FORTISBC

Preliminary 2010 Revenue Requirements

Tab 5

2010 Load and Customer Forecast

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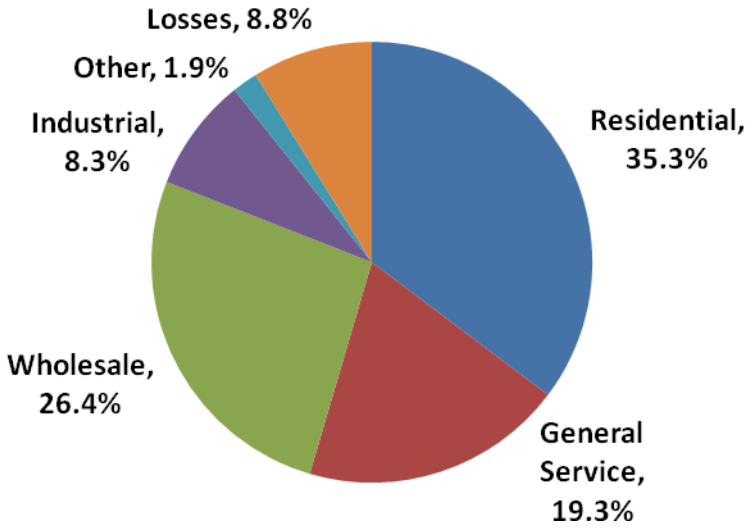
5.0 Overview

2010 Forecast

Gross system energy load is a mix of residential, wholesale, general service, industrial, street lighting and irrigation loads that include system losses and company use. The residential, general service and wholesale loads represent the largest portion of the 2010 forecast gross system load at 81 percent. The industrial load percentage of gross load has dropped from its historical 10 percent to around 8 percent for 2010 mainly due to the depression in the forestry industry. For 2010 gross system losses are forecast at 8.84 percent, using a two year average actual system loss calculation as agreed in the 2009 NSA approved by Commission Order G-193-08. Gross system load is forecast to be 3,482 GWh in 2010, a 2.8 percent increase over the current 2009 normalized forecast of 3,387 GWh. The comparatively large load increase forecast for 2010 is related mainly to increases in industrial sales to Zellstoff Celgar and other industrial companies, as outlined in Sections 5.1 and 5.2.3 below. FortisBC's 2010 distribution of forecast gross energy load is shown in the chart below.

Figure 5.0: 2010 Gross System Energy Forecast



The 2010 load forecast includes end-use considerations and customer supplied forecasts. Load forecasts are based on weather normalized historic loads for the Residential and Wholesale classes, and historic actuals for the remainder of the

classes, as outlined in the Temperature Normalization Section 5.4. Reductions in energy consumption due to the DSM programs are forecast at 30 GWh.

The 2009 load forecast is based on 2009 normalized actuals to July 31, 2009. 2009 loads will be updated on or before November 2, 2009 to reflect normalized actuals to September 30, 2009.

The 2010 winter peak forecast is at 697 megawatts ("MW"); slightly below the original 2009 forecast of 701 MW. The 2010 forecast summer peak is identical to the 2009 peak of 560 MW.

The total number of customer accounts in 2010 is projected to be 112,911 or a 1.5 percent increase over the current 2009 forecast. The current 2009 forecast increase of 1.3 percent over 2008 is lower than the prior five year average annual growth of 2.3 percent. Customer growth is moving towards the 20 year average of 1.4 percent, which is directly attributable to declining population growth projections.

Table 5.0 below summarizes system energy requirements and customer growth for 2009 and 2010.

Table 5.0: Normalized System Energy Requirements

	Energy Sales (GWh)	**Approved 2009**	**Forecast 2009**	**Forecast 2010**
1	Net Load	3,107	3,083	3,174
2	Losses	296	305	308
3	City of Nelson Loss Adjustment	(2)	0	0
4	Gross Load	3,401	3,387	3,482
5	Gross Loss Percentage	8.70	9.00	8.84
	System Peak (MW)	**Approved 2009**	**Forecast 2009**	**Forecast 2010**
6	Winter Peak	701	701	697
7	Summer Peak	560	560	560
	Customer Count (Year End)	**Approved 2009**	**Forecast 2009**	**Forecast 2010**
8	Total Customers	111,913	111,190	112,911
9	Percentage Change	1.8	1.3	1.5

5.1 Economic and Demographic Outlook

There are encouraging signs that the worst of the recent downturn in the business cycle may be over. FortisBC sales have picked up in the past few months, and industrial customers are optimistically forecasting production increases in 2009 and 2010. The Conference Board of Canada is forecasting British Columbia Gross Domestic Product ("GDP") to grow by 3.4 percent in 2010[1], following a decline of 2.5 percent in 2009. The 2010 GDP growth forecast includes forestry industry increases of 1.3 percent; construction, 10.1 percent; and service industries, 3.1 percent. All British Columbia industries are expected to experience modest growth starting in 2010, resulting in robust economic growth for a number of years.

Population growth is anticipated to rise moderately, with the Okanagan demonstrating the highest growth in the FortisBC service territory. Both housing starts and population growth in the FortisBC service territory are expected to slow from those seen in the years prior to the recent recession. Housing starts and construction have eased from historical highs due to slower economic growth, but as the economy and job market continue to improve housing starts are expected to increase to meet demand. Housing starts are expected to recover by 2013 before gradually declining over the long term due to demographic shifts[2].

Forestry, Lumber & Pulp Industry:

The forestry and manufacturing sectors have been significantly affected by the downturn in the Canadian and United States economies and the strong Canadian dollar. This industry is expected to gain strength and stabilize in 2010 although longer term industrial growth has been, and continues to be, forecast at close to zero percent. Industrial load is the most significant downside risk to the 2010 forecast, in particular for the increased activity forecast by many customers and increased sales to Zellstoff Celgar for their operations. Zellstoff Celgar was successful with their bid into the BC Hydro Bioenergy Call for Power. The effective start date is projected to be March 1, 2010, with Zellstoff Celgar's purchases from FortisBC to increase from approximately 16.5 GWh in 2009 to 55 GWh in 2010.

[1] Conference Board of Canada, Provincial Outlook Summer 2009.
[2] CMHC Housing Market Outlook, Second Quarter 2009.

Educational:

There are two large educational institutions and two smaller ones in FortisBC's service territory. The University of British Columbia ("UBC") Okanagan campus and Okanagan College have continued to increase their energy requirements over the past several years. UBC Okanagan has grown dramatically, effectively doubling its energy requirements from 2008 to 2010.

5.2 Forecast

Customer and load forecasts are based on total service territory trends and expectations. The 2010 forecast is based on population growth estimates produced by BC Stats[3] for the FortisBC service area and the historical relationship between FortisBC customer and load growth. The 2010 forecast is augmented by survey information from large industrial and wholesale customers, and discussions with FortisBC representatives. BC Stats is forecasting a gradual decline in the population growth rate due to natural decreases overshadowing net migration.

5.2.1 Residential Class

Residential demand is influenced by home characteristics, household consumption patterns, and weather. Energy requirements for the Residential class are determined by:

- The number of residential customers; and
- The average Use Per Customer ("UPC")

Determination of residential growth begins with a review of past customer growth. Forecast residential customer counts are determined from the historical relationship between the annual growth of the number of residential accounts and population growth in the FortisBC service territory. The number of residential accounts has been increasing steadily, reflecting continued population growth, particularly in the Okanagan region. For 2010 continued customer growth is expected, although at a slightly slower rate than in recent years due to slowing population growth. T he growth rate in the number of residential customers reached historical highs averaging over 2 percent from 2000 to 2008.

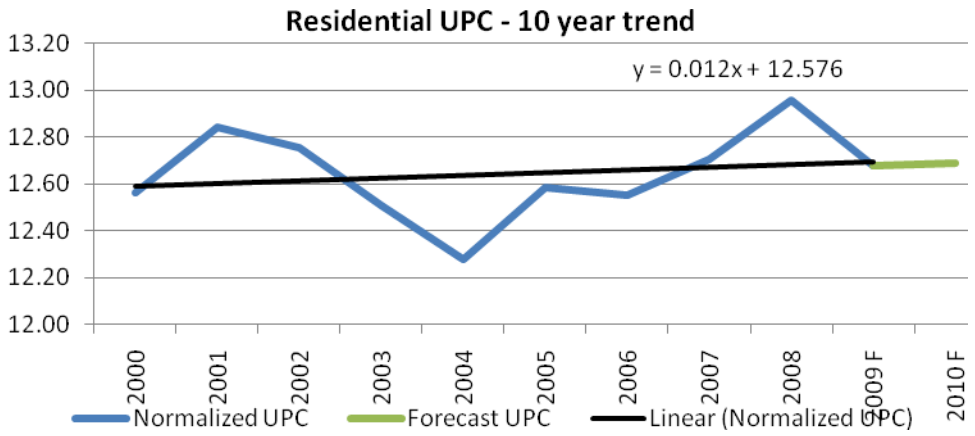
[3] BC Stats P.E.O.P.L.E. report dated August 2009.

This is forecast to drop slightly to 1.4 percent growth for 2009 and 1.4 percent for 2010.

Average residential usage is projected using the 10-year average annual UPC rate per customer as shown in Figure 5.2.1 below. The 2010 forecast of 12.69 megawatt hours ("MWh") per customer is based on 2009 year to date usage to July, with the remainder of 2009 as forecast, and UPC trends. While the residential UPC increased in 2007 and 2008, FortisBC and many other utilities have seen average usage drop in 2009. The possible reason for the drop in the average use per customer is more conscious behaviour due to cost considerations, prompted by the recession.

Projected residential load for 2010 is 1,228 GWh with the number of residential customers forecast to reach 98,264. This corresponds to a 0.7 percent after DSM growth in energy consumption over normalized 2009 and an increase of 1.4 percent in forecast customers over the current 2009 forecast (see Appendix 5A).

Figure 5.2.1: Residential Use per Customer



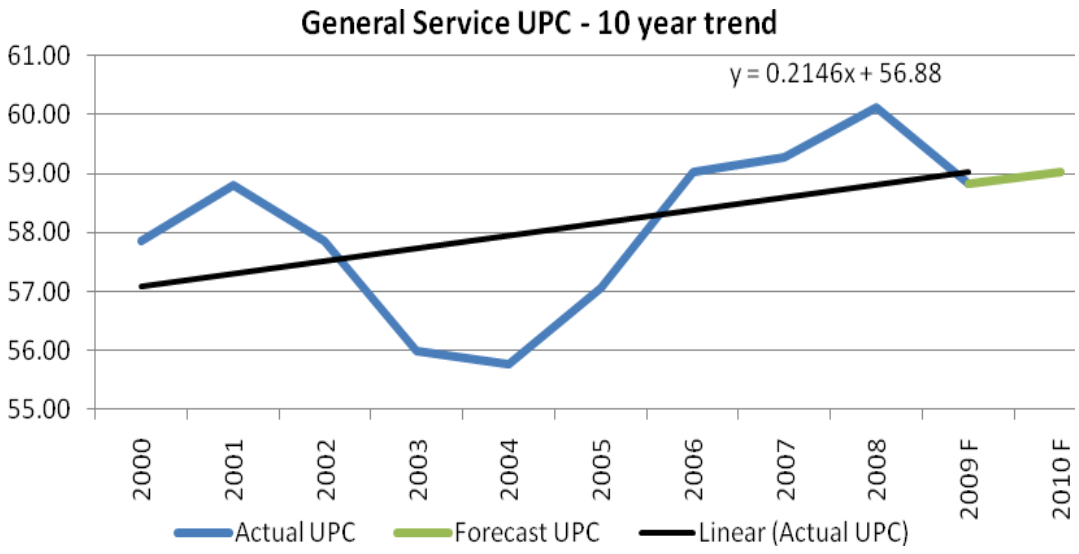
5.2.2 General Service Class

The General Service class encompasses a broad range of commercial and small industrial customers as well as schools, hospitals, recreation centres and other public facilities. Energy consumption in this class exhibits great diversity and usage is closely tied with economic activity and population growth. Forecast customer growth is determined from the historical relationship between annual growth of the number of general service accounts and GDP.

There has been steady growth in the number of general service accounts, with projected accounts in 2010 to reach 11,667. This corresponds to an increase of 2.8 percent in forecast customers over current 2009 forecasts (see Appendix 5A). Average annual growth in the number of general service customers from 2006 to 2008 was about 2.6 percent, with GDP growth in this period averaging 2.3 percent. GDP forecasts for the period 2010 to 2013 average 3.5 percent annually, following decreases seen in 2007 and 2008. 2009 customer growth is forecast to be less than that seen in recent years, but with forecast increases in economic activity expected in 2010, FortisBC is expecting a return to more customary slower trends.

Sales in the General Service class are forecast to drop slightly in 2009 from 2008 sales due to poor economic conditions and reductions in the average UPC. 2010 sales in this class are expected to increase to 671 GWh; a 1.2 percent increase from the current 2009 forecast (see Appendix 5A). While there had been positive growth in energy consumption per general service customer for many years (as shown in Figure 5.2.2), like the Residential class, average usage has decreased in 2009.

Figure 5.2.2: General Service Use per Customer



5.2.3 Industrial Class

Industrial load is affected by the level of economic activity, exports, commodity prices and other factors. Forestry, pulp and sundry comprise over one-third of FortisBC industrial customers. Other classes of customers include large educational institutions, agriculture, construction, manufacturing and mining. FortisBC determines industrial load requirements through a combination of surveys, discussions with companies and historical growth patterns. Many FortisBC industrial customers who have reduced operations over the past two years expect some recovery in 2009 and 2010. The Conference Board of Canada Summer 2009 British Columbia Forestry GDP forecast calls for a 1.3 percent growth for 2010.

The total projected industrial load for 2010 is 291 GWh, an almost 26 percent increase from current 2009 industrial load forecasts. The largest increase in the 2010 industrial load forecast stems from augmented annual sales to Zellstoff Celgar of approximately 39 GWh due to their planned sale of generation to BC Hydro, as outlined in Section 5.1 above.

5.2.4 Wholesale Class

FortisBC sells wholesale power to municipalities within its service territory that own and operate their own electrical distribution system, as well as to BC Hydro at Lardeau and Kingsgate. The municipal utilities are Penticton, Grand Forks, Kelowna, Nelson, and Summerland. These wholesale customers have a load composition that is a mix of residential, commercial, industrial, and street light customers, which makes their load to a large extent sensitive to population growth trends. Forecast 2010 growth is based on surveys to wholesale customers, less anticipated DSM savings. Total forecast 2010 wholesale load is projected at 919 GWh which corresponds to 1.7 percent growth in energy consumption over the current 2009 forecast. Average growth for the period 2006 to 2008 was 1.8 percent.

In July 2008 Nelson Hydro began exporting for sale out of FortisBC's service territory a portion of its generation, and on September 16, 2008, BC Hydro applied to the Commission to amend Section 2.1 of its PPA with FortisBC to

clarify that electricity purchased by FortisBC under the PPA cannot be sold to a FortisBC customer to replace electricity to be sold by that customer. The 2009 NSA provided that the Company would true up in 2010 Revenue Requirements the difference between the 25 GWh of increased sales forecast for Nelson in respect of exported power, and the actual, if the Commission approved the BC Hydro application.

On May 6, 2009, the Commission approved the amendment to Section 2.1 of the PPA, and Nelson ceased to export power. Total sales to Nelson in 2009 related to exports totalled 13 GWh; a decrease of 12 GWh from forecast. The impact of the true up is $18,000 after tax and is shown in Tab 3, Table 3.5.1.

In June 2009 the Tolko plant within the City of Kelowna boundary began to redirect fuel to its Armstrong plant, increasing its load requirements by about 2 GWh per month. FortisBC understands that Tolko's requirements from the City of Kelowna may increase to 6 GWh per month for the remainder of 2009 and by as much as 70 GWh in 2010. If confirmed, FortisBC will include this increase in its Revenue Requirements Update of November 2, 2009.

5.2.3 Irrigation and Lighting

Due to differences in acreage, crop types and energy use patterns, and the complexity of economic and environmental issues affecting irrigation customers, growth patterns for energy sales in this class are variable. The average ten year growth rate is 1.9 percent, with annual changes ranging from +23 to -18 percent. For 2010, annual energy sales have been estimated at the forecast 2009 level of 52 GWh.

Lighting load varies slightly from year to year, and has grown at a low annual average rate of 0.9 percent over the past 10 years. The 2010 lighting forecast assumes lighting load at the 2009 forecast level of 13 GWh.

5.3 System Losses

System losses consist primarily of:

1. Losses in the transmission and distribution system;
2. Company use;
3. Losses due to wheeling through the BC Hydro system; and
4. Unaccounted for energy (metering inaccuracies, and theft).

As agreed in the 2009 NSA "System losses to be utilized in Revenue Requirements will be calculated on a two-year rolling average for the remainder of the PBR term". The percentage of system losses in 2010 is the average of 2007 (8.99%) and 2008 (8.70%), 8.84 percent.

5.4 Temperature Normalization

In order to forecast temperature sensitive loads it is necessary to eliminate the contribution of temperature to load growth prior to performing any statistical analyses of load growth. This is accomplished through temperature normalization for the Residential and Wholesale temperature sensitive load classes, adjusted to correspond to a reference temperature. The Residential and Wholesale classes are the only ones to exhibit any significant correlation of usage to weather. The Wholesale class is weather sensitive due to the high proportion of residential customers.

The 2010 forecast is based on 10-year average temperatures which are referred to as 'normal temperatures'. The temperature normalization model consists of sensitivity factors that correspond to Heating Degree Days ("HDD") and Cooling Degree Days ("CDD")[4] obtained from Environment Canada historical temperature data.

5.5 Peak Demand

The summary of historical and forecast system peak data is shown in Table 5.0 and in Appendix 5A. Peak demand is affected by economic activity, the number of customers, use per customer and temperature. Peak demand forecasts are derived from historical

[4] The concept of Heating and Cooling Degree Days involves a threshold temperature. The threshold temperature used is 18 degrees C. HDD is calculated as the difference between the threshold and a daily mean temperature for temperatures lower than the threshold, multiplied by the number of days. CDD is calculated in an analogous manner for daily mean temperatures greater than the threshold.

peaks and historical and forecast load growth. The 2010 forecast winter peak of 697 MW is slightly lower than the 2009 forecast of 701 MW. The decrease in the 2010 forecast winter peak from the prior year's forecast is due to the 10 year window calculation. On a normalized peak basis the 2008 peak was lower than the 2007 peak due to lower sales in many customer classes. The 2010 summer peak is identical to the 2009 peak of 560 MW.

5.6 Forecast and Actual Electric Sales Revenue

Sales revenue by customer class for 2010 are based on rates effective as at September 1, 2009 and includes the impact of the 4.6 percent general rate increase effective January 1, 2009 and a 2.2 percent general rate increase related to the flow-through of BC Hydro rate changes, effective September 1, 2009. The 2007 and 2008 revenues are actuals. The 2009 forecast is comprised of actual revenue values to July adjusted for unbilled amounts and forecast revenue for August through December.

Table 5.6: Actual and Forecast Revenue by Customer Class

		Actual		Forecast	
		2007	2008	2009	2010
		($000s)			
1	Residential	93,146	102,600	108,803	108,012
2	General Service	49,598	53,820	56,230	57,814
3	Wholesale	43,425	45,614	49,583	49,212
4	Industrial	19,197	14,470	15,773	19,927
5	Other	4,285	4,405	4,824	4,908
6	Total	209,651	220,909	235,213	239,873

Appendix 5A

Actual and Normalized Forecast Energy Sales by Customer Class Including DSM							
	Actual		Normalized		Approved	Forecast	
Energy Sales (GWh)	**2007**	**2008**	**2007**	**2008**	**2009**	**2009**	**2010**
Residential	1,183	1,243	1,177	1,225	1,222	1,219	1,228
General Service	643	668	643	668	678	664	671
Wholesale	872	900	872	891	921	903	919
Industrial	331	220	331	220	224	231	291
Lighting	13	14	13	14	14	13	13
Irrigation	49	42	49	42	48	52	52
Net Load	3,090	3,087	3,085	3,061	3,107	3,083	3,174
Gross Load	3,410	3,400	3,403	3,370	3,401	3,387	3,482
Gross Loss %	9.40%	9.21%	9.30%	9.18%	8.70%	9.00%	8.84%
System Peak (MW)							
Winter Peak	663	746	702	683	701	701	697
Summer Peak	569	537	527	544	560	560	560
Percent Annual Change by Customer Class							
	Actual		Normalized		Approved	Forecast	
Energy Sales (GWh)	**2007**	**2008**	**2007**	**2008**	**2009**	**2009**	**2010**
Residential	5.8%	5.1%	4.4%	4.1%	1.4%	-0.5%	0.7%
General Service	3.3%	4.0%	3.3%	3.9%	2.9%	-0.7%	1.2%
Wholesale	-2.0%	3.2%	-0.5%	2.2%	2.3%	1.4%	1.7%
Industrial	-10.8%	-33.7%	-10.8%	-33.6%	-0.4%	5.2%	25.7%
Lighting	-2.7%	11.5%	2.7%	7.9%	0.0%	-5.1%	0.0%
Irrigation	12.6%	-13.3%	12.6%	-13.4%	0.0%	22.8%	0.0%
Net Load	1.7%	-0.1%	1.0%	-0.8%	1.8%	0.7%	3.0%
Gross Load	0.1%	-0.3%	-0.5%	-1.0%	1.5%	0.5%	2.8%
Gross Loss %	-12.6%	-2.1%	-12.8%	-1.3%	-3.3%	-2.0%	-1.7%
System Peak (MW)							
Winter Peak	-2.9%	5.4%	5.2%	-2.7%	-1.0%	2.6%	-0.6%
Summer Peak	2.7%	-5.6%	3.1%	3.2%	0.2%	2.9%	0.0%

Appendix 5A cont'd

Actual and Forecast Year End Customer Count					
	Actual		Approved	Forecast	
Customer Class	**2007**	**2008**	**2009**	**2009**	**2010**
Residential	93,647	95,502	97,255	96,866	98,264
General Service	11,010	11,216	11,583	11,344	11,667
Wholesale	7	7	7	7	7
Industrial	38	36	37	34	34
Other	3,022	2,958	3,031	2,939	2,939
Total	107,724	109,719	111,913	111,190	112,911
Customer Account Growth	1,819	1,995	2,194	1,471	1,721

Percent Annual Change by Customer Class					
	Actual		Approved	Forecast	
Customer Class	**2007**	**2008**	**2009**	**2009**	**2010**
Residential	1.9%	2.0%	1.8%	1.4%	1.4%
General Service	3.2%	1.9%	2.1%	1.1%	2.8%
Wholesale	0.0%	0.0%	0.0%	0.0%	0.0%
Industrial	0.0%	-5.3%	0.0%	-5.6%	0.0%
Other	-8.8%	-2.1%	0.0%	-0.6%	0.0%
Total	1.7%	1.9%	1.8%	1.3%	1.5%

Notes: 1) 2007 and 2008 energy excludes unbilled amounts.
2) Differences due to rounding.