



Preliminary 2011 Revenue Requirements

Tab 7

Capital Expenditures

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1 **7.0 Overview**

2 The focus of the capital expenditures for the period covered by the 2011 Revenue
3 Requirements Application is:

- 4 • completion of projects which are already underway;
- 5 • expand and upgrade the bulk transmission and distribution systems to meet
6 customers' ongoing electrical requirements;
- 7 • the continuation of the ongoing upgrade and life extension program at the
8 Company's generation plants; and
- 9 • assist customers with electricity conservation.

10 On June 18, 2010, FortisBC filed its 2011 Capital Expenditure Plan, which is before the
11 Commission at the time of filing of the 2011 Revenue Requirement Application. The
12 regulatory process pertaining to the 2011 CEP is running concurrently with the 2011
13 Revenue Requirement Application. The Preliminary 2011 Revenue Requirements
14 include the 2011 CEP as filed (with minor differences due to the timing of expenditures).

15 Table 7.0 below summarizes the current forecasts for 2010 and 2011 as compared to
16 the approved 2010 Capital Expenditure Plan and the proposed 2011 Capital
17 Expenditures, respectively.

18 Some variances exist between the 2011 forecast and 2011 CEP numbers where some
19 shifting of planned work is anticipated across periods.

1

Table 7.0 Capital Expenditures by Category

	2010		2011	
	Forecast	Approved ¹	Forecast	2011 CEP ²
GENERATION				
Growth	-	-	-	-
Sustaining	19,655	19,263	18,669	18,669
	<u>19,655</u>	<u>19,263</u>	<u>18,669</u>	<u>18,669</u>
TRANSMISSION & STATIONS				
Growth	79,107	81,536	22,097	21,397
Sustaining	9,806	10,175	6,950	6,950
	<u>88,913</u>	<u>91,711</u>	<u>29,047</u>	<u>28,347</u>
DISTRIBUTION				
Growth	20,837	23,344	22,110	22,110
Sustaining	14,064	14,525	12,075	12,075
	<u>34,901</u>	<u>37,869</u>	<u>34,185</u>	<u>34,185</u>
TELECOM, SCADA, PROTECTION & CONTROL				
Growth	1,884	1,664	5,589	5,589
Sustaining	568	619	1,551	1,551
	<u>2,452</u>	<u>2,283</u>	<u>7,140</u>	<u>7,140</u>
GENERAL PLANT	10,639	11,588	13,563	13,563
TOTAL (as in Tab 4, Table 1-A-1)	156,559	162,714	102,604	101,904
RECONCILIATION TO CAPITAL ADDITIONS				
Demand Side Management Additions (net of tax)	2,772	2,826	5,764	5,764
Less: Contribution in Aid of Construction	(7,552)	(8,400)	(10,581)	(10,581)
Cost of Removal	4,941	4,941	6,192	6,192
TOTAL	156,720	162,081	103,979	103,279

1 - figures in the 2010 Approved column reflect approvals contained in Order G-162-09

2

2 - The 2011 CEP was filed June 18, 2010 and is currently before the Commission in a separate process

3

Additional information is provided below in summary form only for the benefit of those

4

interested parties who are not involved directly in the Capital Expenditure Plan process.

5

Complete information can be obtained by referring to the Application available on the

6

FortisBC and BCUC websites, (www.fortisbc.com and www.BCUC.com).

1 **7.1 Generation**

2 **Major Projects**

3 The major generation projects in the 2011 Capital Plan include the completion of
4 projects previously approved by the Commission, such as the continuation of the unit-
5 by-unit Upgrade Life Extension (ULE) program. The 2011 forecast expenditure for each
6 project is noted in parentheses.

- 7 • Upper Bonnington Spill Gate Rebuild - The spill gates at Upper Bonnington are
8 over 80 years old and are at risk of failure. The 2011 portion of this project is to
9 cut stop log slots in the existing structure so that stop logs can be installed to
10 provide isolation. The Company is seeking Commission approval in the 2011
11 CEP. (\$0.610 million)

12 The following projects have all received prior Commission approval as noted:

- 13 • South Slokan Unit 1 Life Extension (Replace Turbine) - The South Slokan Unit 1
14 Life Extension project is the ninth unit in the program and was approved by
15 Commission Order G-52-05 (\$0.041 million);
- 16 • Generating Plants Station Service Supply - This project, which was approved by
17 Commission Order G-147-06, involves installing new equipment and back-up
18 power sources to ensure operational reliability and to address environmental
19 concerns at all four FortisBC generating plants (\$ 1.309 million);
- 20 • Corra Linn Unit 1 Life Extension (Replace Turbine) - The Corra Linn Unit 1 Life
21 Extension project is the tenth unit in the program and was approved by
22 Commission Order G-147-06 (\$ 2.433 million); and
- 23 • Corra Linn Unit 2 Upgrade Life Extension - The Corra Linn Unit 2 Upgrade Life
24 Extension project is the eleventh unit in the program and was approved by
25 Commission Order C-5-09 (\$ 12.373 million).

1 **Small Sustaining Projects**

2 Consistent with previous years, the 2011 Generation capital expenditures include a
3 number of plant sustaining projects that are necessary for the safe and efficient
4 operation of the plants. These projects have been identified based on considerations of
5 safety, environment, plant reliability and provincial and federal regulatory compliance.
6 All projects are included in the 2011 CEP for Commission approval and the 2011
7 forecast expenditure for each project is noted in parantheses.

- 8 • South Slokan Plant Automation - The South Slokan Plant Automation project
9 involves installing “smart” motor overloads and additional process monitoring
10 sensors at the South Slokan Plant (\$0.243 million);
- 11 • South Slokan Fire Panel - This project involves the installation of a fire alarm
12 panel at the South Slokan generating station (\$0.266 million);
- 13 • Lower Bonnington Powerhouse Windows - All of the powerhouse windows,
14 frames and opening hardware at the Lower Bonnington plant have been
15 identified as having a high risk of failure. At Lower Bonnington, half of the
16 powerhouse windows will be replaced in 2011 and the remainder in 2012 (\$0.351
17 million);
- 18 • Lower Bonnington and Upper Bonnington Plant Totalizer Upgrade (Revenue
19 Meter Replacement) - This project will replace the seven existing PSI Quad 4
20 meters with five new PML-7650 meters (\$0.086 million);
- 21 • All Plants Minor Sustaining Projects - This project involves expenditures for
22 repairs that are identified at the generating plants as a result of safety
23 inspections, storm damage, aging equipment, reports by on-call personnel and
24 other inspections. This project also includes the All Plants Power House Crane
25 Brakes and Upper Bonnington Extension Power House Crane Upgrade projects
26 (\$0.957 million).

7.2 Transmission and Stations

The 2011 capital requirements for Transmission and Stations follow the direction of the 2005 System Development Plan (SDP) and subsequent Capital Updates. The 2005 SDP is a comprehensive plan providing analysis of the maintenance requirements for protection and control facilities and communication facilities. It identified necessary projects to reinforce and upgrade the bulk transmission system, the regional transmission and distribution systems, the telecommunications and SCADA networks, and protection systems owned and operated by FortisBC, primarily to meet load growth and to maintain or improve system reliability. The 2011 forecast expenditure for each project is noted in parentheses.

Transmission and Station Growth Projects

- Ellison to Sexsmith Transmission Tie - The plan for the Ellison to Sexsmith tie was identified in the application for a CPCN for the Ellison Substation, approved by Commission Order C-4-07. This project involves adding a 138 kV line termination and all associated bus work at the Ellison Substation and the construction of a 138 kV line from the Ellison Substation to a tap into 50 Line near the Sexsmith Substation (\$0.667 million); and
- Okanagan Transmission Reinforcement (“OTR”) - This project, which was approved by Commission Order C-5-08 on October 2, 2008, is an aggregate of several discrete but related projects that were previously identified in the 2005 SDP. This project provides capacity and reliable service to the customers in the Penticton, Summerland and Kelowna areas (\$16.756 million);
- Huth Split Bus - This project will upgrade the 63 kV facilities at the Huth Avenue Substation in order to establish an N-1 level of reliability for a population base of approximately 50,000 residents in the area along Okanagan Lake from Summerland in the north to Skaha Lake in the south. Expenditures for the planning and engineering phase of this project were approved by Order G-11-09 (\$4.674 million).

1 **Transmission Sustaining Projects**

2 FortisBC has transmission lines consisting of approximately 1,400 kilometres of line and
3 15,000 poles. Approximately 65 percent of these lines are more than 30 years old, and
4 some are in excess of 60 years old. The transmission line sustaining projects total \$3.6
5 million and are required for rehabilitation and ongoing upgrades of the transmission
6 system to ensure safe, reliable service.

7 Transmission line sustaining programs and projects planned for 2011 and for which the
8 Company is seeking approval for in the 2011 CEP, include the following:

- 9 • Transmission Line Urgent Repairs (\$0.468 million);
- 10 • Transmission Line Condition Assessment (\$0.443 million);
- 11 • Transmission Line Rehabilitation (\$1.518 million);
- 12 • Right-of-Way Enhancements (\$0.402 million);
- 13 • Transmission Right-of-Way Reclamation (\$0.534 million); and
- 14 • Transmission Pine Beetle Kill Hazard Tree Removal (\$0.242 million).

15 **Station Sustaining Programs and Projects**

16 The Station Sustaining projects involve the rehabilitation and ongoing upgrades of the
17 substation system. These projects are required to maintain service reliability for
18 customers, a safe work environment for employees, and to address any environmental
19 or public safety issues identified during the assessment process. The Company is
20 requesting Commission approval in its 2011 CEP for \$3.3 million for Station Sustaining
21 projects that include the following:

- 22 • Station Condition Assessments and Minor Planned Projects (\$0.913 million);
- 23 • Station Urgent Repairs (\$0.676 million);
- 24 • Lambert 230 kV Switch Replacement (\$0.535 million);
- 25 • Okanagan Mission Load Tap Changers Upgrade (\$0.681 million); and
- 26 • Addition of Arc-Flash Detection to Legacy Metal-Clad Switchgear (\$0.538
27 million).

1 **7.3 Distribution**

2 The 2011 CEP requests approval for the following Distribution Growth projects and
3 Distribution Sustaining projects.

4 **Distribution Growth Projects**

5 Distribution Growth is driven by general load growth that over a period of time requires
6 capacity upgrades or additions to lines in order to meet service requirements or
7 legislated and industry standards. Distribution Growth Projects are:

- 8 • New Connects System Wide which total \$10.581 million net of CIAC (\$21.162
9 million gross); and
- 10 • Unplanned Growth Projects (\$0.948 million).

11 **Distribution Sustaining Programs and Projects**

12 The distribution sustaining projects totalling \$12.075 million are for rehabilitation and
13 ongoing upgrades of the distribution system to ensure safe, reliable service and include
14 the following:

- 15 • Distribution Urgent Repairs (\$2.274 million);
- 16 • Distribution Line Condition Assessment (\$0.938 million);
- 17 • Distribution Line Rehabilitation (\$2.331 million);
- 18 • Distribution Line Rebuilds (\$1.783 million);
- 19 • Distribution Right-of-Way Reclamation (\$0.578 million);
- 20 • Distribution Pine Beetle Kill Hazard Tree Removal (\$1.913 million);
- 21 • Small Planned Capital (\$0.802 million); and
- 22 • Forced Upgrades and Line Moves. (\$1.456 million).

7.4 Telecommunications, SCADA, and Protection and Control Projects

FortisBC operates a telecommunications system to support protection, control and monitoring of the power system, as well as operations and business communications requirements. Projects that are included in the 2011 Capital Expenditure Plan with 2011 expenditures in parentheses are:

Growth Projects

- Distribution Substation Automation Program - This project involves the provision of remote monitoring and control to distribution level substations, including power-quality monitoring of lines, transformers and feeders, fault recording and locating, and equipment condition monitoring, and was approved by Order C-11-07 (\$1.540 million);
- Grand Forks to Warfield Fibre Installation - This project addresses a portion of the communications constraints identified in the 2005 SDP ("Mawdsley-Okanagan High Capacity Communication Network"), which anticipated the implementation of fibre-optic technology to improve the reduced level of system communications and protection and control in the Oliver to Trail cross-section. FortisBC is requesting approval for the engineering costs of the project in the 2011 CEP (\$0.667 million); and
- Kelowna 138 kV Loop Fibre Installation - This project is the first stage of a multiple-year project to improve the communications and protection systems in the Kelowna area. FortisBC is requesting approval for this project in the 2011 CEP (\$3.382 million).

Sustaining Projects

These projects include protection and fault locating upgrades, utility systems standards compliance and communication upgrades. They will enhance the protection, control and monitoring of the FortisBC power system as well as operations and business communications requirements.

- 1 • Lee to Vernon 230 kV Line Protection Upgrades (\$1.286 million); - FortisBC is
2 requesting approval for this project in the 2011 CEP which will update the
3 relaying and teleprotection equipment for 72 Line (“72L”) and 74 Line (“74L”) at
4 both FortisBC’s Lee and BCTC’s Vernon Terminal stations. As well, the
5 protection relays on 73 Line (“73L”) at Lee will be replaced to be consistent with
6 the devices installed on 72L and 74L. The relays at the other end of 73L have
7 been upgraded under previous projects and
- 8 • Communication Upgrades - This project will upgrade telecommunications routes
9 and will improve emergency response capability. FortisBC is requesting approval
10 for this project in the 2011 CEP (\$0.265 million).

7.5 General Plant

General plant consists of vehicles, metering, information systems, telecommunications, buildings, furniture and fixtures, and tools and equipment. Expenditures in 2011 also include regulatory and legislative compliance initiatives.

The following sections provide a brief description of the General Plant requirement for 2011 for which the Company is requesting approval in the 2011 CEP with the 2011 CEP expenditure in parentheses. Previous Commission approval is noted where applicable:

- Mandatory Reliability Standards Compliance - This project is the continuation of compliance efforts for the Mandatory Reliability Standards approved by Commission Order G-67-09 (\$0.595 million);
- Vehicles - This project involves the replacement and/or addition of heavy fleet vehicles, service vehicles, passenger vehicles, equipment and off road vehicles necessary for FortisBC to conduct its operations in a safe and efficient manner. (\$2.0 million); and
- Meter Inventory - This project involves the purchase of new revenue metering infrastructure driven by customer growth as well as replacement for metering equipment that fails during the metering compliance or meter re-test program. (\$0.213 million).

Information Systems

FortisBC's Information Systems expenditures focus on enhancing and upgrading its information system infrastructure and core applications.

The following provides details with respect to the projects planned for 2011.

- Infrastructure Upgrade - The infrastructure upgrade project includes replacing outdated hardware and software (operating systems and related server software) in the data centre and supporting infrastructure at a total cost of \$5.550 million, including:
 - Desktop Infrastructure Upgrade;
 - SAP and Operations Based Application Enhancements;
 - AM/FM Enhancements;

- 1 ○ Customer Service System Enhancements;
- 2 ○ SCADA Enhancements; and
- 3 ○ Human Resources Payroll Conversion.

4 **Telecommunications**

5 The telecommunications budget is used to purchase new or replacement
6 communications equipment. The 2011 Capital Plan expenditures for this category is
7 \$0.358 million.

8 **Buildings**

9 FortisBC has 15 sites (ranging in age from 7 to 87 years) throughout the West
10 Kootenay, Okanagan Valley and Similkameen regions totalling approximately 228,800
11 square feet of office, shop and warehouse space and approximately 51 acres of yard
12 space. The Buildings section of the Capital Expenditure Plan addresses various
13 maintenance and upgrade issues at the facilities at a 2011 Capital Plan cost of \$1.244
14 million. The 2011 Capital Plan also includes projects for examining long-term solutions
15 to meeting the Company's operational requirements at a total cost of \$0.974 million.

16 The remaining General Plant category expenditures in the 2011 Capital Plan and their
17 corresponding expenditures are:

- 18 • Tools and Equipment – required for the purchase of tools and equipment
19 necessary to construct, operate, and maintain the generation, transmission, and
20 distribution system (\$0.601 million).
- 21 • Furniture and Fixtures – for the replacement of deteriorated furniture and the
22 addition/modification of furniture to accomodate changing needs within the
23 organization (\$0.176 million).
- 24 • PCB Environmental Compliance - In September 2008, the new PCB Regulations
25 (SOR/2008-273) under the Canadian Environmental Protection Act came into
26 force. The 2008 regulations require the Company's PCB Program to be changed
27 for compliance purposes. The revised PCB Program will establish an
28 assessment, testing, and planning focus to develop a sound plan for
29 systematically finding and removing PCBs to meet the new regulation by 2014
30 (\$1.852 million).

1 **7.6 Demand Side Management**

2 DSM or energy efficiency programs have been offered to FortisBC customers since
3 1989 and are available to all customers served by FortisBC and its wholesale
4 customers of Grand Forks, Kelowna, Nelson Hydro, Penticton, and Summerland.

5 The 2011 DSM Plan builds on the strategic objectives identified in FortisBC's 2008
6 Strategic DSM Plan, which was filed with the Commission on December 29, 2008. In
7 2009 the Company carried out Residential and Commercial sector End Use Surveys
8 and has completed a 2010 Conservation and Demand Potential Review ("CDPR"). The
9 final DSM Plan incorporates extensive public consultation and input from customers and
10 stakeholders. The Company is requesting approval in the 2011 CEP for DSM
11 expenditures of \$5.764 million.