



LETTER NO. L-58-10

SIXTH FLOOR, 900 HOWE STREET, BOX 250
VANCOUVER, BC CANADA V6Z 2N3
TELEPHONE: (604) 660-4700
BC TOLL FREE: 1-800-663-1385
FACSIMILE: (604) 660-1102

Log No. 32243

ERICA M. HAMILTON
COMMISSION SECRETARY
Commission.Secretary@bcuc.com
web site: <http://www.bcuc.com>

VIA EMAIL

regulatory@fortisbc.com

August 17, 2010

Mr. Dennis Swanson
Director, Regulatory Affairs
FortisBC Inc.
Suite 100 - 1975 Springfield Road
Kelowna, BC V1Y 7V7

Dear Mr. Swanson:

Re: FortisBC Inc.
Customer Complaint
Greg Wozney – Ymir Power Surge and Incident Report

This letter is in response to a customer complaint regarding a power surge in the Ymir area on December 16, 2009.

The Ymir area is located west of Kootenay Lake, approximately mid-way along Highway 6 between Nelson and Salmo. The Ymir area is supplied by transmission line (27 Line) originally constructed in 1928. 27 Line has a variety of structure configurations consisting of some three-phase and single-phase distribution under-build (approximately 22 km), as well as single-circuit transmission with no distribution under-build (approximately 35 km).

FortisBC was unable to determine an obvious cause for the outage as no damage was observed to the poles or conductors for 27 Line, and no downed trees were noted in the right-of-way. FortisBC concluded that the probable cause of the fault experienced by the customers in Ymir on December 16, 2009 was due to a temporary contact between the 63 kV transmission circuit and distribution circuit on 27 Line possibly due to snow/ice unloading from the line. Also, FortisBC stated the traditional household surge protector would become overwhelmed by this type of surge and not be able to provide the desired protection¹.

After December 16, 2009, FortisBC reported 15 of its 21 customers in the area reported damage to equipment as a result of the surge. FortisBC later corrected² the number of customers having damaged equipment to 16 customers. In addition, the recently upgraded Ymir Water Treatment Plant (WTP) suffered damage valued at \$6,294.54.

Three issues are associated with this complaint:

1. Compensation as requested by the affected customers; and
2. The spacing between the transmission lines and distribution lines; and
3. Safety of the electrical system and customers.

¹ FortisBC letter dated March 26, 2010, p.3

² FortisBC letter dated May 17, 2010, p.3

The Commission stated in its letter of March 10, 2010 that the Commission does not have the jurisdiction to create an Order to compensate the customers of FortisBC and leaves the issue of compensation to others.

In response to Commission's letter dated April 8, 2010, FortisBC in its letter dated July 5, 2010, submitted additional information on the monitoring of station class surge arresters and the proper selection of surge suppression devices to be employed by the customer.

Commission staff has completed the review of the FortisBC Ymir Power Surge Incident Report filed May 17, 2010. During the review of these events, the Commission staff noted that there is an increasing risk of fire from surge protectors that failed, and a risk of damage to electronic equipment. Also, Commission staff noted the spacing between the lines was less than FortisBC's requirements in its present day standards.

Commission Findings

The Commission accepts the FortisBC Ymir Power Surge Incident Report filed May 17, 2010. However, the Commission is of the view that the continued occurrence of incidents resulting in damage to customer equipment and the ongoing safety risks cannot be ignored.

The Commission notes it did not receive any final comments from either Greg Wozney or the Central Kootenay Regional District (CKRD).

Commission Directives

Having considered the risks, the Commission directs FortisBC to submit a mitigation plan within 90 days of the date of this letter that deals with the risk to its customers from future incidents involving transmission lines having distribution underbuild.

The mitigation plan should include an examination of alternatives, their costs and provide a recommended course of action to reduce or eliminate the current level of damage from incidents where transmission lines come into contact with under-built distribution lines.

In addition to outlining a course of action, it is expected the mitigation plan will address each of the following:

1. The application of station class surge arresters as per the attached BC Hydro report; and
2. The application of recloser pulse-closing technology on transmission systems having distribution underbuild to further mitigate the impact of power surges and advise the Commission whether FortisBC believes the addition of this pulse-closing technology would be worthwhile; and
3. The separation of the primary distribution neutral and customers' secondary neutral in multi-neutral grounded electrical systems as permitted by the National Electrical Safety Code (NESC) to further mitigate the impact of power surges as a result of recloser operation onto a shorted station class surge arrester; and
4. The resolution, with British Columbia Safety Authority (BCSA), Underwriters Laboratories of Canada (ULC) and Canadian Standards Association (CSA), of the safe application of whole-house residential surge suppressors (similar to UL 1449, 3rd edition) and the implementation of a plan of how FortisBC intends to communicate this information to its customers; and
5. The resolution, with the BCSA and the Office of the Fire Commissioner for British Columbia, of this issue of the hard-wired residential smoke alarm functionally after a power surge; and

6. The resolution of the issue of transmission lines having distribution lines as underbuild not currently meeting FortisBC's standard of 10 feet of minimum separation within its service area; and
7. The resolution of the issue of when the standard of a 10 foot minimum separation between transmission lines having distribution lines as underbuild will be complete for the Ymir line 27; and
8. The resolution with the CKRD, of a mitigation plan for the hardening of the Ymir WTP against future power surges.

The Commission acknowledges the efforts of FortisBC in the proposed mitigation of these power surge events.

Yours truly,

Erica M. Hamilton

DF/dg

Enclosures

cc: Mr. G. Wozney

Box 21

Ymir, BC VOG 2KO

Regional District of Central Kootenay,

Box 590, 202 Lakeside Drive,

Nelson, B.C. V1L 5R4

(Via email: info@rdck.bc.ca)

Stephen Hinde

BCSA, Electrical Safety Manager

(Via email: stephen.hinde@safetyauthority.ca)