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

A. My name is G. Michael Rife, my business address is 825 N.E. Multnomah, Suite 1700, Portland, Oregon 97232, and my present position is Director of Load and Revenue Forecasting.

Qualifications

Q. Briefly describe your education and business experience.

A. I received an undergraduate degree in Mathematics from Shepherd College in Shepherdstown, WV. I have a Masters of Science degree in Statistics from Virginia Polytechnic Institute and State University. I have a Masters of Science Degree in Economics from the University of North Carolina in Charlotte. I have a Doctors of Philosophy Degree in Economics from the University of Illinois at Chicago. From 1979 to 1994 I worked for Duke Power Company in Charlotte, North Carolina holding positions within the Forecasting Department. From 1994 to 2002 I worked for Commonwealth Edison in Chicago Illinois holding the position of Supervisor of Load Forecasting and Analysis from 1994 to 1998 being responsible for supervising load forecasting and load research activities for Commonwealth Edison. From 1998 to 2000 I was supervisor of the Energy Measurement and Load Profiling groups at Commonwealth Edison which supporting profiling and settlement activities of Commonwealth Edison in support of open access in the state of Illinois. From 2000 to 2002 I was the team leader of load and revenue forecasting activities for Commonwealth Edison. From 2002 to the present I have been employed at PacifiCorp holding positions in the Load

Forecasting and Integrated Resource Planning Group.

Q. Please describe your current duties.

A. I am responsible for the development of the forecasts of kWh sales, number of customers, system loads, and system peaks for the Company's six retail jurisdictions. I am also responsible for the accounting of revenues and sales for the Company at state level.

Q. Have you testified previously?

A. Yes. I have submitted testimony to the Illinois Commerce Commission during the consideration of Open Access regulation and related rates in 1999.

Purpose of Testimony

Q. What is the purpose of your testimony?

A. I describe how the forecasts of the numbers of customers, kWh sales, system loads and system peaks for the twelve-month periods ending June 30, 2008 and June 30, 2009 are developed for the Company. These forecasts are produced for all six states in which the Company serves retail customers. A forecast of sales by rate schedule is used for the purposes of revenue requirement and a forecast of hourly loads is used for the purposes of calculating net power costs. The system load and system peak forecast is produced to calculate allocation factors among the states.

Q. Are these same forecasting methodologies used for other purposes?

A. Yes. For example, these are the methodologies used to produce the forecasts driving the Integrated Resource Plan (IRP) of the Company. The staff of the Utah Public Service Commission is an active participant in the public input process of

the IRP. These forecasts are regularly reviewed in that process. The Company has also used the forecasts produced using these methodologies in regulatory proceedings in Oregon, Idaho, Wyoming, Washington, and California for several years.

Q. Has the Company done any analysis on the accuracy level of the Utah state forecast that you regularly produce?

A. Yes, several years ago we undertook a project to review the accuracy of forecasts produced for the next year. Since that time, we have regularly reviewed the forecast for accuracy and to determine ways in which to improve our accuracy. From 1991 through fiscal year 2004 we have had an average difference of 0.5 percent between the weather normalized actual and forecasted sales values. In addition, Exhibit RMP___(GMR-1) shows a forecast variance analysis from the last Utah General Rate Case in 2005. The exhibit shows the variance of actual load, peak demand, and sales for the 12-month period ending September 2007, i.e., the last month of the test period, compared to the forecast for that rate case. The exhibit shows that actual load and sales was approximately three percent higher than forecasted load and sales. The actual peak demand was about five percent higher than the forecasted peak demand for that 12-month period.

Sales Forecast

Residential, Commercial, Public Street & Highway Lighting, and Irrigation Forecasts

Q. Can you describe what generally causes the growth in load in Utah?

A. Yes. The Company's Utah load growth is driven primarily by the increase in

Utah's population and its associated economic activity. Since 2000, the state's population has grown by 450,000 from 2.2 million to 2.7 million and our customer base has grown by 16 percent. Additionally, Utah's economy has grown strongly since 2004, with the state continuing to out perform the nation with job growth at 4.9 percent in 2006. In its report to the Governor, the State Office of Planning and Budget projected employment growth of 4.4 percent during 2007 with each of the major employment sectors showing growth. Our load forecasts are aligned with the state economic forecasts which continue to project strong growth in the state and we anticipate our energy requirements will grow by 2.3 percent per year with our summer peak rising at an even faster rate.

Q. How is the kWh sales forecast developed for the Residential, Commercial, Public Street & Highway Lighting and Irrigation customer classes?

A. The forecast of kWh sales for each customer class is the product of two separate forecasts: number of customers, and use per customer.

Q. Please describe how the number of customers is forecasted in this proceeding.

A. The forecast of the number of customers relies on weighted exponential smoothing statistical techniques and is based on a twelve-month moving average of the historical number of customers. By applying additional weight to more current data and utilizing exponential smoothing, the transition from actual data to forecast periods is as smooth as possible. This technique also ensures that the December to January change from year to year is reflective of the same linear pattern. These forecasts are produced at the class level for each of the states in

which the Company has retail service territory.

Q. Why is it important to apply weights to the historical data for forecasting customers?

A. The Company believes that the recent past is most reflective of the near future. Using weights applies greater importance to the recent historical periods than the more distant historical periods and improves the reliability of the final forecast. The forecasts are reviewed for reasonableness.

Q. How is average use per customer for these classes forecast?

A. The Company performs a regression analysis on the average use per customer to determine if there is any material change in the trend over time. The forecasts are reviewed for reasonableness.

Q. How are these two forecasts then used to forecast energy sales for each customer class?

A. The forecast of the number of customers is multiplied by the forecast of average use per customer to produce annual forecasts of energy sales for each of the four classes of service.

Industrial and Other Sales to Public Authorities Forecasts

Q. How does the Company forecast the Industrial and Other Sales to Public Authorities customer classes?

A. These customers are classified based on Standard Industrial Classification (SIC) codes, numerical codes that represent different types of businesses. Customers are further separated into large power users and smaller power users. We consult with the account managers assigned to each of the large power users regarding

that customer's projected energy consumption. The account managers 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. In addition, we review industry trends and monitor the activities of the customers in SIC code groupings that account for the bulk of the industry sales. Sales forecasts are then developed for each SIC code group and aggregated to produce a forecast for each class. The forecasts are reviewed for reasonableness and adjusted if appropriate.

Q. Why are these classes forecasted by a different methodology than the other customer classes?

A. These classes are forecasted differently because of the diverse make up of the customers within the class. In the Industrial class, there is no "typical" customer. Large customers have very diverse usage patterns and sizes. It is not unusual for the entire class to be strongly influenced by the behavior of one customer or a small group of customers.

In contrast, customer classes that are made up of mostly smaller, homogeneous customers are best forecasted with the methodology described previously in my testimony. 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 requires the different processes for sales forecasting.

Q. How is the monthly forecast of sales and consumers developed?

A. The consumers forecast is developed using the monthly distribution of customer

growth over the past 5 years. The distributions are reviewed by looking at the year over year growth of the customers to make sure they reflect reasonable values. If they do not, then the forecasts will be adjusted by the forecaster. Developing monthly forecasts of sales is a little more involved because we are trying to make the distribution and connection of values from month to month as seamless and reasonable as possible. The annual forecasted values are increased to system load levels by including line losses. Once this is done, they are distributed to hourly values using the regression model I will describe later in my testimony. These hourly values are then summed to monthly totals. Line losses are then subtracted from this monthly value and the total state value at sales level is established. Then for each state and customer class an average monthly shape is developed using the most recent five years of history. This process captures any changing trends in usage on a monthly basis. This average monthly shape is then applied to the annual forecasts by state and class to arrive at monthly numbers by class and state. The sum of these class total are compared to and adjusted to iterate to the total state level established earlier using the sum of the hourly values.

Summary of Results of Sales Forecast

Q. Please summarize the results of the sales forecast used in this filing.

A. The forecast was produced during 2007 and has a release date of October 20, 2007. This forecast was part of the forecast of the Company's business plan. PacifiCorp's Utah retail sales for all classes are forecast to increase by 6.1 percent for the 12 months ending June 30, 2009 from the twelve months weather

normalized sales ending June 30, 2007. This gives approximately an average growth rate of 3 percent per year for the next two years. The class level detail is presented as Exhibit RMP___(GMR-2). In addition the exhibit shows that the Company expects robust growth in each of the major customer classes, i.e., residential, commercial and industrial.

Q. Why are the actual sales for the twelve months ending June 30, 2007 weather normalized?

A. The forecast of sales for the test period assumes normal weather conditions. By weather normalizing sales for the 12 month period ending June 2007 the sales for the test period and the sales for the historical period are expressed in a consistent basis, i.e., sales for both 12 month periods have the effects of abnormal weather conditions excluded.

Historical Growth by State

Q. How would you summarize the sales growth the Company has seen?

A. Exhibit RMP___(GMR-3) shows the average annual growth for each of the six jurisdictions the Company currently serves. This exhibit shows that for the calendar years from 1996 to 2006 the east portion of the service territory has shown more growth than the west portion of the service territory. It also shows that, of the six states, Utah has experienced the largest growth. There is no indication that this rate of growth will change in the future.

Q. Is this higher growth rate new to Utah?

A. No. For the twenty year period from 1986 to 2006 sales to the state of Utah has more than doubled. This doubling over the last twenty years implies an average

annual growth of 3.6 percent per year.

Q. What else can you tell from this exhibit?

A.. There are two causes that have impacted Utah that are not impacting the other states in the same way. First, with the exception of Idaho, Utah has had faster customer growth than all states. We expect Utah to continue to have faster customer growth than the other states in the future. Secondly, on average each customer appears to be using more energy each year. We expect usage per customer to grow over the next several years as supported by Exhibit RMP___(GMR-6) which will be introduced later in my testimony.

Q. What makes you say that each year the average customer is using more energy than they did the year before?

A. If the average growth rate for the energy is equal to the average growth rate for the customer additions, then new customers are the cause of the growth. When the energy growth rate is lower than the average customer growth rate, the average customer must be using less each year. When the energy growth rate is greater than the customer growth rate, the average customer must be using more each year to push up the energy growth rate. This latter set of facts is currently true in the Company's Utah service territory so it appears that the average customer is using more energy than they did before.

Q. What has happened in the last few years in the states you serve?

A. The states have had rather different economic climates over the past few years that have created some differences in the growth rates we have seen. Economic climate in the west, and particularly in Oregon, has had economic growth that is

not as robust as in Utah. While air-conditioning equipment adoption has increased for all states in the residential customer class, the growth in the east is generally faster than in the west. However, there is an expectation that the growth rate in Utah will be higher than any other state with the exception of Wyoming. There is an expectation of an increase of large industrial customers in the state of Wyoming in the oil and gas exploration industries.

Q. How has this impacted the growth rates?

A. On the bottom of Exhibit RMP___(GMR-3), I have shown the customer and energy growth rates each state has experienced from calendar year 1996 to calendar year 2006. The exhibit shows that Utah has the highest historical growth in sales and relatively high growth rates in the number of customers.

Q. What is the impact to Utah in this rate case?

A. I believe that this impact is two-fold. First, Utah is a larger portion of the system. This resulted in an increase in system allocation factors. Second, while there has been a slowing of growth in other states, Utah has continued to show growth which has had the effect of compounding the impact of the change in allocation factors. The allocation factors are also impacted by the growth in system peak. Over at least the past ten years, Utah's growth in the system peak has been greater than the other states. From 1996 through 2006, while the retail sales growth in Utah averaged 2.8 percent per year, the summer peak average growth rate was 4.1 percent. This faster growth in system peak further results in more costs being allocated to Utah.

Utah Growth by Class of Service

Q. How do you group customers?

A. The Company typically groups customers by the type of service they receive. The Company groups customers into Residential, Commercial, Industrial, Public Street and Highway Lighting (PS&HWL), Other Sales to Public Authorities (OSPA), and Irrigation categories.

Q. How does each category of customers contribute to the total energy consumed in the state?

Exhibit RMP___(GMR-4) shows two pie charts. The first pie chart shows what percent of the total customers in Utah is attributable to each customer category. The second pie chart shows what percent of the total sales in the state each category has. The pie charts show that the residential sector has the majority of the customers. Because of usage per customer differences among the categories total usage is approximately the same in the residential, commercial, and industrial categories.

Q. Given the wide difference in use per average customer for each category, how does each category impact the state overall growth?

A. Exhibit RMP___(GMR-5) was prepared to help show how the growth has occurred from 1996 to 2006. This exhibit shows that sales have grown in all three major customer classes in Utah over the ten year period. Also in the exhibit is the forecast from 2007 to 2009 for these three customer classes for the state of Utah. The forecast shows that growth in these three customer classes is expected to continue over the forecast period.

Q. Earlier, you stated that you expect the growth in Utah to continue at a relatively high rate compared to other states. Can you now explain how that will happen by customer category?

A. Yes.

Residential Growth

Q. Why do you expect Utah to see a continuing high residential customer growth compared to surrounding states?

A. One reason is that Utah has a higher birth rate than surrounding states. As such, Utah has a fundamental difference from surrounding states that will result in a higher customer growth.

Q. What other factors may drive residential load growth in Utah?

A. Utah also tends to have a more educated labor pool and lower average living costs. This larger population of educated workers and lower wages tends to be a draw for businesses. Additionally, Utah offers a different culture from many locations. Many people seek to move to the state to enjoy the cultural differences in Utah. Utah also appears to enjoy a strategic location in the West. Utah is somewhat centrally located in the west between population centers in Colorado, California and the Pacific Northwest as reflected by the business diversity in the Utah metropolitan areas. This makes it a prime location to establish businesses and have equal access to major western population centers causing diversity in the Utah economy. To quote from Global Insights' website:

> "Salt Lake City now has one of the nation's more diverse economies. Once dominated by agriculture and mining, today the metro area boasts numerous high-tech firms, various business services, and a year-round tourism industry. A burgeoning services

> sector is supported by major research centers at the University of Utah, the University of Utah Medical Center, Brigham Young University, Primary Children's Medical Center, Huntsman Cancer Research Institute, and Howard Hughes Institute. Delta Airlines' decision to turn the city into a hub in the mid-1980s has also been a boon to the local economy, helping it to leverage its strong medical-research organizations into an international center for medical and biomedical research, services, and manufacturing. Indeed, a growing biomedical and computer-related high-tech sector has led to the area's label of Bionic Valley. At present, more than 2,000 information-technology firms line the Wasatch Front."

Q. Previously you made the statement that residential use per customer is increasing. Do you expect this to continue?

A. Yes.

Q. Please explain.

A. Some of the changes in Utah that have led to higher residential usage in Utah are expected to continue. During the last decade, Utah homes on average have increased in size. As the growth continues, the Company expects the average size of homes to further increase. Additionally, the Company is seeing more homes that have Central Air Conditioners (CAC). Customers across our Utah service territory are seeking more comfortable living conditions and seem to be willing to pay for them. CAC are becoming the norm for space conditioning on hot summer days. More new homes require CAC as a selling point. Customers with Evaporative Air Conditioners (EAC) are changing their equipment to keep up with the norm. But, recent information has indicated that the switching from EAC to CAC is reaching saturation.

Q. Does the CAC increase have any other impact on the Company?

A. Yes. Exhibit RMP___(GMR-6) shows the residential customers' average use aggregated for the winter months (October through May) and summer months

(June through September) for the historical period of 1996 to 2006 as well as the forecasted period of 2007 through 2009. This shows that the use during the four summer months is growing much faster than the remaining eight months of the year and is expected to continue during the forecast period. In addition, the usage during these four months for the average residential customer exceeds their usage for the remainder of the year. This appears to be having a big impact on the growth of the system peak. Prior to 1999, the system as a whole peaked during the winter months. Because of the growth in Utah, the Company has started to experience summer peaks and expects this pattern to continue in the future. This is evident in Utah state growth rates. From 2002 through 2006, while the energy growth in Utah averaged 3.2 percent per year, the summer peak average growth rate was 3.4 percent.

Commercial Growth

Q. Do you expect the commercial customer growth to continue?

A. Yes. This appears to be due to a few different reasons. The state in general will experience higher growth to supply the services needed for the greater residential growth. That service-related growth does not have to be concentrated in the same areas that are experiencing rapid residential growth. In addition, Utah has seen growth in what I refer to as "exporting service businesses." For example, a number of phone centers have been built in Utah in the past years. These are phone centers that either handles incoming calls or telemarket with outgoing calls across the nation. They have provided many service jobs that do not supply the needs of local customers. They are capitalizing on the labor pool benefits

mentioned earlier. This is a benefit that Utah enjoys that other states may not have.

Industrial Class Growth

Q. What can you tell us about the growth in the industrial category?

A. Prior to the last decade, Utah's industries appeared to be heavily concentrated in industries that depended on the natural resource supplies in the state, such as coal, uranium, oil, gas and copper. While these industries are still very important contributors to the state overall, they have started to play a less important role. During the last decade, the Company has seen a trend to a more diversified economy. Various manufacturing companies have moved into the state for the reasons mentioned earlier in my testimony. Additionally, the exporting service businesses in the commercial sector have contributed greatly to providing a diversified economic base for the state. The state now seems to have an economic base that will be more stable during economic cycles. As business in the state becomes more diverse, the state may have more stability in a variety of economic conditions, i.e. when some sectors of the business community are experiencing contracting cycles others may offset with expanding cycles.

Q. How do you see the past causes of growth continuing in the industrial category?

A. Many of the things that have helped the State in the past we see continuing. Utah will continue to have a highly educated workforce. The state will likely continue to have a higher birth rate than the nation so there will be a sizable and affordable labor pool. Utah's location as the crossroads of the West will keep it ideally

located near major western population centers and business markets. Growth in certain non-traditional industries should assist in the diversification of Utah's economy due to its location to major population centers in the West. To again quote from Global Insights website:

> "strong gains will come from education and health services, "other" services, and financial activities……. Three sectors will see improving (employment) growth: trade, transportation, and utilities; information; and professional and business services. The strongest sector is expected to be the professional and business services sector, which will see average annual growth rates of 3.6%"

Load Shape

Q. You expect each class to be growing quite differently. Are there additional impacts this is having on the system that may change the system in the future?

A. I believe that there are additional impacts on the system that must be watched. Exhibit RMP___(GMR-7) shows how the Utah summer average weekday load shape has changed over time. To create this exhibit, I averaged the weekday loads from July and August of 1996 and 2006 by hour. I then indexed each year's hourly values to the minimum for that year, to remove growth. This gives the hourly shape for each year on a comparable basis with each hour being a ratio to the minimum. This graph shows that the shape is changing and is now higher in the daytime hours. In addition, the time of the peak has shifted to later in the afternoon. Both of these factors corroborate the analysis earlier in my testimony that showed the increasing summer usage from primarily the residential customers.

Q. What does the changing load shape mean?

A. It is certainly something for the Company to review further and watch. It will require continued additions to the distribution system to increase the capacity. Because customers are using more, the existing system may not have the capacity to handle the increased demand. Also, it may appear to some that the increases to the system are excessive because the increased system demand is for a shorter period during the day. However, there is a need to make sure that the system can handle the maximum demand placed on it. This has been compared to needing an eight lane freeway during the rush hours and a four lane freeway during the remaining portion of the day.

System Load Forecasts

Q. Please explain the difference between the sales forecast that was just described and the system load forecast?

A. The sales forecast for each state is increased by estimates of system line losses to create the system load forecast.

Q. How are the loads distributed to hourly levels.

A. The Company has developed a regression based tool that models hourly load against several independent variables. The estimation period for this regression equation is from January 2004 through June 2006. This model has a large number of independent variables. Many of these represent spatial conditions over the year, such as the time of day, the week of the year or day of the week. Additionally hourly temperature for weather stations where the bulk of the load in the state resides is used in the model. A variable representing the humidity levels in the state is also used. With this model loads relative to the many different

factors are developed.

Q. When using a model of this type the independent variables require a starting value for the calculation. What values does the Company use?

A. For the spatial variables the date and time in the future is used. Typically the load on a weekend is lower than on a weekday because the industrial and some commercial customers use less. So a variable used to identify a weekend would have a lower contribution to the forecasted load than a weekday and just using the calendar date in future identifies these spatial conditions. For the weather values we use the equivalent of the 30-year average temperature for the weather stations at the appropriate day and time in the future. This is also what is used for the humidity measure. We also review the growth of the hourly load over time against historical growth rates to make sure that the loads are growing at the appropriate times. State loads are aggregated by month by time of day and future growth rates are compared with historical growth rates. This allows us to review the night time growth rates verses daytime growth rates. Growth in the winter months may differ from the growth in the spring and fall. All of this is reviewed and trends are incorporated to reflect the historical patterns observed.

System Peak Forecasts

Q. Please describe the system peak forecast.

A. The system peaks are the maximum load required on the system in any hourly period. Forecasts of the system peak for each month are prepared based on the load forecast produced using the methodologies described above. From these hourly forecasted values, forecast peaks for the maximum usage on the entire

system during each month (the coincidental system peak) and the maximum usage within each state during each month are extracted.

Rate Schedule Forecasts

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

A. Yes. To develop forecasted billing determinants, Mr. Griffith requires two additional forecasts that are based on the number of customers forecast and the kWh sales forecast. Once the kWh sales forecast is complete, it must be applied to individual rate schedules to forecast kWh sales by rate schedule. The forecast of number of customers must be expressed in number of bills. In addition, we did a forecast of sales and customers by class of customer as the basis of the company planning forecast. We make certain that the rate4 schedule forecast is consistent with the company planning forecast.

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

A. Growth rates based on customers change for each rate schedule are calculated to determine how the different schedules are changing within the state. These growth rates are then used to forecast each rate schedule into the future. Growth rates by rate schedule are adjusted to reflect the overall trend in customer growth established by the total class forecast. The forecasts are then calibrated to make sure that the sum of the rate level forecasts equals the class level forecasts.

Q. How are rate schedule level forecasts produced for the Company's service territory in Utah?

A. Growth rates of sales to the customers on each rate schedule are calculated to determine how the different schedules are changing within the state. For the

schedules that are very slow growing or have no growth, an average monthly energy usage from the last three years is used to determine the forecasted sales for this schedule. For schedules that are represented by single customers, or a few very large customers, a review of the information from the account managers helps determine the appropriate growth rate for this schedule. Adjustments are made to historical consumption levels to reflect anticipated customers changes. For schedules that are growing or declining the average monthly energy usage is adjusted by a factor reflecting the level of change to calculate the forecasted sales for the schedule. The forecasts are then calibrated to make sure that the sum of the rate level forecasts equals the class level forecasts.

Q. Does this conclude your direct testimony?

A. Yes.