Q. Please state your name, business address, and present position with PacifiCorp dba Rocky Mountain Power ("the Company").

A. My name is Peter C. Eelkema, my business address is 825 N.E. Multnomah, Suite 600, Portland, Oregon 97232, and my present position is Lead/Senior Consultant, Load and Revenue Forecasting.

Qualifications

Q. Briefly describe your education and business experience.

A. I received an undergraduate degree in Economics from San Jose State University in San Jose, California. I also received a PhD in Economics from the University of Kansas.

From September 1989 to October 1993, I was a Managing Research Economist at the Kansas Corporation Commission. From October 1993 to March 1996, I was an Economist at the Nevada Office of Advocate for Customers of Public Utilities. From March 1996 to March 1998, I was a Senior Economist, Forecasting, at Sierra Pacific Power/Nevada Power Company, and from March 1998 to January 2005, I was a Staff Economist, Forecasting at Sierra Pacific Power/Nevada Power Company. From January 2005 to May 2008, I was a Consultant, Load and Revenue Forecasting at PacifiCorp. I was promoted to my current position in May 2008.

Q. Please describe your current duties.

A. I am the senior consultant of the Load and Revenue Forecasting group. The Load and Revenue Forecasting group is responsible for the development of the test year kilowatt-hour sales, number of customers, system loads, and system peaks for the

Company's six retail jurisdictions.

Q. Have you previously testified before a regulatory commission?

A. Yes. I have testified before the Idaho Public Utilities Commission, the Public Service Commission of Utah, the Wyoming Public Service Commission, the Nevada Public Service Commission, and the Kansas Corporation Commission.

Purpose and Summary of Testimony

Q. Please explain the purpose of your testimony in this proceeding.

A. The purpose of my testimony is to explain how Rocky Mountain Power ("the Company") developed the forecasts of the number of customers, kilowatt-hour sales at the meter ("sales"), and system loads and system peak loads at the system input level ("loads"), and number of bills for the 12-month period ending, May 31, 2013. The Company produces these forecasts for all six states in which the Company serves retail customers to develop jurisdictional allocation factors, forecasted revenues, and net power costs. In addition to the class level forecasts for bills and sales, the Company has developed a forecast of bills and kilowatt-hour sales by rate schedule for Utah.

Q. How are the forecasts utilized in preparation of this general rate case?

A. The forecasted loads for the 12 months ending 2013 were used by Company witness Mr. Gregory N. Duvall to calculate net power costs, and by Company witness Mr. Steven R. McDougal to calculate the revenue requirement and jurisdictional allocation factors. Additionally, forecasted sales by rate schedule are used by Company witnesses Mr. William R. Griffith and Mr. C. Craig Paice to allocate costs between customer classes and to design rates which correctly reflect

the cost of service. The sum of energy by rate schedule ties to the forecasted energy by customer class.

Q. Please provide a summary of the forecasted energy sales.

A. Table 1 provides the forecasted energy sales for the test period for total Company and Utah.

Table 1, Test Period Sales Forecast (MWh)

	June 2012 to May 2013	
	Total Company	Utah
Residential	15,824,583	6,634,404
Commercial	16,782,979	8,084,103
Industrial	19,903,472	8,376,573
Irrigation	1,214,886	187,280
Public Authority	405,770	405,770
Lighting	141,350	77,260
Total	54,273,040	23,765,390

Q. How is your testimony organized?

A. My testimony is organized as follows:

- I describe the major changes in forecast assumptions and data used to produce the forecast.
- I describe the forecasting process for the residential, commercial, irrigation, lighting, and industrial customer classes.
- I describe the hourly load forecasting process.
- I describe the rate schedule forecasting process.
- I give a summary of results where I compare the sales forecast used in the 2011 Utah general rate case to the sales forecast for the current rate case.
- Finally, I also compare the weather normalized base period sales to the test year forecasted sales and compare how well the forecast used in the

2011 Utah general rate case is tracking actual sales for the last six months of 2011.

Summary of Changes in Forecast Assumptions

Q. Does this forecast employ the same methodology as presented to the Utah Public Service Commission in the 2011 general rate case?

A. Yes. The methodology is unchanged. However, the methodology used to forecast the large industrial class was extended to the commercial class. I explain this evolution later in my testimony.

Q. Please provide a general overview of the methodology.

A. In summary, this methodology consists of first developing a forecast of monthly sales by customer class and monthly peak load by state. This sales forecast becomes the basis of the load forecast (energy at the generator) by adding line losses. The monthly loads are then spread out to each hour based on the peak load forecast and typical hourly load patterns to produce the hourly load forecast.

Q. Please summarize major updates in data used to produce the forecast.

A. There are eight notable updates in data inputs compared to the forecast prepared in the 2011 general rate case. In each of these eight updates, the Company used the most recent available information.

1. Updated the historical data period used to develop the monthly retail sales forecasts to January 1997 through July 2011. The historical data period used to develop the model driven portion of industrial monthly sales is from January 2002 through July 2011;
2. Updated the historical data period used to develop the monthly peak

forecasts to include January 1997 through December 2010;

3. Updated the economic drivers from IHS Global Insight for each of the Company's jurisdictions (this was updated with the June 2011 release for all states except for Utah which was updated with the August 2011 release);

4. Updated the forecast of existing large customer usage based on August 2011 data;

5. Updated the forecast of new and expanding large customer usage based on August 2011 data;

6. Updated the time period used to define normal weather to the 20-year time period of 1991-2010;

7. Updated the line loss calculation from the five-year period ending December 2009 to the five-year period ending December 2010;

8. Updated the hourly sales by customer class used in the model by adding 2010 hourly data and dropping 2005 hourly data.

9. Updated the residential use per customer per day model with revised appliance saturation and efficiency results.

Q. Before continuing, please explain why the data ending date varies from December 2010 to August 2011.

A. The model was estimated in August 2011. At that time the most recently available monthly sales data ended in July 2011; the most recently available hourly data (which is used to estimate the peak) ended in December 2010; the most recently available county level economic drivers (which is used in all jurisdictions except

Utah) from IHS Global Insight was released in June 2011; the most recently available state level economic drivers (which is used in Utah) from IHS Global Insight was released in August 2011; and the most recently available large customer (existing, new, and expanding) forecast was completed in August 2011.

Forecasts for the Residential Customer Class

Q. How are monthly sales forecasts developed by customer class?

A. The residential monthly sales forecast is developed as a product of two separate forecasts: (1) the number of customers; and (2) sales per customer.

Q. How are the forecasts for number of residential customers developed?

A. The Company forecasts the residential number of customers using a regression model. The model is estimated based on historical data from the January 1997 to July 2011 time period and the major economic driver is IHS Global Insight's population or number of households.

Q. How is average use per customer for residential customer classes forecasted?

A. The Company models sales per customer for the residential class through a Statistically Adjusted End-use ("SAE") model, which combines the end-use modeling concepts with traditional regression analysis techniques. Major drivers of the SAE-based residential model are heating and cooling related variables, end-use information such as equipment shares, saturation levels and efficiency trends, and economic drivers such as household size, income and energy price.

Forecast for the Commercial Class

Q. How does the Company develop the monthly commercial sales forecasts?

A. The monthly sales forecast for the commercial customer class is developed based

on three separate forecasts: (1) the number of commercial customers; (2) sales per commercial customer; and (3) new and existing large commercial monthly sales.

Q. How are the forecasts for number of commercial customers developed?

A. The Company forecasts the commercial number of customers using a regression model. The model is estimated based on historical data from the January 1997 to July 2011 time period and the major economic driver is the number of residential customers.

Q. How does the Company forecast commercial use per customer?

A. For the commercial class, sales per customer are forecasted using a regression model with employment as the major economic driver.

Q. How does the Company develop the forecast of new large commercial customer sales?

A. This forecast is developed by the Customer and Community Managers ("CCMs") with input from the customer.

Q. How does the Company forecast sales for the commercial customer class?

A. The monthly sales forecast is carried out in two steps. First, the sales forecast for existing customers is the product of the commercial number of customers and commercial use per customer. The large commercial customer additions are added to the sales for existing customers to develop the commercial customer class forecast.

Q. Is it necessary to add the new large commercial sales to generate the commercial forecast?

A. Yes. There are several large data centers which are locating in the service

territory. Although these data centers are classified in the commercial customer class, their size and characteristics are different from most of the other commercial customers. It makes sense to treat the large commercial customers similar to the large industrial customers as explained later in my testimony.

Industrial Class Forecasts

Q. How does the Company forecast sales for the industrial customer class?

A. The industrial customers are separated into three categories: (1) existing customers that are tracked by the CCMs; (2) new large customers or expansions by existing large customers which are also tracked by the CCMs; and (3) industrial customers that are not tracked by the CCMs. Customers are tracked by the CCMs if they have a peak load of one megawatt or more at a single site.

The Company develops the forecast for the first two categories through the data gathered by the CCM assigned to each customer. The CCMs have ongoing direct contact with large customers and are in the best position to know about the customer's plans for changes in business processes, which might impact their energy consumption. The portion of the industrial forecast related to new large customers and expansion by existing large customers is also developed based on information provided by the customers to the CCMs. This information would include forecasted load factors and the size and timing of expansions. The CCMs also provide the probability of the project completion.

The third category of industrial customers, smaller industrial customers, is more homogeneous and is modeled using regression analysis with trend and economic variables. Manufacturing employment is used as the major economic driver.

The total industrial sales forecast is developed by aggregating the forecast for the three industrial customer categories.

Q. Why do you forecast industrial sales using a different methodology than the other customer classes?

A. This class is modeled differently because of the diverse makeup of the customers within the class. In the industrial class, there is no "typical" large industrial customer. Large customers have very diverse usage patterns and power requirements. It is not unusual for the entire class to be strongly influenced by the behavior of one customer or a small group of customers. A recent example of how one Utah customer's decision can affect the industrial class sales is the decision of a large industrial customer to move from a buy-all, sell-all contract for their generation to a self-generation contract.

In contrast, customer classes that are made up of mostly smaller, homogeneous customers are best forecasted as a group. Those customer classes are generally composed of many smaller customers that have similar behaviors and usage patterns. No small group of customers, or single customer, influences the movement of the entire class. This difference for large industrial customers requires the different processes for forecasting sales.

Forecasts for the Irrigation, Public Authority, and Lighting Customer Classes

Q. How are monthly sales forecasts developed by customer class?

A. The Public Authority monthly sales forecast is developed using a regression model with the number of Public Authority customers as a driver in the model. The irrigation sales forecast is developed using a regression model with weather

being the primary explanatory variable. Lighting monthly sales forecasts are developed using a regression model with monthly binary (or dummy) variables.

Q. How are the forecasts for number of customers developed?

A. The Company forecasts the irrigation, Public Authority, and lighting number of customers using either a time series or regression model. The model is estimated based on historical data from the January 1997 to July 2011 time period.

Hourly Load Forecast

Q. Please outline how you develop the hourly load forecast.

A. After the Company develops the forecasts of monthly energy sales by customer class, we develop a forecast of hourly loads in two steps.

First, monthly and seasonal peaks are forecasted for each state. The monthly peak model uses historic peak load and peak-producing weather for each state, and incorporates the impact of weather on peak loads through several weather variables which drive heating and cooling usage. These weather variables include the average temperature on the peak day and lagged average temperatures. The peak forecast is based on average monthly historical peak-producing weather for the period 1991-2010.

Second, hourly loads are forecasted for each state from hourly load models using state-specific hourly load data and daily weather variables. The hourly loads are developed using a model that incorporates the 20-year average temperatures, a typical weather pattern for each year, and day-type variables such as weekends and holidays. The hourly loads are adjusted for line losses and calibrated to monthly and seasonal peaks.

Q. How are monthly system coincident peaks derived?

A. After the Company develops the hourly load forecasts for each state, hourly loads are aggregated to the total system level. The system coincident peaks can then be identified as well as the contribution of each jurisdiction to those monthly peaks.

Forecasts by Rate Schedule

Q. Are there any additional forecasts that you created for this proceeding?

A. Yes. As mentioned earlier, Mr. Griffith and Mr. Paice require two additional forecasts that are based on the kWh sales forecast and the forecasted number of customers. Once the kWh sales forecast is complete, it must be applied to individual rate schedules to forecast kWh sales by rate schedule. In addition, the forecasted number of customers must be expressed in number of bills.

Q. How are rate schedule level forecasts produced?

A. The Company develops this forecast in two steps. First, the Company forecasts test year sales by rate schedule. Then, the Company proportionally adjusts the rate schedule sales forecasts so that the total matches the customer class forecast.

Q. How is the number of bills for each schedule forecasted?

A. The forecast of the rate schedule bills forecast follows the same process as the rate schedule sales forecast. First, the Company forecasts test year bills by rate schedule. Then, the Company proportionally adjusts the rate schedule bills forecasts so that the total matches the customer class forecast.

Q. Before continuing, please tell us if there are any sales or load forecasts which are used in the general rate case which you did not develop.

A. Mr. Paice also needs the contribution to coincident peak by rate schedule. This

information is prepared by Mr. Scott D. Thornton, Manager of Load Research.

Summary of Results

Q. How does the sales forecast for the 12 months ending May 31, 2013, compare to the weather normalized MWh sales for the 12 months ending June 30, 2011, base period?

A. Table 2 shows that for the total Company, test period forecasted sales are 0.5 percent higher than weather normalized sales for the historical base period. Table 3 shows that for Utah, forecasted test period sales are 2.7 percent higher than weather normalized sales in the base period.

Table 2, Total Company Sales Comparison (MWh)

	July '10 to June '11 Actual	June '12 to May '13 GRC Forecast	Percentage Difference
Residential	16,007,051	15,824,583	-1.1%
Commercial	16,372,048	16,782,979	2.5%
Industrial	19,872,685	19,903,472	0.2%
Irrigation	1,180,247	1,214,886	2.9%
Public Authority	423,434	405,770	-4.2%
Lighting	145,425	141,350	-2.8%
Total	54,000,890	54,273,040	0.5%

Table 3, Utah Sales Comparison (MWh)

	July '10 to June '11 Actual	June '12 to May '13 GRC Forecast	Percentage Difference
Residential	6,656,128	6,634,404	-0.3%
Commercial	7,754,984	8,084,103	4.2%
Industrial	8,034,782	8,376,573	4.3%
Irrigation	184,375	187,280	1.6%
Public Authority	423,434	405,770	-4.2%
Lighting	80,806	77,260	-4.4%
Total	23,134,509	23,765,390	2.7%

Q. How does the sales forecast for the test period compare to the sales forecast used in the last general rate case?

A. Forecast sales for the current test period (12 months ending May 2013) were

compared to forecast sales prepared for the 2011 Utah general rate case test period (12 months ending June 2012). As shown in Table 4, the total Company sales forecast has decreased by about 4.0 percent. And, as shown in Table 5, the Utah sales forecast has decreased by about 3.0 percent.

Table 4, Total Company Sales Forecast Comparison (MWh)

	July '11 to June '12 GRC Forecast Previous	June '12 to May '13 GRC Forecast Current	Percentage Difference
Residential	16,404,658	15,824,583	-3.5%
Commercial	17,364,358	16,782,979	-3.3%
Industrial	20,884,404	19,903,472	-4.7%
Irrigation	1,292,480	1,214,886	-6.0%
Public Authority	437,310	405,770	-7.2%
Lighting	141,300	141,350	0.0%
Total	56,524,510	54,273,040	-4.0%

Table 5, Utah Sales Forecast Comparison (MWh)

	July '11 to June '12 GRC Forecast Previous	June '12 to May '13 GRC Forecast Current	Percentage Difference
Residential	6,856,828	6,634,404	-3.2%
Commercial	8,328,358	8,084,103	-2.9%
Industrial	8,585,404	8,376,573	-2.4%
Irrigation	187,460	187,280	-0.1%
Public Authority	437,310	405,770	-7.2%
Lighting	76,840	77,260	0.5%
Total	24,472,200	23,765,390	-2.9%

Q. Why is the Company forecasting a 4.0 percent decrease in system sales (Table 4) compared to the forecast used in the previous rate case?

A. The residential sales decrease is attributed to lower actual retail sales from the economic slowdown and the impact of lighting efficiency changes resulting from federal lighting standards phasing out the sale of conventional incandescent light bulbs in favor of more efficient lighting. The reduction in commercial sales is largely driven by the continued effects of the recession. There were also some

delays in the timing for new data centers. The reduction in industrial sales is largely driven by several industrial customer that chose to self generate some of their requirements and displace some of their purchases from the Company. If these industrial customers had not changed their purchasing pattern, system test period forecast would be approximately 2.5 percent higher and system test period sales would have decreased by approximately 1.6 percent from the 2010 GRC test period forecast.

Q. Why is the Company forecasting a 2.9 percent decrease in Utah sales (Table 5) compared to the forecast used in the previous rate case?

A. This decrease is also largely driven by the several large Utah industrial customers that have chosen to self generate some of their requirements and displace some of their purchases from the Company. If these industrial customers had not changed their purchasing pattern, Utah test period forecast would be approximately 2.2 percent higher and Utah test period sales would have decreased by approximately 0.8 percent from the 2010 GRC test period forecast.

Q. How are the actual 2011 sales tracking with the previous forecast?

A. Tables 6 and 7 present how the actual 2011 sales are tracking with the previous forecast for the time period July through December 2011 for total Company and Utah respectively. Table 6 shows that weather normalized total Company sales are tracking about 2.5 percent lower than the Company's previous forecast for the time period July to December 2011. Table 7 shows that weather normalized Utah sales are tracking about 2.7 percent lower than the previous forecast for the time period July to December 2011.

Table 6, Total Company Sales Forecast (MWh)

	July to Dec 2011		Percentage
	Actual	Previous GRC	Difference
Residential	8,082,709	8,260,512	2.2%
Commercial	8,562,609	8,900,112	3.9%
Industrial	10,063,807	10,286,506	2.2%
Irrigation	878,009	811,810	-7.5%
Public Authority	199,193	223,580	12.2%
Lighting	71,542	69,250	-3.2%
Total	27,857,869	28,551,770	2.5%

Table 7, Utah Sales Forecast (MWh)

	July to Dec 2011		Percentage
	Actual	Previous GRC	Difference
Residential	3,606,236	3,642,466	1.0%
Commercial	4,081,188	4,299,326	5.3%
Industrial	4,078,775	4,134,578	1.4%
Irrigation	124,034	114,140	-8.0%
Public Authority	199,193	223,580	12.2%
Lighting	38,139	37,440	-1.8%
Total	12,127,566	12,451,530	2.7%

Q. Do you consider the sales and load forecasts to be reasonable?

A. Yes.

Q. Does this conclude your direct testimony?

A. Yes.