exhibit B-2) that if the Project is shown to have a positive impact on Distribution Rehabilitation, Condition Assessment, or Small Planned Capital projects in future, the cost reductions will be included in future Capital Plan applications.
36. In addition, FortisBC anticipates that over the course of the Project, several Capital Projects will be avoided, which would, based on the continued existence of the legacy copper, become necessary to rectify voltage problems at a cost of several million dollars (Exhibit B-4, response to BCUC Information Request No. 2 Q44.1).

D. CONCLUSION

37. In summary, it is submitted that the Application establishes that the Project as proposed is in the public interest and meets the government's energy objectives. FortisBC

accordingly requests that the Commission grant an Order issuing a CPCN for the Copper Conductor Replacement Project as a whole, and approving expenditures in the amount of \$11.7 million in 2008 through 2010.

ALL OF WHICH IS RESPECTFULLY SUBMITTED

A handwritten signature in black ink, consisting of the letters 'D', 'B', and 'H' in a cursive, stylized font.

David Bennett
Vice President, Regulatory and General Counsel