Errata, 2008 Integrated Resource Plan

Page 152-153, Chapter 7, Figure 7.8 and 7.9: These figures were corrected in response to a Oregon PUC data request. They reflect a change on how Case 27 ($100 CO2 price) is represented in the chart. The graph originally showed an $8/ton CO2 value when it should have been $100/ton CO2 values. The case was modeled correctly.

Figure 7.8 (Revised) – Henry Hub Natural Gas Prices from the High October 2008 Underlying Forecast

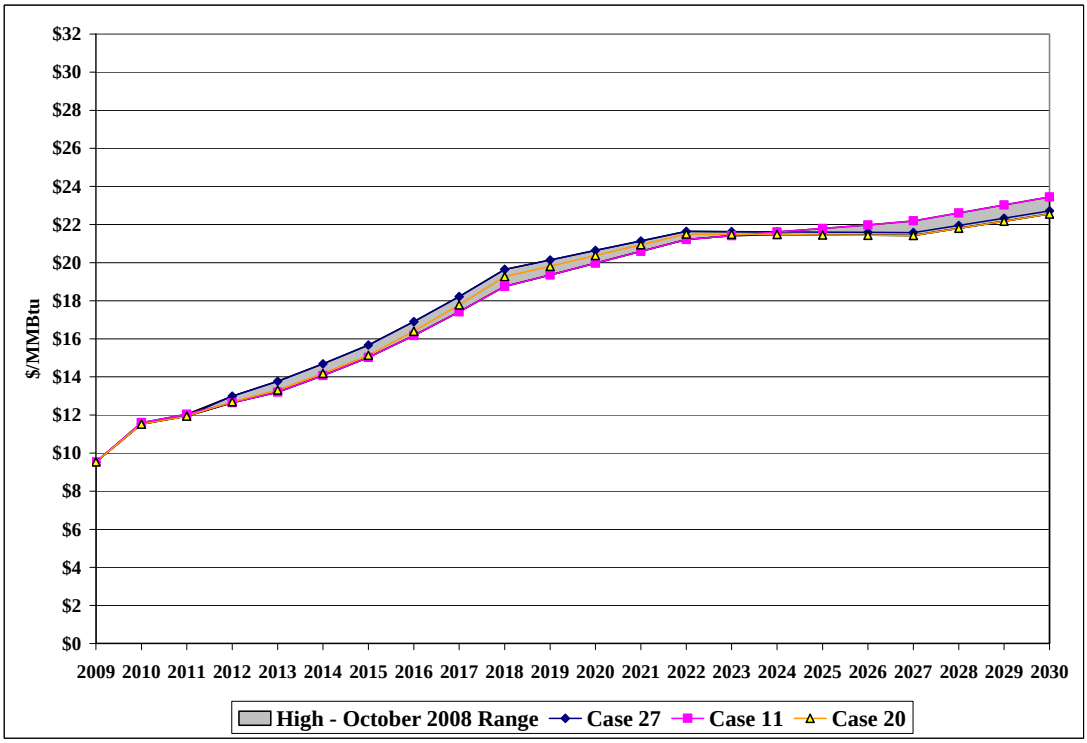
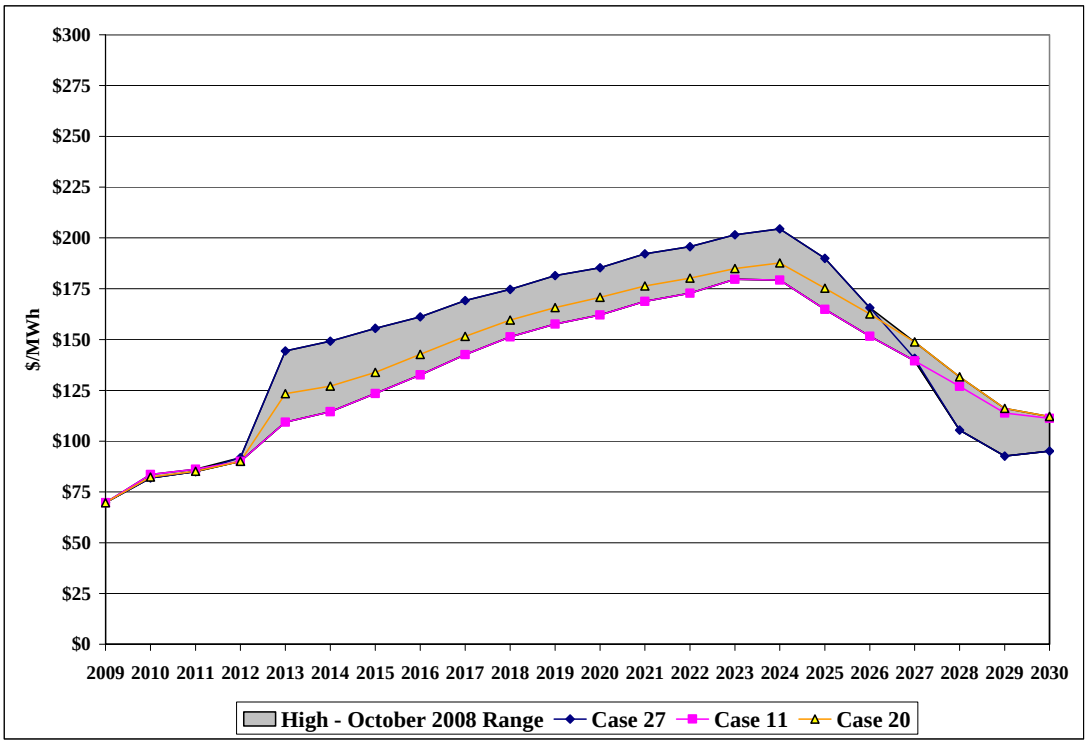


Figure 7.9 (Revised) – Western Electricity Prices from the High October 2008 Underlying Gas Price Forecast



Page 156, Chapter 7, Figure 7.13: Corrected caption is "Western Electricity Prices from the Medium ~~June~~ October 2008 Underlying Gas Price Forecast"

Page 245, Chapter 8, Table 8.44: Correction to resource name "DSM, Class 2, ~~Washington~~ Walla Walla". This correction also applies to other detailed portfolio tables supplied in the IRP (Appendix A).

Page 261-266, Appendix E, Tables E.1 to E.6: These tables included incorrect values for the November 2008 Load Forecast. The entire appendix is provided below with corrected tables and updates to corresponding percentage values cited in the text.

ERRATA FOR APPENDIX E – STATE LOAD FORECAST

APPENDIX E – STATE LOAD FORECAST

LOAD FORECAST STATE LEVEL SUMMARIES

This section provides state-level forecasted retail sales summaries. The tables below show retail sales values after the load reduction impacts of Class 2 DSM programs included in the 2008 IRP preferred portfolio are deducted. For purposes of the 2008 IRP this version of the data is known as "Post-DSM". Chapter 5 provides the forecast information for each state and the system as a whole by year for 2009 through 2018 before Class 2 DSM load reductions are applied.

State Summaries

Oregon

Table E.1 summarizes Oregon state forecasted sales growth by customer class.

Table E.1 – Forecasted Sales Growth in Oregon

Sales – Gigawatt Hour (GWh)							
	Residential	**Commercial**	**Industrial**	**Irrigation**	**Lighting**	**Other**	**Total**
2009	5,649	5,097	3,019	266	36	0	**14,067**
2010	5,665	5,135	2,909	266	36	0	**14,011**
2011	5,728	5,204	2,920	266	36	0	**14,154**
2012	5,813	5,283	3,001	266	37	0	**14,400**
2013	5,816	5,356	3,175	266	36	0	**14,649**
2014	5,837	5,441	3,275	266	36	0	**14,855**
2015	5,859	5,529	3,269	266	36	0	**14,959**
2016	5,904	5,633	3,269	266	37	0	**15,109**
2017	5,911	5,709	3,261	266	36	0	**15,183**
2018	5,985	5,791	3,255	266	36	0	**15,333**
Average Annual Growth Rate							
2009-2018	**0.6%**	**1.4%**	**0.8%**	**(0.0)%**	**0.0%**	**N/A**	**1.0%**

The forecast of residential sales is expected to grow at a slower rate of 0.6% annually compared to average annual growth rate of around 2.3% experienced past five years. This slow down is mainly due to housing market slowdown and impact of worsening economic conditions. Population growth is expected to continue in the service area, which is driving some of the growth, while usage per customer in the residential class is expected to decline due to economic slowdown during earlier years. Starting with 2012, use per customer is expected to decline mainly due to the impact of long-term lighting efficiency gains resulting from 2007 Federal Energy legislation and other conservation programs.

Over the first two years of forecast horizon, forecasted commercial class sales are projected to grow at a slower average annual growth rate of 1.3% compared to historical periods due to the impact of worsening economic conditions. Educational, health service, and government related commercial activity are only sectors expected to still grow during the next two years. During the

remaining years of the forecast horizon, commercial sales are expected to grow at a higher average annual rate of 1.4%, which is similar to the average growth rate experienced historically. Usage per customer is projected to decline slightly due to increased equipment efficiency.

Forecasted industrial class sales are projected to decline at an average annual rate of 3.2% during 2009 and 2010 due to impacts of the housing market slowdown and current economic recession affecting mostly wood products and semi-conductor manufacturing. Starting with 2011, industrial sales is expected to grow again at an average annual growth rate of 1.7% reflecting recovery in special food processing and wood products sector, along with continued diversification in the manufacturing base in the state.

The factors influencing the forecasted sales growth rates are also influencing the forecasted peak demand growth rates.

Washington
Table E.2 summarizes Washington state forecasted sales growth by customer class.

Table E.2 – Forecasted Retail Sales Growth in Washington

Retail Sales – Gigawatt Hour (GWh)							
	Residential	**Commercial**	**Industrial**	**Irrigation**	**Lighting**	**Other**	**Total**
2009	1,567	1,453	868	157	10	0	**4,055**
2010	1,571	1,458	850	157	10	0	**4,047**
2011	1,577	1,473	848	157	10	0	**4,065**
2012	1,582	1,492	840	157	10	0	**4,080**
2013	1,577	1,509	846	157	10	0	**4,099**
2014	1,576	1,530	853	157	10	0	**4,126**
2015	1,576	1,552	856	157	10	0	**4,151**
2016	1,583	1,578	857	157	10	0	**4,184**
2017	1,580	1,597	856	157	10	0	**4,199**
2018	1,591	1,614	853	157	10	0	**4,225**
Average Annual Growth Rate							
2009-2018	**0.2%**	**1.2%**	**(0.2)%**	**0.0%**	**0.0%**	N/A	**0.5%**

The forecast of residential sales is expected to grow at a slower average annual growth rate of 0.2% compared to recent historical growth rates of around 2.4% due to the impact of housing market slowdown and economic recession. The slight growth in residential class sales is due to continuing customer growth driven by population growth and household formation in the PacifiCorp's service area. Usage per customer is expected to decrease slightly during the early years due to worsening economic conditions. Starting with 2012, use per customer is expected to decline mainly due to the impact of long-term lighting efficiency gains resulting from 2007 Federal Energy legislation.

Over the first two years of forecast horizon, forecasted commercial class sales are projected to grow at a slower rate of 0.8% compared to historical periods due to the impact of current economic recession. Beyond 2010, commercial sales are expected to grow at a higher average annual rate of 1.2%, which is close to average annual growth rate experienced historically.

The industrial class sales are projected to decline for the first four years of forecast horizon mainly due to housing market slowdown affecting wood products sector. For the remaining part of the forecast period industrial sales are expected to grow slightly reflecting recovery in wood products and food processing sectors.

California
Table E.3 summarizes California state forecasted sales growth by customer class.

Table E.3 – Forecasted Retail Sales Growth in California

Retail Sales – Gigawatt Hour (GWh)							
	Residential	**Commercial**	**Industrial**	**Irrigation**	**Lighting**	**Other**	**Total**
2009	401	307	70	98	2	0	**879**
2010	402	311	89	98	2	0	**903**
2011	404	317	110	98	2	0	**931**
2012	409	325	125	98	2	0	**959**
2013	406	331	129	98	2	0	**966**
2014	406	338	129	98	2	0	**974**
2015	406	346	129	98	2	0	**982**
2016	408	354	130	98	2	0	**992**
2017	407	360	130	98	2	0	**997**
2018	412	367	130	98	2	0	**1,009**
Average Annual Growth Rate							
2009-2018	**0.3%**	**2.0%**	**7.1%**	**0.0%**	**0.0%**	N/A	**1.6%**

The rate of growth in residential class sales is driven, by the continuing growth in population in this part of PacifiCorp's service area. Usage per customer in the residential class is expected to decline due to increasing adoption of more efficient appliances and the impact of long-term lighting efficiency gains resulting from 2007 Federal Energy legislation effective in 2012. .

The continuing population growth also affects sales in the commercial sector through continued commercial customer growth. Additionally, commercial usage per customer is increasing due to greater square footage per building in new construction, increases in the number of offices, and the increasing use of office equipment in all commercial structures. However, some of this growth is being offset from increased equipment efficiency over the forecast horizon.

Declines over the decade in the lumber and wood product industries production resulted in an overall decline in the industrial sales; however, there are indications that this trend has ended and growth in other businesses are expected to continue. During first four years of forecast horizon, industrial sales are expected to grow due to the addition of new industrial customers. For the remaining years sales are expected to remain flat.

Utah
Table E.4 summarizes Utah state forecasted sales growth by customer class.

Table E.4 – Forecasted Retail Sales Growth in Utah

Retail Sales – Gigawatt Hour (GWh)							
	Residential	**Commercial**	**Industrial**	**Irrigation**	**Lighting**	**Other**	**Total**
2009	6,410	7,967	7,076	186	88	431	**22,158**
2010	6,535	8,227	7,100	186	88	431	**22,567**
2011	6,660	8,270	7,330	186	88	431	**22,966**
2012	6,822	8,543	7,630	186	89	432	**23,701**
2013	6,837	8,760	7,988	186	88	431	**24,290**
2014	6,906	9,034	8,377	186	88	431	**25,023**
2015	6,973	9,305	8,764	186	88	431	**25,747**
2016	7,065	9,605	9,012	186	89	432	**26,389**
2017	7,127	9,867	9,091	186	88	431	**26,790**
2018	7,290	10,157	9,172	186	88	431	**27,325**
Average Annual Growth Rate							
2009-2018	**1.4%**	**2.7%**	**2.9%**	**0.0%**	**0.0%**	**0.0%**	**2.4%**

Utah continues to see natural population growth that is faster than many of the surrounding states. During the historical period, Utah experienced rapid population growth with a high rate of in-migration. However, the rate of population growth is expected to be lower in the coming decade as in-migration into the state slows down. Over the forecast horizon, residential sales are expected to grow at a slower rate of 1.4% compared to what has been experienced historically due to slow down in-migration and housing market slowdown in near-term. Usage per customer in the residential class is expected to decline due to recent economic recession during early part of the forecast horizon. Beyond 2012, the decline in use per customer is driven by the impact of long-term lighting efficiency gains resulting from 2007 Federal Energy legislation and other energy efficiency and conservation programs.

The continuing population growth also affects sales in the commercial sector by continued commercial customer growth. Usage per customer is projected to decline due to recent economic recession during early part of the forecast horizon, and starts increasing again during later years with new construction having greater square footage per building and increasing usage of office equipment. However, some of this growth is being offset from equipment efficiency gains over the forecast horizon.

The industrial class has been experiencing significant industrial diversification in the state and will continue to cause sales growth in the sector. Utah has a strategic location in the western half of the United States, which provides easy access into many regional markets. The industrial base has become more linked to the region and is less dependent on the natural resource base within the state. This provides a strong foundation for continued growth into the future. For the first two years of forecast horizon, industrial sales are expected grow at a much slower rate of 1.8% annually compared to historical average annual growth rate of 3.0% experienced over the past five years. Expansions by mining and natural resources are projected to slowdown with continuing downturn in manufacturing. Starting 2011, industrial sales are expected to grow again

at higher rates similar to what was experienced historically, reflecting expected improvement in overall economic conditions.

Idaho
Table E.5 summarizes Idaho state forecasted sales growth by customer class.

Table E.5 – Forecasted Retail Sales Growth in Idaho

Retail Sales – Gigawatt Hour (GWh)							
	Residential	**Commercial**	**Industrial**	**Irrigation**	**Lighting**	**Other**	**Total**
2009	700	425	1,666	610	2.4	0	**3,403**
2010	711	438	1,669	610	2.5	0	**3,430**
2011	723	450	1,672	610	2.5	0	**3,457**
2012	740	467	1,677	610	2.6	0	**3,496**
2013	740	479	1,790	610	2.6	0	**3,622**
2014	747	497	1,873	610	2.7	0	**3,729**
2015	753	514	1,877	610	2.7	0	**3,757**
2016	764	533	1,882	610	2.8	0	**3,793**
2017	770	550	1,885	610	2.8	0	**3,818**
2018	787	568	1,889	610	2.9	0	**3,857**
Average Annual Growth Rate							
2009-2018	**1.3%**	**3.3%**	**1.4%**	**0.0%**	**1.8%**	N/A	**1.4%**

The recent migration to Idaho has led the residential sales to grow at an average annual growth rate of around 4.0% during past five years. Over the forecast horizon, the residential sales are still projected to grow but at a slower rate of 1.3% annually compared to historical periods due to expected slow-down in in-migration. Usage per customer is expected to decline mainly due to recent economic recession during earlier years and due to increased energy efficiency and conservation programs for the later years.

The growth rate for commercial class sales is expected to continue to be strong due to customer growth in response to the increasing residential customer growth resulting further growth in service sectors such as education and health care services. Usage per customer is projected to increase, which has been influenced in part by new construction,, increased air conditioning saturation, office equipment, and exterior lighting. However, this growth is somewhat offset by equipment efficiency gains over the forecast horizon.

Industrial sales are expected to decline in 2009 due the impact of worsening economic conditions, and remain flat until the end of 2012. Industrial sales are expected to increase again in 2013 due to some new customers in the service area.

Wyoming
Table E.6 summarizes Wyoming state forecasted sales growth by customer class.

Table E.6 – Forecasted Retail Sales Growth in Wyoming

Retail Sales – Gigawatt Hour (GWh)							
	Residential	**Commercial**	**Industrial**	**Irrigation**	**Lighting**	**Other**	**Total**
2009	1,028	1,472	6,869	20	11.6	0	**9,401**
2010	1,036	1,491	7,150	20	11.5	0	**9,709**
2011	1,043	1,503	7,526	21	11.5	0	**10,105**
2012	1,052	1,517	7,914	21	11.4	0	**10,516**
2013	1,045	1,526	8,270	22	11.4	0	**10,873**
2014	1,041	1,537	8,603	22	11.3	0	**11,215**
2015	1,037	1,548	8,936	23	11.2	0	**11,556**
2016	1,038	1,564	9,307	23	11.3	0	**11,943**
2017	1,033	1,572	9,584	24	11.1	0	**12,225**
2018	1,038	1,584	9,864	24	11.1	0	**12,521**
Average Annual Growth Rate							
2009-2018	**0.1%**	**0.8%**	**4.1%**	**2.1%**	**(0.5)%**	N/A	**3.2%**

Residential sales is expected to grow at a slower average annual rate of 0.1%, compared to an average annual growth rate of around 4.7% experienced during past five years. Population growth is still expected to continue in the service area, which causes some of the sales growth. Usage per customer in the residential class is expected to decline due to recent economic recession during earlier years. During later years of the forecast horizon, use per customer is expected to decline due to impact of long-term lighting efficiency gains resulting from the 2007 federal energy legislation, effective in 2012.

Over the forecast horizon, commercial class sales are also projected to grow at a slower annual growth rate of 0.8% compared to historical periods. Sales growth is driven mainly by the customer growth in response to still continuing residential customer growth and the growth of the office sector.

Wyoming industrial sales growth, driven by expansion in oil and gas extraction industries, is expected to continue, but at a much reduced rate due to declines in energy prices and worsening economic conditions. Continuing growth in industrial customers in the service area also contributes to the load growth in the residential and commercial customer sectors.

FEBRUARY 2009 LOAD FORECAST UPDATE

PacifiCorp prepared a new load forecast in February 2009 after reviewing actual loads through January 2009. With continuing worsening economic conditions, the Company reviewed the loads in PacifiCorp's service territories, and revised the forecast accordingly to reflect the latest impact on loads and latest forecast of economic variables. Below are the capacity and energy tables similar to those found in Chapter 5. These forecasts are net of DSM-related load reductions.

February 2009 Energy Forecast

Table E.7 – February 2009 Annual Load Growth forecasted in Megawatt-hours

Year	Total	OR	WA	CA	UT	WY	ID	SE-ID
2009	**60,513,585**	14,717,735	4,339,279	966,290	24,066,263	10,167,695	3,718,077	2,538,247
2010	**61,603,833**	14,810,829	4,344,912	966,218	24,522,312	10,646,811	3,750,820	2,561,930
2011	**63,263,930**	14,921,509	4,371,402	1,004,954	25,404,577	11,188,878	3,785,957	2,586,655
2012	**65,029,943**	15,115,696	4,417,268	1,037,281	26,168,642	11,845,914	3,829,464	2,615,678
2013	**66,466,245**	15,159,619	4,424,099	1,055,642	26,884,446	12,253,897	3,974,809	2,713,732
2014	**67,979,096**	15,223,467	4,443,316	1,071,104	27,682,221	12,674,296	4,088,986	2,795,706
2015	**69,346,652**	15,283,484	4,463,835	1,084,175	28,492,384	13,088,772	4,118,092	2,815,910
2016	**70,712,194**	15,382,412	4,496,642	1,100,268	29,188,167	13,549,959	4,154,171	2,840,577
2017	**71,559,345**	15,402,000	4,506,713	1,109,880	29,596,661	13,908,106	4,178,291	2,857,694
2018	**72,717,605**	15,513,152	4,542,282	1,126,645	30,141,988	14,293,815	4,215,982	2,883,742
Annual Average Growth Rate								
2009-18	**2.1%**	0.6%	0.5%	1.7%	2.5%	3.9%	1.4%	1.4%
2018-28	**1.1%**	0.5%	0.6%	1.3%	1.5%	1.3%	0.8%	0.8%
2009-28	**1.6%**	0.5%	0.6%	1.5%	2.0%	2.5%	1.1%	1.1%

February 2009 System-Wide Coincident Peak Load Forecast

Table E.8 – February 2009 Forecasted Coincidental Peak Load in Megawatts

Year	Total	OR	WA	CA	UT	WY	ID	SE-ID
2009	**9,941**	2,362	728	158	4,440	1,268	625	361
2010	**10,161**	2,395	737	158	4,546	1,307	649	368
2011	**10,481**	2,419	746	166	4,710	1,371	674	395
2012	**10,805**	2,446	782	172	4,838	1,439	705	423
2013	**11,024**	2,462	763	176	4,968	1,490	737	428
2014	**11,179**	2,486	775	177	5,126	1,538	683	395
2015	**11,425**	2,501	783	180	5,262	1,585	708	406
2016	**11,690**	2,517	790	183	5,382	1,635	746	436
2017	**11,876**	2,530	798	189	5,478	1,678	759	443
2018	**12,110**	2,551	837	189	5,581	1,722	770	461

Year	Total	OR	WA	CA	UT	WY	ID	SE-ID
Annual Average Growth Rate								
2009-2018	2.2%	0.9%	1.6%	2.0%	2.6%	3.5%	2.3%	2.8%
2018-2028	1.2%	0.7%	0.8%	1.5%	1.6%	1.3%	0.7%	0.4%
2009-2028	1.7%	0.8%	1.1%	1.7%	2.0%	2.3%	1.5%	1.5%