

**FortisBC Inc.**  
**2005 Revenue Requirements Application,**  
**2005-2024 System Development Plan and 2005 Resource Plan**

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**Q150.0 Reference: Volume 2, p. 38**

**In the 1998 Plan it was recommended that 32 Line be upgraded to a higher nominal voltage to enable Creston backup via an internal FortisBC circuit. As a result of changes to wheeling costs, the most economical overall solution is the Lambert Terminal 230 kV ring bus and second transformer.**

**Does this mean that 32 Line is not to be rehabilitated, or just that a higher nominal voltage is no longer required?**

A150.0 The addition of a ring bus and second transformer at Lambert removes the need to upgrade 32 Line to a higher nominal voltage. The rehabilitation of 32 Line at 63 kV is required to supply backup to the Crawford Bay and Kaslo areas.

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**FortisBC Inc.**  
**2005 Revenue Requirements Application,**  
**2005-2024 System Development Plan and 2005 Resource Plan**

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**Q151.0 Reference: Volume 2, p. 44**

**As a result of changes to the transmission and distribution systems in the Boundary area, the customer-owned Roxul station will have to be converted to 25 kV.**

**Who will be responsible for the costs associated with the conversion?**

A151.0 The costs associated with the conversion of the Roxul station to 25 kV are included in the capital expenditure for the Grand Forks area conversion project scheduled for 2009/2010. This cost will be the responsibility of FortisBC.

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**2005 Revenue Requirements Application,**  
**2005-2024 System Development Plan and 2005 Resource Plan**

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**Q152.0 Reference: Volume 2, p. 45**

**The Kaslo substation is a candidate for rehabilitation or rebuild, demonstrating significant deterioration of equipment and structures. It is proposed that the transformer be inserted into the transformer rehabilitation and replacement program.**

**Please clarify what is proposed for this substation to address both the transformer problem and the equipment and structure deterioration.**

A152.0 Kaslo is a condition driven reconstruction or relocation project. The station has issues with respect to clearance distances, mobile station access, ground-grid integrity and perimeter security. The decision to reconstruct on the existing site or relocate has not been made. A further detailed study will take place in 2005 to complete the cost comparison of replacement verses relocation.

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**Q153.0 Reference: Volume 2, p. 51**

**Routine maintenance in 2000 identified that both breakers at the Coffe Creek Terminal Station need to be replaced.**

**Why have the replacements not been completed?**

A153.0 These breakers were identified for replacement in 2000 due to excessive contact wear, air compressor failure and the difficulty finding parts due to the age of the units. The breakers were recommended for replacement based upon age and deterioration, not safety. The fact this was not a safety issue along with the potential reconfiguration of the 161 kV system from Coffe Creek to Crawford Bay caused FortisBC to recommend postponing the replacement until the 161 kV solution was resolved. The 161 kV issue has been resolved in the SDP. The decision to maintain the 63 kV system has resulted in the breakers being scheduled for replacement in 2005.

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**2005 Revenue Requirements Application,**  
**2005-2024 System Development Plan and 2005 Resource Plan**

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**Q154.0 Reference: Volume 2, p. 52**

**The Right of Way Reclamation project is required to allow FortisBC to remove trees, increasing the tree-free zone around transmission lines.**

**Does (or will) FortisBC track incidents caused by vegetation encroachment and use that information for maintenance planning purposes?**

A154.0 Yes, FortisBC tracks outages caused by vegetation encroachment and uses this information for planning purposes. As well through its normal line inspection programs, the company identifies “danger trees” for inclusion in the vegetation management program.

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**Q155.0 Reference: Volume 2, p. 56**

**The age of teleprotection channel equipment is affecting its reliability and maintainability. Even after the upgrades of 2005, the Kraft-Brilliant Switching Station and South Slokan – Coffee Creek cross sections will remain critically obsolete.**

**What is the impact on reliability and safety of having the critically obsolete infrastructure in place?**

A155.0 The risk of failure of this system is deemed an acceptable risk until the fiber-optic backbone is complete. There would be no loss of protection or safety concerns. The major impact is loss of remote control and visibility from our control center.

The completion of the 230 kV project in the Kootenay along with the completion of the South Okanagan reinforcement projects will complete the communication loop addressing the issue.

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**2005 Revenue Requirements Application,**  
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**156.0 Reference: Volume 2, p. 60**

**The SCADA system provides real time telemetering of MVA, kV, and VARs from equipped substations, with central historical records kept in the Warfield SCC database, and in some locations this is used for revenue metering.**

**Q156.1 How many SCADA meters are used for revenue metering purposes?**

A156.1 Only revenue meters are installed for revenue metering purposes; the SCADA system may share revenue meters to provide hourly values for capacity planning and other real-time purposes.

We have one site where revenue metering is shared with the SCADA system at a pulp mill. We also have sites where revenue class metering is used for capacity planning purposes. This is inter-utility metering that consists of 24 metering points on generating units and 6 at interconnection points.

**Q156.2 Are the meters used for SCADA in these locations revenue-class meters?**

A156.2 The one customer meter [Celgar] is revenue class. All meters on our points of interconnection with BCTC are revenue class. The principal metering points with TeckCominco are also revenue class. The metering on our generating units, as well as the Points of Interconnection, is governed by the Canal Plant Agreement with BC Hydro. This agreement grandfathers the metering that existed at the time the agreement was signed. Some of the older generating units do not have revenue class metering. Any upgrades must be revenue class.

**Q156.3 If the answer to the previous question is no, has dispensation been received under the federal *Electricity and Gas Inspections Act* to use these meters for revenue purposes?**

A156.3 The metering that might not be revenue class is the inter-utility metering between FortisBC, TeckCominco and BC Hydro which does not require Measurement Canada dispensation due to the terms of the Canal Plant Agreement.

**Q156.4 What are the testing and certification requirements for these meters?**

A156.4 Testing and Certification requirements are stated by Measurement Canada for meters that are used for revenue metering purposes. Meter accuracy is required to be within +/- 1% and combination of all metering equipment at site must be within +/- 3%. All revenue class meters are tested under the control of our accreditation program, certificate A-106.

The 2005 Canal Plant Agreement [not yet signed] indicates that:

“The *Electricity and Gas Inspection Act* (Canada), as revised from time to time and the regulations made thereunder will govern the metering carried out under this Agreement.” The inter-utility metering will have the same testing and inspection requirements as our revenue meters.

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**Q157.0 Reference: Volume 2, p. 68**

**The contract for the Telus enterprise voice and data system is currently being renegotiated, with an expected decision by year end 2004.**

**What is the status of the negotiations?**

A157.0 The 2004 date was referenced in error. The current status of these agreements is as follows:

The agreement for the managed data network provided by Telus was renegotiated effective August 1, 2002 for a period of 40 months. There were no cost increases as a result of the renegotiation. The agreement is scheduled for renegotiation again effective December 1, 2005.

The agreement for the Centrex voice service was renegotiated November 1, 2003 for a period of 36 months. The rate for the 428 Centrex lines covered by the agreement increased from \$13,692.20/month to \$14,124.00/month. This agreement is scheduled for renegotiation again effective November 1, 2006.

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**2005-2024 System Development Plan and 2005 Resource Plan**

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**158.0 Reference: Volume 2, p. 70**

**FortisBC fibre optic channels are engineered as redundant loop systems, but both loop directions are contained in the same cable sheath, which does not meet the “diverse path” requirement as standardized by the WECC.**

**Q158.1 What are the implications, if any, of not meeting the WECC requirement?**

A158.1 The FortisBC interpretation of the NERC/WECC requirement for communications path redundancy is that it is required for Remedial Action Scheme (RAS) communications, but not for transmission line protection systems. This is also the interpretation employed by BC Hydro. The FortisBC Kootenay 230kV RAS does have path redundant communications (primary via fibre-optic and secondary by BC Hydro microwave). Thus, only the transmission line protection is not path redundant. However, a fibre optic cable break between two substations will only affect the line protection for the segment of line between the two stations; the remaining line protection systems on the remaining fibre optic system will be unaffected. Finally, our transmission line protection always incorporates backup protection elements which are not communications dependent.

**Q158.2 Which capital plan projects are intended to address the deficiency?**

A158.2 The recently completed 230 kV project in the Kootenay along with the completion of the South Okanagan Reinforcement project will complete the redundant loop requirements. The projects planned throughout the Boundary region will add to the fiber-optic system providing additional stability to the communication system. This issue is addressed by Section 6.13.6 of the System Development Plan.

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**159.0 Reference: Volume 2, p. 71**

**FortisBC has been using video surveillance in several locations.**

**Q159.1 Has FortisBC conducted a comprehensive review of security and surveillance requirements in response to the recommendations arising from the report on the August 2003 blackout?**

A159.1 No, FortisBC has not conducted a comprehensive review of security and surveillance requirements in response to the recommendations arising from the report on the August 2003 blackout.

**Q159.2 If the answer to the previous question is no, is such a review planned? If the answer is yes, what were the results of the review and what actions are proposed?**

A159.2 FortisBC does not currently have a plan to conduct a comprehensive review of security and surveillance requirements as all major substations have some form of surveillance system already in place.

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