FORTISBC

Preliminary 2011 Revenue Requirements

Tab 5

2011 Load and Customer Forecast

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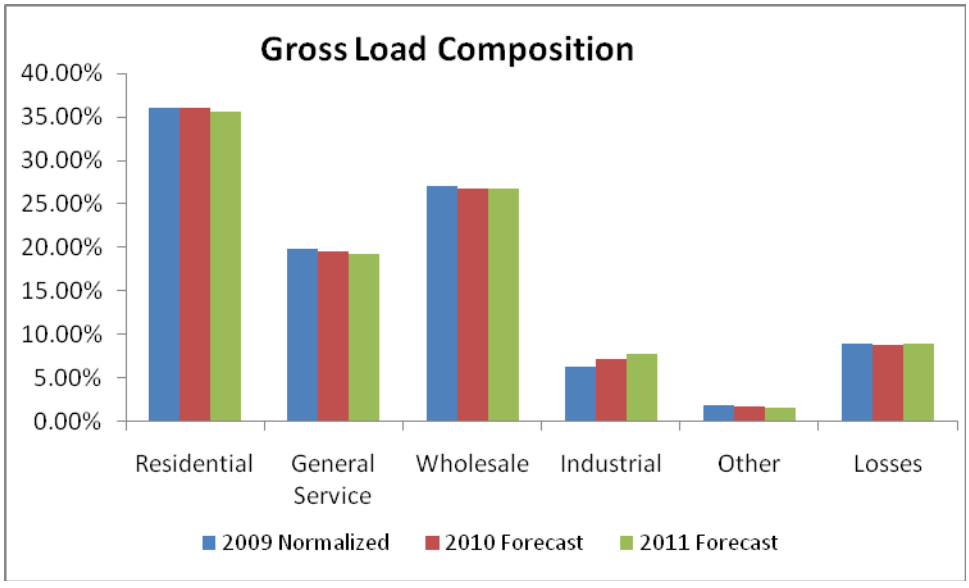
5.0 Overview

2011 Forecast

Gross system energy load is a mix of residential, general service, wholesale, 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 2011 forecast gross system load at 82 percent. The industrial load percentage of gross load for 2011 is about 8 percent and remains weak compared to the historical 10 percent, mainly due to continued (though strengthening) weakness in the forestry industry. For 2011 gross system losses are forecast at 8.94 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 3,500 GWh in 2011, a 1.7 percent increase over the current 2010 full year normalized forecast of 3,443 GWh. The load increase forecast for 2011 is related mainly to increases in the industrial and wholesale sectors. FortisBC's allocation of gross energy load for the years from 2009 to 2011 is shown in the chart below.

Figure 5.0: Gross System Energy



The 2011 load forecasts for the wholesale and industrial sectors are based largely on customer supplied forecasts. Weather normalized historic loads are used for the Residential and Wholesale classes while historic actual loads are used for the

remaining classes as outlined in Section 5.4 of this tab. Reductions in energy consumption due to the DSM programs are forecast at 40 GWh.

The 2010 normalized load forecast is based on 2010 normalized actual loads up to July 31, 2010 and reforecast loads for the rest of the year. 2010 loads will be updated on or before November 1, 2010 to reflect normalized actual loads up to September 30, 2010.

The 2011 winter peak forecast is 701 MW; 3 MW higher than in the 2010 Revenue Requirements filing. The 2011 forecast summer peak of 561 MW is 1 MW higher than in the 2010 Revenue Requirements.

The total number of customer accounts in 2011 at year end is projected to be 114,254 or a 1.6 percent increase over the current 2010 forecast. The current 2010 forecast increase of 1.4 percent over 2009 is lower than the prior five year average annual growth of 2.0 percent. Customer growth is moving towards the 20 year projected average of 1.2 percent, which is directly attributable to declining population growth projections.

Table 5.0 below summarizes system energy requirements and customer growth for 2010 and 2011.

Table 5.0: Normalized System Energy Requirements

	Energy Sales (GWh)	Approved 2010	Forecast 2010	Forecast 2011
1	Net Load	3,199	3,138	3,187
2	Losses	310	305	313
3	Gross Load	3,509	3,443	3,500
4	Gross Loss Percentage	8.84%	8.84%	8.94%
	System Peak (MW)	**Approved 2010**	**Forecast 2010**	**Forecast 2011**
5	Winter Peak	698	698	701
6	Summer Peak	560	560	561
	Customer Count (Year End)	**Approved 2010**	**Forecast 2010**	**Forecast 2011**
7	Total Customers	112,911	112,456	114,254
8	Percentage Change	1.8%	1.4%	1.6%

Note: 2010 Forecast values are normalized for the whole year.

5.1 Economic and Demographic Outlook

The Vancouver 2010 Olympics and resurgence in the housing and forestry sectors are driving economic growth in British Columbia for 2010. Real GDP in BC is expected to expand by 4.0 percent in 2010. In 2011 real GDP is forecast to slow to 2.6 percent as the housing market experiences a more moderate pace of growth and the contribution from the Olympics disappears[1]. Over the long run, the Conference Board is forecasting a moderate increase in the GDP. BC Stats is forecasting a gradual decline in the population growth rate due to natural decreases overshadowing net migration. Population growth is anticipated to increase moderately at an average rate of 1.0 percent, which is consistent with the trend observed in 2009, but lower than the average rate of 1.7 percent over the past five years.

Conference Board of Canada - British Columbia Forecasts

		July 2010 Forecasts	
GDP	**2009**	**2010**	**2011**
British Columbia	-2.3%	4.0%	2.6%
Forestry	-16.3%	11.1%	11.6%
Manufacturing	-13.8%	4.5%	4.6%
Construction	-6.0%	9%	0.5%
CPI	0.0%	2.0%	2.8%
Unemployment	7.6%	7.5%	6.6%
Housing Starts	-53%	63%	6.8%

[1] Conference Board of Canada, Summer 2010 Provincial Outlook

Forestry, Lumber & Pulp Industry:

BC Housing starts have shown significant gains in 2010 compared to 2009. BC sawmills ramped up production through May, generating 30 percent more lumber for export by value than in the same period of the previous year[2]. This, combined with the increased domestic demand, is driving an increase in the forestry sector's performance in 2009, but this performance is still lower than in the past years.

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 been increasing their energy requirements over the past several years. UBC Okanagan continues to expand, with four new buildings under construction.

5.2 Forecast

Customer and load forecasts are based on total service territory trends and expectations. The 2011 forecast is based on population growth estimates produced by BC Stats[3] for the FortisBC service area, the provincial GDP forecast by the Conference Board of Canada, the historical relationship between FortisBC customer and load growth, and survey information from large industrial and wholesale customers, as well as discussions with FortisBC representatives. FortisBC uses the following main inputs for determining customer and sales growth:

- Relationship of residential customer growth to population growth;
- Relationship of wholesale sales to population growth (and evaluated beside survey results);
- Relationship of general service customers to GDP;
- Trends for residential and general service use per customer; and
- Industrial trends and surveys.

[2] BC Stats Export Report, May 2010
[3] BC Stats P.E.O.P.L.E. report dated August 2010.

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. The growth rate in the number of residential customers reached historical highs averaging 2.1 percent from 2000 to 2008, but falling to 1.1 percent in 2009. Forecast residential customer growth of 1.6 percent in 2011 is based on the 20 year trend. The 2010 customer growth to July is 0.81 percent, with an annual 2010 forecast of 1.5 percent.

Average residential usage is projected using the 10-year average annual UPC rate per customer. The 2011 forecast of 12.76 megawatt hours ("MWh") per customer is based on the normalized 2010 year to date usage to July, with the remainder of 2010 as forecast, and the 2000 to 2009 normalized UPC trend.

On a weather normalized basis, the trend of average use per residential customer has flattened out over the past ten years. While increased demand side management measures reduced residential usage in many years, there are offsetting factors that have played a part in increasing average usage later in this period. For example, there are increases in home electronic usage such as plasma televisions, and changes in demographics. In 2009 many utilities across North America experienced decreases due to weakened economic conditions and high unemployment. FortisBC average residential usage in 2009 was essentially flat with 2008 average usage.

Projected residential load for 2011 is 1,248 GWh with the number of residential customers forecast to reach 99,566. This corresponds to a 0.5 percent increase after DSM growth in energy consumption over normalized 2010 load and an increase of 1.6 percent in forecast customers over the current 2010 forecast (see Table 5A).

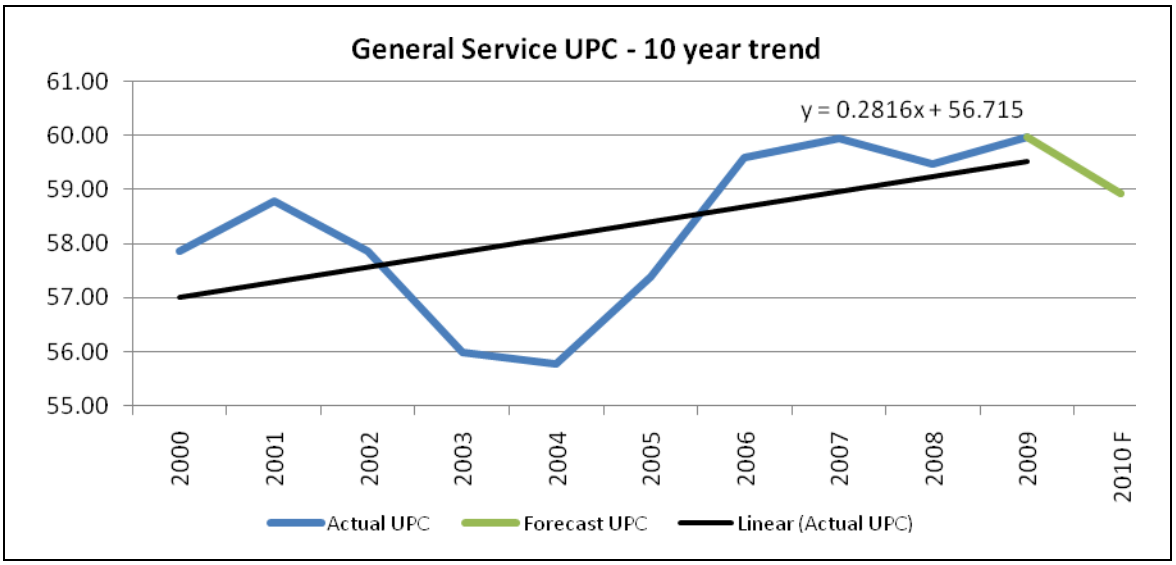
5.2.2 General Service Class

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 2011 to reach 11,723. This corresponds to an increase of 2.4 percent in forecast customers over 2010 forecast (see Table 5A). Average annual growth in the number of general service customers from 2000 to 2009 was about 2.5 percent, with GDP growth in this period averaging 2.4 percent. GDP forecasts for the period 2010 to 2013 average 3.4 percent annually, following decreases seen in 2008 and 2009. BC GDP fell in 2008 and 2009 for the first time in over twenty years. Correspondingly, customer growth of 2.4 percent in 2011 is gradually dropping to more customary slower levels.

Sales in the General Service class are forecast to grow by 0.7 percent in 2011 to reach 675 GWh (see Table 5A). While there had been positive growth in energy consumption per general service customer for many years (as shown in Figure 5.2.2), UPC has decreased in 2010 to date.

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 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 2010 and 2011. The Conference Board of Canada Summer 2010 British Columbia Forestry GDP forecast calls for 2.6 percent growth for 2011.

The total projected industrial load for 2011 is 269 GWh, an almost 8.3 percent increase from the current 2010 industrial load forecasts.

5.2.4 Wholesale Class

FortisBC sells wholesale power to municipalities within its service territory that own and operate their own electrical distribution systems, 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, in which the residential sector plays the major role. This makes their load to a large extent sensitive to population growth trends. Forecast 2011 growth is based on surveys to wholesale customers, less anticipated DSM savings. Total forecast 2011 wholesale load is projected at 938 GWh which corresponds to 1.8 percent growth in energy consumption over the current 2010 normalized forecast. Average growth for the period 2007 to 2009 was 1.6 percent.

5.2.5 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 1.2 percent, with annual changes ranging from negative 18 to positive 26 percent. For 2011, annual energy sales have been estimated at 44 GWh.

Lighting load varies slightly from year to year, and has grown at a low annual average rate of 0.8 percent over the past 10 years. The 2011 lighting forecast assumes lighting load at the 2010 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 2008 (8.66 percent) and 2009 (9.22 percent), 8.94 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. 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 2011 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.

[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.

5.5 Peak Demand

The summary of historical and forecast system peak data is shown in Table 5A. Peak demand is affected by economic activity, the number of customers, use per customer and temperature. Peak demand forecasts are derived from historical peaks and historical and forecast load growth. The 2011 forecast winter peak of 701 MW is slightly higher than the 2010 forecast of 698 MW. The 2011 summer peak is 1 MW higher than the 2010 peak of 560 MW.

5.6 Forecast and Actual Electric Sales Revenue

Sales revenue by customer class for 2011 are based on rates effective as of September 1, 2010 and includes the impact of the 6.0 percent general rate increase effective January 1, 2010 and a 2.9 percent general rate increase related to the flow through of BC Hydro rate changes, effective September 1, 2010. The 2008 and 2009 revenues are actual numbers. The 2010 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	
		2008	2009	2010	2011
		($000s)			
1	Residential	102,600	112,059	116,620	119,516
2	General Service	53,820	57,798	60,468	63,171
3	Industrial	14,470	14,051	16,225	18,062
4	Wholesale	45,614	49,946	51,970	55,142
5	Lighting & Irrigation	4,405	4,717	4,934	4,933
6	Total	220,909	238,572	250,217	260,823

Note: 2011 Forecast is based on previous year's (2010) rates.

Table 5A

Actual and Normalized Forecast Energy Sales by Customer Class Including DSM							
	Actual		Normalized		Approved	Forecast	
Energy Sales (GWh)	**2008**	**2009**	**2008**	**2009**	**2010**	**2010**	**2011**
Residential	1,223	1,260	1,206	1,226	1,248	1,242	1,248
General Service	661	675	661	675	682	671	675
Industrial	218	216	218	216	291	248	269
Wholesale	924	944	915	920	915	921	938
Lighting	14	13	14	13	13	13	13
Irrigation	42	49	42	49	50	44	44
Net Load	3,087	3,157	3,061	3,099	3,199	3,138	3,187
Gross Load	3,400	3,478	3,370	3,400	3,509	3,443	3,500
Gross Loss %	9.21%	9.20%	9.19%	8.84%	8.84%	8.84%	8.94%
System Peak (MW)							
Winter Peak	746	714	683	682	698	698	701
Summer Peak	537	561	544	516	560	560	561
Percent Annual Change by Customer Class							
	Actual		Normalized		Approved	Forecast	
Energy Sales (GWh)	**2008**	**2009**	**2008**	**2009**	**2010**	**2010**	**2011**
Residential	3.0%	3.0%	2.0%	1.7%	2.5%	1.3%	0.5%
General Service	1.7%	2.2%	1.7%	2.2%	1.3%	-0.7%	0.7%
Industrial	-30.6%	-1.0%	-30.6%	-1.0%	35.7%	15.1%	8.3%
Wholesale	5.4%	2.1%	4.4%	0.5%	-0.2%	0.1%	1.8%
Lighting	8.9%	-3.5%	8.9%	-3.5%	0.0%	-3.6%	0.0%
Irrigation	-4.4%	5.9%	-4.4%	5.9%	0.0%	-10.3%	0.4%
Net Load	-0.1%	2.3%	-0.8%	1.3%	3.7%	1.3%	1.5%
Gross Load	-0.3%	2.3%	-1.0%	0.9%	3.5%	1.3%	1.7%
Gross Loss %		-0.1%	-2.4%	-3.8%	-1.7%	0.0%	1.1%
System Peak (MW)							
Winter Peak	12.5%	-4.3%	-2.7%	-0.1%	-0.4%	0.0%	0.4%
Summer Peak	-5.6%	4.5%	3.2%	-5.1%	0.0%	0.0%	0.2%

Note: 2010 Forecast values are normalized for the whole year.

Table 5A cont'd

Actual and Forecast Year End Customer Count					
	Actual		Approved	Forecast	
Customer Class	**2008**	**2009**	**2010**	**2010**	**2011**
Residential	95,502	96,565	98,264	98,044	99,566
General Service	11,216	11,308	11,667	11,447	11,723
Industrial	36	33	34	33	33
Wholesale	7	7	7	7	7
Other	2,958	2,940	2,939	2,925	2,925
Total	109,719	110,853	112,911	112,456	114,254
Customer Account Growth	1,995	1,134	1,721	1,603	1,798

Percent Annual Change by Customer Class					
	Actual		Approved	Forecast	
Customer Class	**2008**	**2009**	**2010**	**2010**	**2011**
Residential	2.0%	1.1%	1.4%	1.5%	1.6%
General Service	1.9%	0.8%	2.8%	1.2%	2.4%
Industrial	-5.3%	-8.3%	0.0%	0.0%	0.0%
Wholesale	0.0%	0.0%	0.0%	0.0%	0.0%
Other	-2.1%	-0.6%	0.0%	-0.5%	0.0%
Total	1.9%	1.0%	1.5%	1.4%	1.6%

Notes: 2008 and 2009 energy excludes unbilled amounts.