BEFORE THE
PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations, Consisting of a General Rate Increase of Approximately $161.2 Million Per Year, and for Approval of a New Large Load Surcharge	**Docket No. 07-035-93**

Direct Testimony and Schedules of

Maurice Brubaker

Concerning Cost of Service, Revenue Allocation and Rate Design

On behalf of

Utah Industrial Energy Consumers

July 21, 2008
Project 8923

BRUBAKER & ASSOCIATES, INC.
ST. LOUIS, MO 63141-2000

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Direct Testimony of Maurice Brubaker

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Maurice Brubaker. My business address is 1215 Fern Ridge Parkway, Suite 208, St. Louis, Missouri 63141-2000.

Q WHAT IS YOUR OCCUPATION?

A I am a consultant in the field of public utility regulation and president of Brubaker & Associates, Inc., energy, economic and regulatory consultants.

Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A I am appearing on behalf of the Utah Industrial Energy Consumers (UIEC). Members of UIEC purchase substantial quantities of electricity from Rocky Mountain Power Company (RMP) in Utah, and are vitally interested in the outcome of this proceeding.

Q HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS PROCEEDING?

A Yes. I previously submitted direct testimony (April 7, 2008) and surrebuttal testimony (May 23, 2008) in the revenue requirement phase of this proceeding.

Q ARE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE DESCRIBED IN THOSE EARLIER TESTIMONIES?

A Yes. This is included as Appendix A to my April 7, 2008 direct testimony in the revenue requirement phase of this case.

Q WHAT SUBJECTS ARE ADDRESSED IN YOUR TESTIMONY?

A I address certain issues with respect to class cost of service, revenue allocation and rate design. My cost of service and revenue allocation testimony is directed to RMP's embedded class cost of service study and its proposed distribution of any awarded rate increase. My more detailed rate design testimony is addressed to the ill-advised proposals of RMP to impose anti-growth surcharges on certain designated Industrial class customers whose load grows by more than RMP considers acceptable, and on new customers who add new loads that are larger than what RMP considers acceptable.

Q PLEASE SUMMARIZE YOUR FINDINGS AND RECOMMENDATIONS.

A My findings and recommendations may be summarized as follows:

1. RMP uses load research sample data to estimate the loads of several of its major classes, including Schedule 1 (Residential), Schedule 6 (Large General Service) and Schedule 23 (Small General Service).

2. The load research samples for these three classes are very old. The Schedule 6 and Schedule 23 samples were installed in 1990, and the Residential sample was installed in 1991.

3. RMP's ancient load research samples have not been shown to be representative of RMP's current customers in Utah, because many changes have taken place in the use of appliances (particularly central air conditioning) and in load shapes.

4. The loads used in RMP's class cost of service study are not reconciled to the loads in the jurisdictional study. The sums of the class loads at the times of the monthly system peaks in the class study are considerably smaller than the loads in the jurisdictional study used to allocate costs to Utah.

5. Given the age of the load research samples, the mismatch in the class and jurisdictional class cost of service study loads, the other problems I note and the general lack of reliability of RMP's cost of service studies, they should not be used in distributing rate adjustments in this proceeding.

6. RMP will not have a reliable class cost of service study until such time as the results of the new load research sample, which has not yet even been fully installed, has been in place for a period of at least 12 months, plus the time required to analyze the results and convert them into class and subclass loads.

7. Any adjustment in rates applicable to RMP in this case should be applied as an equal percentage change across the board.

8. RMP's anti-growth vintage pricing proposal unreasonably singles out certain customers and loads for the application of anti-growth surcharge prices.

9. RMP's anti-growth vintage pricing proposal is directed at the Industrial customer class, but most of the growth in Utah (historic and projected) is associated with the Residential and Commercial classes, for which RMP does not propose any pricing adjustments.

10. RMP's anti-growth vintage pricing proposal is outside the realm of traditional ratemaking practices, and in fact RMP was able to identify only two other circumstances where it has been implemented.

11. RMP's anti-growth vintage pricing proposal also is in conflict with the practices of Utah government entities which provide tax concessions for new facilities. To the extent that these concessions are required to attract the facilities, RMP's anti-growth surcharge would increase the hurdle that government would have to overcome in order to attract these facilities. This raises the important policy question of whether economic development policies should be determined by elected Utah officials or, as RMP proposes, by the owners of MidAmerican Energy.

12. My colleague, Mr. Chalfant, addresses some of RMP's theoretical claims, and points out why the Company's proposal is not marginal cost pricing as it claims to be and why it is not theoretically sound.

EMBEDDED CLASS COST OF SERVICE ISSUES

Q HAVE YOU REVIEWED THE DEVELOPMENT OF RMP'S EMBEDDED CLASS COST OF SERVICE STUDY?

A Yes. I have reviewed the allocations, and some of the key input information, particularly the customer class loads.

Q BEFORE ADDRESSING THE PARTICULAR COST OF SERVICE ISSUES IN THIS CASE, PLEASE DISCUSS THE PURPOSE OF PERFORMING COST OF SERVICE ANALYSES.

A Cost of service analyses are performed for the purpose of developing the most reasonable estimate of the cost of providing utility services to individual rate classes, rate schedules and customers. Basing rates on costs, using the most accurate available measures of cost-causation, is a well established and long endorsed principle in establishing utility rates.

While no cost of service study can be taken as 100% correct, or 100% accurate as to measurement, reasonable efforts can and should be undertaken to develop customer, rate schedule and class load data that is reasonably accurate, and can confidently be used in developing class and rate schedule rates of return, and rates that appropriately charge the customers taking service on each tariff.

Q BY WAY OF SUMMARY, AFTER YOUR REVIEW OF RMP'S COST OF SERVICE STUDIES, DO YOU BELIEVE THAT THEY ARE SUFFICIENTLY ACCURATE AND REPRESENTATIVE FOR USE IN SETTING REVENUE REQUIREMENTS FOR CLASSES AND RATE SCHEDULES AND FOR DESIGNING RATES?

A No, I do not. As I will discuss subsequently, the load data estimates for rate schedules that are not demand-metered are based on ancient samples and the end result of RMP's load research and load development data clearly demonstrates that there is a material inaccuracy. This inaccuracy manifests itself through the substantial difference between the "top-down" jurisdictional loads used for allocation between states and the "bottom-up" summation of the individual customer class loads used in the class cost of service study.

In addition, RMP's cost of service analysis does not provide a separation or breakout of a number of the rate schedules that are lumped together for purposes of the class cost of service study. For example, the Residential class consists of Schedules 1, 2 and 3. RMP's study lumps them together for cost analysis purposes, so no conclusions can be reached about the appropriate pricing of any of them. A similar problem exists with respect to rate Schedules 9 and 9A where the loads are combined for class cost of service purposes. This lack of articulation by rate schedule makes the cost of service studies less useful for establishing revenue requirements for individual tariffs and for designing appropriate rate structures.

Q WHAT TEST YEAR DOES RMP USE FOR THE CLASS COST OF SERVICE STUDY?

A It uses the same test year that it uses for the jurisdictional allocation study and the revenue requirement test year, namely estimated calendar year 2008.

Q DOES THE USE OF ESTIMATES FOR A FUTURE TIME PERIOD IMPACT THE CLASS COST OF SERVICE STUDY?

A Yes. In general, it impacts the class cost of service study because all of the class load data that is used for the allocations had to be estimated based upon a prior actual time period. In this instance, RMP used the 12 months ended June 30, 2007 as the base line or starting point, and adjusted class loads and other input data to calendar year 2008 based on its estimates. Thus, problems similar to what are introduced into the revenue requirement determination, including an accurate inter-jurisdictional allocation, are present in the class cost of service study as well.

Q NOTWITHSTANDING THE ESTIMATED NATURE OF ALL OF THE INFORMATION, ARE THERE PARTICULAR FACTORS APPLICABLE TO THE CLASS COST OF SERVICE STUDY THAT CAUSE YOU CONCERN ABOUT ITS ACCURACY?

A Yes. While for some of the major customer classes, including Schedules 8 and 9 and contract customers, RMP has demand metering and can determine accurately the hourly loads of these customer classes, it must rely upon load research samples to estimate the loads of other major customer classes.

Q FOR WHICH CUSTOMER CLASSES DOES RMP RELY UPON LOAD RESEARCH SAMPLE DATA?

A RMP relies upon load research sample data for Residential Schedule 1, Large General Service Schedule 6 and Small General Service Schedule 23.

Q WHAT DOES IT MEAN TO RELY UPON LOAD RESEARCH SAMPLE DATA AS COMPARED TO HAVING COMPREHENSIVE AND ACCURATE DEMAND METERING FOR BILLING PURPOSES ON EACH CUSTOMER?

A When a load research sample is used it means that the utility must construct a small sample, thought to be representative, of the population of each customer class. Load research meters are placed on a few selected customers and the results of the load research are then expanded to estimate the hourly loads, including contributions to monthly system peaks, of the entire class.

Q IS THE USE OF LOAD RESEARCH SAMPLING FOR CUSTOMERS SUCH AS THOSE ON SCHEDULES 1, 6 AND 23 A FAIRLY COMMON PRACTICE IN THE ELECTRIC UTILITY INDUSTRY?

A Yes, it is.

Q WHAT, THEN, IS THE ISSUE?

A The basic issue is the age of the load research samples, and the resulting question as to whether the sample data continues to be representative of these classes as they exist today.

Q WHEN WERE THE LOAD RESEARCH SAMPLES FOR THESE CLASSES FIRST DESIGNED AND IMPLEMENTED?

A This information is provided in response to UIEC data request 15.2. As stated by RMP in that response, the Residential sample was originally installed in 1991. It was supplemented with additional sites in 1999, but the original sample apparently was not redrawn, and the initial sample group has not been replaced.

The Schedule 6 sample was installed in 1990, and apparently has not been updated or supplemented.

The Schedule 23 sample was installed in 1990, and also apparently has not been supplemented or updated.

Q ARE THE LOADS OF ANY OTHER MAJOR CLASSES DEVELOPED BASED ON LOAD RESEARCH SAMPLES?

A Yes. The load data for Irrigation Schedule 10 is based on load research, but a new sample was installed prior to the 2007 irrigation season, and thus is relatively current.

Q HAVE THE NATURE OF THE SYSTEM LOAD, AND CUSTOMER USAGE PATTERNS, CHANGED MATERIALLY SINCE THESE LOAD RESEARCH SAMPLES WERE INSTALLED?

A Yes, materially. For example as Dr. Rife notes at page 14 of his testimony (beginning at line 313):

> "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."

Q DOES DR. RIFE EXPLAIN WHY THE SUMMER PEAK LOADS ARE GROWING IN RELATION TO LOADS IN OTHER MONTHS?

A Yes. He discusses this at some length beginning on page 13 of his testimony. Beginning at line 294, he observes as follows:

> "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."

Q WHAT ARE THE IMPLICATIONS OF THESE CHANGES IN RESIDENTIAL LOAD AS THEY IMPACT THE LOAD RESEARCH SAMPLE DATA AND ITS CONTINUED APPLICABILITY?

A The fact that the character and nature of the Residential class load has changed so dramatically over the last nearly two decades since the initial sample was installed calls into question whether the sample as originally drawn continues to be representative of the usage patterns of the Residential customers in Utah today. Clearly, many of the customers who exist today and who live in newer homes, most of which apparently have central air conditioning, were not on the system at the time that the initial sample was drawn. This would suggest a strong possibility that the existing Residential load research sample data is not representative of today's Residential customer class.

Similar comparisons can be made for Schedule 6 and Schedule 23 customers.

Q HOW HAS RESIDENTIAL USE PER CUSTOMER CHANGED OVER TIME, AND HOW DOES THAT AFFECT THE VALIDITY OF THE SAMPLES?

A Dr. Rife's Exhibit GMR-5 shows some of this information back to 1996. This exhibit shows per kilowatthour Residential customer usage for the summer and winter periods from 1996 through 2006 and as forecasted for 2007 through 2009.

Summer usage in 1996 for the average Residential customer was 646 kWh per month, and in 2006 it was 823 kWh per month, a growth of about 27%. The forecast for 2007 through 2009 is in the range of 924 kWh per month to 939 kWh per month. The estimated average for these three years is 933 kWh per summer month, which represents an increase of about 44% from 1996 for Residential customers.

In contrast, the winter average usage for Residential customers has grown only modestly. From a starting value of 665 kWh per average winter month in 1996 (which was then higher than the summer average usage), it grew to 693 kWh per month in 2006, an overall growth of 4.2%. The average projected for 2007 through 2009 for winter Residential average kilowatthour use is 701 kWh per month, a total growth of only 5.4% since 1996.

This dramatic change in the concentration of energy usage in summer months that is quite apparent today, as contrasted to the circumstances when the original samples were drawn, further underscores the antiquated and unreliable nature of the Residential load research data that RMP uses in its class cost of service study. Obviously, given this material change in load patterns of the Residential (and probably also Commercial) customers, the study results should not be relied upon.

It also is important to recognize that RMP has subsequently implemented an inverted summer Residential rate. The effect that this rate change has had on Residential load profiles must be examined in order to have accurate information about Residential hourly loads. For example, it would be important to learn whether, in response to the inverted rate that charges more as total monthly usage increases, customers run their air conditioners less on moderate days, but still use them the same as always when temperatures reach the highest levels – thereby "sharpening" the peaks – the "needle peak" problem that was discussed extensively in earlier cases.

Q CAN YOU ILLUSTRATE THE DIFFERENCE BETWEEN THE CONTRIBUTION TO THE OVERALL SYSTEM PEAKS BY THE UTAH JURISDICTION THAT IS USED IN THE JURISDICTIONAL COST OF SERVICE STUDY FOR REVENUE REQUIREMENT PURPOSES, AND THE CONTRIBUTIONS TO THOSE SAME PEAKS THAT ARE USED IN THE CLASS COST OF SERVICE STUDY?

A Yes. This is shown on Schedule UIEC ____ (MEB-3).[1] Page 1 of this schedule shows in graphical format the contributions to peaks used in the jurisdictional allocation study as compared to the sum of the individual class contributions to those same peaks used in the class cost of service study. Page 2 of the schedule shows the information in tabular format.

Q WHAT DOES THIS SCHEDULE SHOW?

A It clearly shows that there are major differences between: (1) the "bottom-up" sum of the load research study data for classes such as Schedules 1, 6, 10 and 23 and the metered data for other classes in the class cost of service study and (2) the "top-down" determination of the contribution of Utah loads in the aggregate to the monthly system peaks.

[1] Schedules 1 and 2 were included with my April 7, 2008 testimony.

In general, the results of the class load research data produce lower contributions to the peaks than does the "top-down" determination of jurisdictional peaks used in the jurisdictional allocation study.

Q WHAT DOES THIS MEAN?

A It could mean several things. First, if the "top-down" study used for jurisdictional allocation purposes is incorrect and the class studies are correct, it means that in the revenue requirement phase of the case too much cost has been allocated to Utah.

If the determination of the contribution to system peak by jurisdiction used in the jurisdictional cost allocation study is correct, it means that the load research and other analysis conducted by RMP to develop the loads used in its class cost of service study are wrong.

Q THE INFORMATION ON SCHEDULE UIEC ____ (MEB-3) IS FOR THE TIMES OF THE 12 MONTHLY SYSTEM PEAKS. DO YOU HAVE SIMILAR INFORMATION ON AN HOURLY BASIS?

A Yes. Schedule UIEC ____ (MEB-4) shows this information on an hourly basis for the 12 months ended June 30, 2007, which was the starting point for the development of the forecasted calendar year 2008 class and jurisdictional load data.

Q WHAT DOES THIS SHOW?

A It shows that the sum of the class loads developed on a "bottom-up" basis in the class cost of service study and the jurisdictional loads as developed on a "top-down" basis for jurisdictional allocation purposes are quite different, and that there is no consistency of relationship. Often, the sum of the class loads from the class cost of service study produces a jurisdictional load that is less than the jurisdictional load developed on a "top-down" basis, while at other times the reverse is true. However, as shown on Schedule UIEC ____ (MEB-3), it is more often the case that the contributions to peaks from the class load data understate the overall jurisdictional contributions to peaks.

Q TO THE EXTENT THAT THERE ARE DIFFERENCES IN THE CONTRIBUTIONS TO JURISDICTIONAL PEAK LOADS AND THE LEVEL OF JURISDICTIONAL PEAK LOADS THEMSELVES BETWEEN THE CLASS STUDY AND THE JURISDICTIONAL STUDY, TO WHAT CUSTOMER CLASSES WOULD YOU ATTRIBUTE THE DIFFERENCE?

A The difference would primarily be attributed to those customer classes for which the Company must rely upon load research data.

Q WHICH ARE THOSE CLASSES?

A Those are Residential Schedule 1, Large General Service Schedule 6, and Small General Service Schedule 23. Recall that these are the classes where the load research samples are of the early 1990s vintage, and that class usage characteristics and system load shape have changed materially since these samples were selected and installed. The differences are less likely to be attributable to those customer classes where RMP has demand metering and can reasonably measure the hourly loads of classes. These are, of course, Schedules 8 and 9 and contract customers.

Q TO THE EXTENT THAT THE DEMANDS AT THE TIME OF THE SYSTEM PEAK OF SCHEDULES 1, 6 AND 23 ARE UNDERSTATED, WHAT IS THE IMPACT ON THE CLASS COST OF SERVICE STUDY?

A The impact would be to allocate too small of a percentage of costs to these classes, and too large of a percentage of the costs to the demand metered customer classes whose load is more accurately stated in the cost of service study.

Q HAVE YOU DEVELOPED A CLASS COST OF SERVICE STUDY USING CLASS CONTRIBUTIONS TO THE SYSTEM PEAK LOAD THAT EQUAL THE CONTRIBUTIONS OF THE UTAH JURISDICTION TO THE SYSTEM PEAK LOAD THAT WERE USED IN THE JURISDICTIONAL ALLOCATION FOR REVENUE REQUIREMENT PURPOSES IN THE FIRST PHASE OF THIS PROCEEDING?

A Yes.

Q HOW WAS THIS COST OF SERVICE STUDY DEVELOPED?

A The only change from the class cost of service study filed by RMP was to adjust the loads of Schedules 1, 6 and 23, by month, so that in each month the sum of the class contributions to the system peak in the class study equals the jurisdictional contribution to the system peak in the revenue requirement study used in Phase 1 of this proceeding.

Page 1 of Schedule UIEC ____ (MEB-5) shows the overall summary of the class cost of service results at present rates. This is the same in format as the summaries presented by RMP. Column M of this schedule shows the increases or decreases at the rate of return at present rates required to move each customer class to the jurisdictional average rate of return.

Page 2 of this schedule shows the cost of service results and the percentage changes from current revenue to move each class to the claimed 8.19% return on rate base.

Q WHAT IS THE IMPACT OF THIS ADJUSTMENT?

A I conclude that with the adjustments made to loads in order to conform the class loads to the jurisdictional loads used to allocate costs to Utah, the indicated increases for most of the major customer classes are closer together than was the case under RMP's cost of service study. The indicated departures from cost of service are smaller for Residential Schedule 1, Large General Service Schedule 6 and Schedule 9. They are about the same for the other classes.

Q ARE THERE OTHER MAJOR ISSUES IMPACTING THE VALIDITY OF THE COST OF SERVICE STUDY THAT SHOULD BE CONSIDERED?

A Yes. It has been many years since the Commission adopted the current 75% demand/25% energy weighting and the use of 12 monthly coincident peaks to allocate generation costs among customer classes. (While there have been some minor variations since that time, the basic approach still remains in effect.) In light of the significant increases (both historic and forecasted) in summer peak loads as compared to loads in other seasons, and the increases in wholesale electricity market prices during summer months, it is clearly time to revisit the appropriateness of the entire 75/25 – 12CP cost allocation.

Q WHAT IMPACT WOULD AN ALLOCATION OF GENERATION INVESTMENT BASED ON DEMANDS ONLY, WITHOUT AN ENERGY WEIGHTING, HAVE ON THE RESULTS OF THE CLASS COST OF SERVICE STUDY?

A This is shown on pages 1 and 2 of Schedule UIEC ____ (MEB-5.1). This study uses the class contributions to system peaks from UIEC ____ (MEB-5), and sets the demand percentage to 100%. As shown on page 1, the Schedule 9 rate of return is slightly above the system average rate of return, and as shown on page 2, the increase required to equal the proposed rate of return is less than the average increase.

Q DID YOU ADJUST ANY OF THE LOADS OTHER THAN THE CONTRIBUTIONS TO THE SYSTEM PEAK DEMANDS?

A No. I only adjusted the contributions to the system peak demands. To the extent that those demands were understated, it is to be expected that the class peak demands and the individual customer peak demands also are understated. I have not corrected these understatements in the cost study, and thus the results shown, even with the corrections for contributions to system peak, still overstate the rate of return on these customer classes, and understate the degree of adjustment required to move them to cost of service.

Q PUTTING ASIDE THE ISSUES OF CLASS AND CUSTOMER PEAKS, DO THE ADJUSTMENTS YOU HAVE MADE TO CLASS LOADS MAKE THE RESULTS A RELIABLE INDICATOR OF CLASS COST OF SERVICE?

A I believe that they are more accurate than RMP's class cost of service study, but still fall short of the quality and accuracy of results that would be appropriate to support reliance upon these results in the allocation of any change in revenue requirements to customer classes.

Q IN RESPONSE TO UIEC DATA REQUEST NO. 15.3, RMP POINTS TO THE DIFFERENCE BETWEEN AVERAGE LOSSES AND PEAK LOSSES AS ONE OF THE EXPLANATIONS FOR THE DIFFERENCE IN THE NUMBERS DERIVED BY THESE TWO APPROACHES. IN YOUR VIEW, DOES THAT FULLY EXPLAIN THE DIFFERENCES?

A No. The differences in average losses and losses at peak would certainly not be sufficient to account for the very substantial differences in the results of the "top-down" and "bottom-up" approaches. While this may explain part of the difference, it is much more likely that the majority of the difference is attributable to the age and resulting inaccuracy of the load research data used for rate Schedules 1, 6 and 23. It is for this reason that I believe the results produced by my alternative class cost of service study are far more accurate and representative than the results under RMP's class cost of service study.

Q ARE THERE ANY ISSUES WITH RESPECT TO THE COMPOSITION OF CUSTOMER CLASSES, PARTICULARLY SCHEDULE 9, THAT CAUSE CONCERNS ABOUT THE ACCURACY OF THE RESULTS?

A Yes. Schedule 9 customers are mostly Industrial customers, but the class as constituted by RMP does contain some Commercial and Public Authority customers. RMP has not provided sufficient information to allow a determination to be made of whether the load characteristics of these three groups of customers are similar enough to be included in the same rate schedule. To the extent that there are material differences in load characteristics, inclusion of all three groups of customers in the same rate schedule and cost of service class could introduce distortions into the resulting measurement of class rate of return.

In addition, this class in the cost of service study consists of Schedule 9 customers and Schedule 9A customers. The cost of service measurement does not provide an articulation that will allow separation of the costs between these two schedules, and thus does not provide information sufficient for accurate rate design.

As noted previously in this testimony, a similar limitation exists with respect to the Residential class.

Q IN LIGHT OF THESE RESULTS AND THE AGE OF THE LOAD RESEARCH SAMPLE DATA, DO YOU HAVE A RECOMMENDATION AS TO HOW ANY CHANGE IN REVENUES THAT MAY RESULT FROM THIS CASE SHOULD BE SPREAD TO THE VARIOUS CUSTOMER CLASSES?

A Yes. It is my recommendation that any change in revenues approved for RMP in this proceeding be allocated to the various rate schedules and customer classes as an equal percent applied to current revenues. This will maintain the existing inter-class rate relationships until such time as more accurate class cost of service load data and cost of service studies are available.

Q HASN'T RMP RECENTLY DEVELOPED NEW LOAD SAMPLES FOR CUSTOMERS ON SCHEDULES 1, 6 AND 23?

A Yes. RMP recently developed those samples. Explanatory material concerning them was provided in response to UIEC data request No. 20.5. RMP reported that it would not actually place the new samples into service until later this year, with the representation being made that the recorders would be placed in service not later than October 1, 2008 for Schedules 1 and 23, and December 31, 2008 for Schedule 6.

Q HOW SOON COULD THE RESULTS OF THIS LOAD RESEARCH BE USED IN PREPARING COST OF SERVICE STUDIES?

A Assuming the indicated deadlines are met, it would be necessary to have recorders in place for a period of at least 12 months in order to obtain one year's worth of sample data. Under the best of circumstances, this means that 12 months of load data would not be available until January of 2010. Allowing time for processing of the data and related activities means that it probably would be after the middle of 2010 when new cost of service studies could be presented.

Q SHOULD THE COMMISSION ACCEPT THE SAMPLES CONSTRUCTED BY RMP FOR THIS PURPOSE WITHOUT ADDITIONAL REVIEW?

A No. To my knowledge the sample data and load research support was conducted strictly by RMP without involvement by other parties. It would be highly desirable for RMP to share the load and other information, statistical analyses, and other supporting data for the sample design with DPU, the Committee of Consumer Services and interested intervenors. It would therefore be preferable to allow some time at the beginning of the process for parties to meet, review, discuss and make recommendations about RMP's sample design. This approach would help to secure agreement that the data collected from the samples was representative and suitable for use in a cost of service study and in rate design.

Q ARE THERE OTHER KEY ISSUES THAT SHOULD BE ADDRESSED PRIOR TO DEVELOPING A COST OF SERVICE STUDY THAT CAN BE USED FOR COST ALLOCATION AND RATE DESIGN?

A Yes. As noted previously, it has been many years since the 12 coincident peak 75/25% allocation method was adopted. The growing dominance of summer peak loads on the RMP system, changes in rate design, changes in class usage patterns, and the escalating summer prices in the wholesale market makes it important that time be taken to revisit the reasonableness of the current allocation methods and give appropriate consideration to the weight to be given system peak loads in relation to loads at other times.

PROPOSED LOAD GROWTH SURCHARGE RATE

Q HAS RMP PROPOSED ANY ADDITIONAL, DIFFERENT, PRICING PROVISIONS BEYOND THE TRADITIONAL EMBEDDED COST OF SERVICE PRICING METHODOLOGY USED IN UTAH?

A Yes. In a radical departure from the traditional embedded class cost of service approach used to set rates in Utah, RMP has now decided that it should charge more than embedded cost to certain loads, namely new loads exceeding 10,000 kW, and growth in loads exceeding 10,000 kW by existing customers.

Q DO YOU AGREE THAT RMP'S PROPOSALS ARE REASONABLE?

A No, I do not. RMP's anti-growth proposals suffer not only from lack of support at the theoretical level, but also are misplaced and target the wrong groups of customers if in fact the cost of load growth is RMP's real concern.

Q HOW IS UIEC ADDRESSING RMP'S PROPOSALS IN ITS TESTIMONY?

A My colleague Alan Chalfant will provide a discussion of the alleged theoretical underpinnings for the proposal and respond to the testimony of RMP witness Dr. Karl McDermott. In my testimony I will analyze the sources of growth on the system, discuss the basis for regulation and rate-setting in Utah, and elaborate in more detail on why this load growth surcharge rate is ill-advised and should be rejected out of hand.

Q WHAT BASIS DOES RMP PROVIDE FOR THIS PROPOSAL?

A From the testimony of RMP witness William Griffith, at pages 14 through 16, it appears that RMP is focusing strictly on some anticipated load growth numbers from selected customers, and also on the fact that the cost of constructing generation facilities today is higher than the embedded cost of generation facilities in RMP's tariffs. The attempted theoretical justification is that customers who add load are not paying a rate close to the ". . . full marginal cost of service . . ." (Testimony of William R. Griffith at page 15, line 337).

Q IS IT SURPRISING THAT LOAD GROWTH OCCURRING WHEN THE COST OF NEW FACILITIES EXCEEDS THE COST OF EXISTING FACILITIES WOULD CAUSE UPWARD PRESSURE ON RATES?

A No, not at all. We have been experiencing this phenomenon for some time, and with recent escalations in the cost of construction, the degree of impact is simply somewhat larger.

Q HAVE THE COSTS OF COPPER AND ALUMINUM WIRE AND TRANSFORMERS USED IN THE DISTRIBUTION NETWORK ALSO INCREASED?

A Yes.

Q DOES RMP MENTION THESE COST ESCALATIONS, THAT PRIMARILY WOULD AFFECT RESIDENTIAL AND SMALLER CUSTOMERS, AS PART OF THE REASON FOR THE UPWARD PRESSURE ON RATES?

A No. While increases in these costs have been quite dramatic, RMP has chosen to ignore them and to focus strictly on the generation component of rates and on particular customers who may be anticipating adding what RMP regards as large increments of load.

Mr. Griffith concludes this section of his testimony by arguing that embedded cost pricing does not send the right price signals.

Q DO YOU AGREE WITH MR. GRIFFITH'S CONCLUSION ABOUT IMPROVING PRICE SIGNALS?

A No. In fact, if adopted, his proposal would simply make price signals worse for a much broader spectrum of customers.

Q PLEASE ELABORATE.

A As I will show later, the Industrial class is not where the majority of the load growth is occurring. Thus, if RMP is sincere about sending better price signals, pricing the load that is growing less than the average at elevated prices will simply require that the offsetting revenues be credited against other customer classes. The result will obviously be that those customers who are truly growing faster than the average will see price signals even less accurate than they would have seen if all customers were priced at embedded cost. This must be true, unless RMP is planning to pocket the surcharge revenues for the benefit of its stockholders and not return them to other customers in the form of a reduction to revenue requirements. If that is the plan, then RMP's proposal is even more disingenuous than it sounds.

Q HOW HAVE SITUATIONS SUCH AS THIS BEEN HANDLED IN THE PAST?

A In the past, pricing in growth situations has been consistent with pricing in other situations. All customers pay the combined actual embedded cost of the new plants and the old plants.

Q IS THIS PRICING APPROACH EQUITABLE?

A Yes. As long as this practice is adhered to consistently over time, all customers receive price signals as to the cost of growing and the cost of conserving. It must be remembered that today's new, "high cost" plants will be tomorrow's old, "low cost" plants and that today's old "low cost" plants were once new "high cost" plants. It is impossible to pick a point in time and isolate a group of plants and associate them with loads of particular customers.

Q WHY IS IT IMPORTANT THAT RATES BE BASED ON ACTUAL EMBEDDED COSTS?

A The use of embedded costs as a basis for setting rates is critical for several reasons. First, the utility's revenue requirement is based on embedded cost. Therefore, the rates charged to customers must ultimately be designed to collect this total of embedded costs. Embedded cost of service studies are the tool that is commonly used to allocate the total cost or revenue requirement to the customer classes that cause these costs to be incurred.

These allocated embedded costs are the only objective definition of basic fairness that applies to setting rates. The basic premise is that each customer should pay costs associated with its consumption but not that of others. Because having individual rates for each customer is not practical, it is necessary to group customers into classes. Therefore, the first step in ensuring that each customer pays only costs associated with its own purchases is to make sure that the revenue requirement of the class follows this same principle.

If rates depart from embedded cost, efficiency suffers. Cost based rates provide critical signals to customers of the cost consequences of purchases. If these signals are distorted because the rates are designed on class revenues that are not closely related to class costs, the customers will make inefficient choices concerning their use of resources (not just electricity, but competing energy sources). The resulting wasteful use of resources is a bad result for the both the customer and the utility.

Embedded cost rate design also fosters the conservation of resources. Only when rates are based on actual costs do customers receive an appropriate price signal against which to make their consumption and conservation decisions. If rates are not based on costs, then customers may be induced to use electricity inefficiently in response to the distorted signals.

Q EARLIER, YOU INDICATED THAT MOST OF THE GROWTH WAS NOT OCCURRING IN THE INDUSTRIAL CLASS. PLEASE DISCUSS THE EVIDENCE WHICH SUPPORTS THIS CONTENTION.

A RMP has provided both its historic and its forecasted kilowatthour sales by customer class in Utah. This was provided in response to UIEC data request No. 16.5. Schedule UIEC ____ (MEB-6) sets forth this information in a graphical format, using a bar chart. For each of the three principal classes, namely Residential, Commercial and Industrial, there are three bar charts representing the megawatthour sales to these customer classes. The first bar shown is calendar year 1990, which is the first year of information provided by RMP in response to this data request. The second bar is for the most recently completed historic year, 2007, and the third bar is for the end of the forecast period, 2027, contained in RMP's response to UIEC data request No. 16.5.

Q PLEASE EXPLAIN THIS SCHEDULE.

A The schedule shows for each of the indicated years the total megawatthour sales to each of the three customer classes. For each class, the number 100% appears at the top of the 1990 bar. This is for purposes of developing a comparative reference for the subsequent years. In the 2007 bar, the total heighth of the bar indicates the total megawatthour sales in 2007, the number at the top of the bar indicates the 2007 sales level as a percent of the sales level in 1990, and the numerical figure in the top portion of the bar for 2007 represents the megawatthour load growth from 1990 to 2007. The 2027 bar is constructed in a parallel manner.

Q IS THIS SAME ANALYSIS REPEATED FOR THE COMMERCIAL CLASS AND THE INDUSTRIAL CLASS?

A Yes.

Q WHAT IS THE OVERALL CONCLUSION FROM THIS ANALYSIS OF BOTH HISTORIC AND LONG-TERM PROJECTED GROWTH IN MEGAWATTHOUR SALES?

A The conclusion is unmistakable: Both on an observed historic basis and a forecasted basis, the Industrial customer class has exhibited the SMALLEST growth both in terms of the actual number of megawatthours purchased and also in terms of a percentage change in the number of megawatthours purchased.

This clearly demonstrates that RMP's anti-growth proposal which targets selected Industrial customers to pay higher than embedded cost rates in order to provide better "price signals" is totally misplaced.

Q SCHEDULE UIEC ____ (MEB-6) PRESENTS THE INFORMATION FOR GROWTH IN TERMS OF MEGAWATTHOUR SALES. DO YOU HAVE SIMILAR INFORMATION WITH RESPECT TO MEGAWATTS OF DEMAND GROWTH?

A RMP was requested to provide this information in UIEC data request No. 16.5, but replied that it did not have the information in the requested form, and rather than provide something comparable, chose not to provide any information at all.

However, since the load factor of the Industrial class is higher than the load factor of either the Commercial class or the Residential class, and since the Industrial megawatthour growth is smaller than that of either of the other two classes, the difference in the growth in megawatt demands would be even greater than the difference in the growth in megawatthour sales. That is to say, even if the Industrial class added the same kilowatthours as the Commercial class or the Residential class, the impact on the need for new capacity would be less because Industrial customers consume more megawatthours per megawatt of demand than do Residential and Commercial customers.

Q CAN YOU ILLUSTRATE THE DEMAND GROWTH IMPACT USING ANOTHER DATA SET?

A Yes. Using the period 2000 through 2007 for an historic period, and the period 2007 through 2017 as a forecast period I have estimated the growth in contributions to annual system peak demand associated with the historic and projected load growth.

Q WHY DID YOU SELECT THESE TIME PERIODS?

A I needed to have a representation of the relationship between megawatthour sales and demand at time of system peak based on the current load pattern of RMP, which is a summer peaking characteristic. RMP first became summer peaking in about 1999, so using the period 2000 through 2007 would provide a reasonable indicator of the growth in contribution to system peak load based on the current load shapes. I chose to go 10 years into the future, rather than the full 20 years, in order to give more weight to the near term. However, going further into the future would only make the difference in growth more dramatic.

Q WHERE HAVE YOU ILLUSTRATED THE RESULTS OF THIS ANALYSIS?

A Schedule UIEC ____ (MEB-7) shows this information. Page 2 is the data used in the graphical presentation, and the graphical presentation appears on page 1 of Schedule UIEC ____ (MEB-7).

There are three sets of bars on this graph: 2000 through 2007, 2007 through 2017 and the cumulative period 2000 through 2017. It shows the estimated growth in contribution to system peak demand for each customer class for each of these three time periods. It is obvious that the Industrial class growth is substantially less than the growth for Residential and Commercial customers, both on an historic and a forecasted basis.

Q WHAT IS YOUR OVERALL CONCLUSION FROM THE LOAD GROWTH ANALYSIS?

A It is obvious that if RMP is sincere about improving price signals by targeting higher prices to those who are exhibiting growth, the Industrial class is the LAST place it should be applying these anti-growth surcharges.

Q GIVEN THAT MOST OF THE GROWTH IS FROM RESIDENTIAL AND COMMERCIAL CUSTOMERS, HOW HAS THE GROWTH AND THE RESULTING INCREASE IN GENERATION SYSTEM COSTS (GENERATING UNITS AND PURCHASED POWER) AFFECTED THE RESULTS OF THE CLASS OF SERVICE STUDY?

A Ironically, growth in average cost of the generation system depresses the Industrial class rate of return more than the Residential or Commercial class rates of return.

The reason for this phenomenon is that generation costs are a much larger percentage of the total costs of serving Industrial customers than is true for Residential or Commercial customers. This is clearly evident from RMP's "unit cost" analysis. In Exhibit CCP-35, Tab 4, page 6, shows the functional composition of total cost of service. For the Residential class the generation system costs are 51% of total costs, but for Schedule 9 customers generation costs are 88% of total costs. Thus, despite the fact that most of the growth has occurred in Residential and Commercial classes, the greatest impact on relative rate of return is felt in the Industrial class. It would indeed be even more ironic if RMP's prescribed remedy targeted the Industrial class, that is not growing the fastest in the first place, and further added to the impact on that class through its anti-growth surcharges.

Q IF SCHEDULE 500 WERE IMPLEMENTED, WOULD IT LIKELY HAVE AN IMPACT ON THE UTAH ECONOMY?

A Yes. Any user that had a choice of different possible states in which to expand or locate new production would be discouraged if RMP's ill-advised proposal were adopted in the state of Utah. The concern would rest not only with the rate form and the concept in its current form, but there also would be concern as to what additional burdensome requirements might be placed on such customers in the future.

Q HAS UTAH BEEN ENCOURAGING ECONOMIC DEVELOPMENT?

A Utah has recognized that economic development brings jobs and many benefits to the state. In fact, local government entities, I understand, will provide tax concessions for new facilities. To the extent that these concessions are required to attract the new investment and jobs, any additional burdens that RMP would place on new customers through its anti-growth vintage pricing scheme would be an added cost of doing business in Utah that the local governments would have to consider offsetting in other ways.

This raises the important public policy question of whether economic development policies for Utah should be decided by elected officials, or by the owners of MidAmerican Energy.

Q HAS RMP GIVEN CONSIDERATION TO THE POTENTIAL ECONOMIC IMPACT OF SUCH A PROPOSAL ON THE STATE OF UTAH?

A While it indicates that it has presented its proposal to a number of state and local officials, it clearly stated in response to UIEC data request No. 16.6, that it had not given consideration to the impact. In UIEC data request No. 16.6, RMP was asked:

> "Please provide a copy of all analyses or studies conducted by or available to RMP with respect to the possible effects of Schedule 500 on economic development and job growth in Utah."

In response to this inquiry, RMP stated:

> "The Company has not projected or studied the possible effects of Schedule 500 on economic development in Utah."

Therefore, it is reasonable to conclude that RMP has made this proposal without giving any consideration to the impact it may have on the Utah economy. This is another important reason why the anti-growth proposal is ill-advised and should be rejected.

Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A Yes.

CERTIFICATE OF SERVICE
(Docket No. 07-035-93)

I hereby certify that on this 21st day of July 2008, I caused to be e-mailed, a true and correct copy of the foregoing DIRECT TESTIMONY AND SCHEDULES OF MAURICE BRUBAKER to:

Michael Ginsberg
Patricia Schmidt
ASSISTANT ATTORNEYS GENERAL
500 Heber Wells Building
160 East 300 South
Salt Lake City, UT 84111
mginsberg@utah.gov
pschmid@utah.gov

Dean Brockbank
Daniel Solander
Jeff Larsen
Mark Moench
Senior Counsel
ROCKY MOUNTAIN POWER
201 South Main Street, Suite 2300
Salt Lake City, UT 84111
dean.brockbank@pacificorp.com
Daniel.solander@pacificorp.com
jeff.larsen@pacificorp.com
Mark.moench@pacificorp.com
datarequest@pacificorp.com

Paul Proctor
ASSISTANT ATTORNEYS GENERAL
500 Heber Wells Building
160 East 300 South
Salt Lake City, UT 84111
pproctor@utah.gov

Michele Beck
Executive Director
COMMITTEE OF CONSUMER SERVICES
500 Heber Wells Building
160 East 300 South, 2nd Floor
Salt Lake City, UT 84111
mbeck@utah.gov

Rick Anderson
Neal Townsend
ENERGY STRATEGIES
215 South State Street, Suite 200
Salt Lake City, UT 84111
randerson@energystrat.com
ntownsend@energystrat.com

Gary Dodge
HATCH JAMES & DODGE
10 West Broadway, Suite 400
Salt Lake City, UT 84101
gdodge@hjdlaw.com

David L. Taylor
Manager – Utah Regulatory Affairs
ROCKY MOUNTAIN POWER
201 South Main St., Suite 2300
Salt Lake City, UT 84111
Dave.Taylor@PacifiCorp.com

William Powell
Phil Powlick
Dennis Miller
DIVISION OF PUBLIC UTILITIES
500 Heber Wells Building
160 East 300 South, 4th Floor
Salt Lake City, UT 84111
wpowell@utah.gov
dennismiller@utah.gov
Philippowlick@utah.gov

Arthur F. Sandack
8 East Broadway, Ste 510
Salt Lake City, Utah 84111
Telephone: (801) 532-7858
asandack@msn.com

Roger J. Ball
1375 Vintry Lane
Salt Lake City, Utah 84121
Telephone: (801) 277-1375
Ball.roger@gmail.com

Roger Swenson
US MAGNESIUM LLC
238 North 2200 West
Salt Lake City, Utah 84116
Roger.swenson@prodigy.net

Gerald H. Kinghorn
Jeremy R. Cook
PARSONS KINGHORN HARRIS, P.C.
111 East Broadway, 11th Floor
Salt Lake City, UT 84111
ghk@pkhlawyers.com
jrc@pkhlawyers.com

Peter J. Mattheis
Eric J. Lacey
BRICKFIELD, BURCHETTE, RITTS & STONE, P.C.
1025 Thomas Jefferson Street, N.W.
800 West Tower
Washington, D.C. 20007
Pjm@bbrslaw.com
elacey@bbrslaw.com

Michael L. Kurtz
Kurt J. Boehm
BOEHM, KURTZ & LOWRY
36 East Seventh Street, Suite 1510
Cincinnati, Ohio 45202
mkurtz@bkllawfirm.com
kboehm@bkllawfirm.com

Ronald J. Day, CPA
CENTRAL VALLEY WATER RECLAMATION FACILITY
800 West Central Valley Road
Salt Lake City, UT 84119
dayr@cvwrf.org

Sarah Wright
UTAH CLEAN ENERGY
917 – 2nd Ave.
Salt Lake City, UT 84103
sarah@utahcleanenergy.org

Cheryl Murray
Dan Gimble
UTAH COMMITTEE OF CONSUMER SERVICES
160 East 300 South, 2nd Floor
Salt Lake City, UT 84111
cmurray@utah.gov
dgimble@utah.gov

Mike Mendelsohn
WESTERN RESOURCES ADVOCATES
2260 Baseline Rd., Suite 200
Boulder, CO 80302
mmendelsohn@westernresources.org

Steve Michel
WESTERN RESOURCES ADVOCATES
2025 Senda de Andres
Santa Fe, NM 87501
smichel@westernresources.org

Utah Ratepayers Alliance
c/o Betsy Wolf
SALT LAKE COMMUNITY ACTION PROGRAM
764 South 200 West
Salt Lake City, UT 84101
bwolf@slcap.org

Laura Polacheck
Dale F. Gardiner
Janee Briesemeister
AARP UTAH
6975 So. Union Park Center, #320
Midvale, UT 84047
lpolacheck@aarp.org
dgardiner@vancott.com
jbriesemeister@aarp.org

Stephen F. Mecham
CALLISTER NEBEKER & MCCULLOUGH
10 East South Temple, Suite 900
Salt Lake City, UT 84133
sfmecham@cnmlaw.com

Craig Cox
Executive Director
INTERWEST ENERGY ALLIANCE
P. O. Box 272
Confier, Colorado 80433
cox@interwest.org

Stephen R. Randle
UTAH FARM BUREAU FEDERATION
664 No. Liston Circle
Kaysville, Utah 84037
sr @yahoo.com

Holly Rachel Smith, Esq.
Russell W. Ray, PLLC
6212-A Old Franconia Road
Alexandria, VA 22310
holly@raysmithlaw.com

Mr. Ryan L. Kelly
Kelly & Bramwell, PC
Attorneys at Law
11576 South State Street, Bldg. 203
Draper, UT 84020
ryan@kellybramwell.com

Steve W. Chriss
Wal-Mart Stores, Inc.
2001 SE 10th Street
Bentonville, AR 72716-0550
Stephen.chriss@wal-mart.com

Penny Anderson
Energy Program Assistant
Western Resource Advocates
2260 Baseline Rd., Suite 200
Boulder, CO 80302-7740
penny@westernresources.org

Katherine A. McDowell
Lisa F. Rackner
McDowell & Rackner P.C.
520 SW 6th Avenue, Suite 830
Portland, OR 97204
katherine@mcd-law.com
lisa@mcd-law.com

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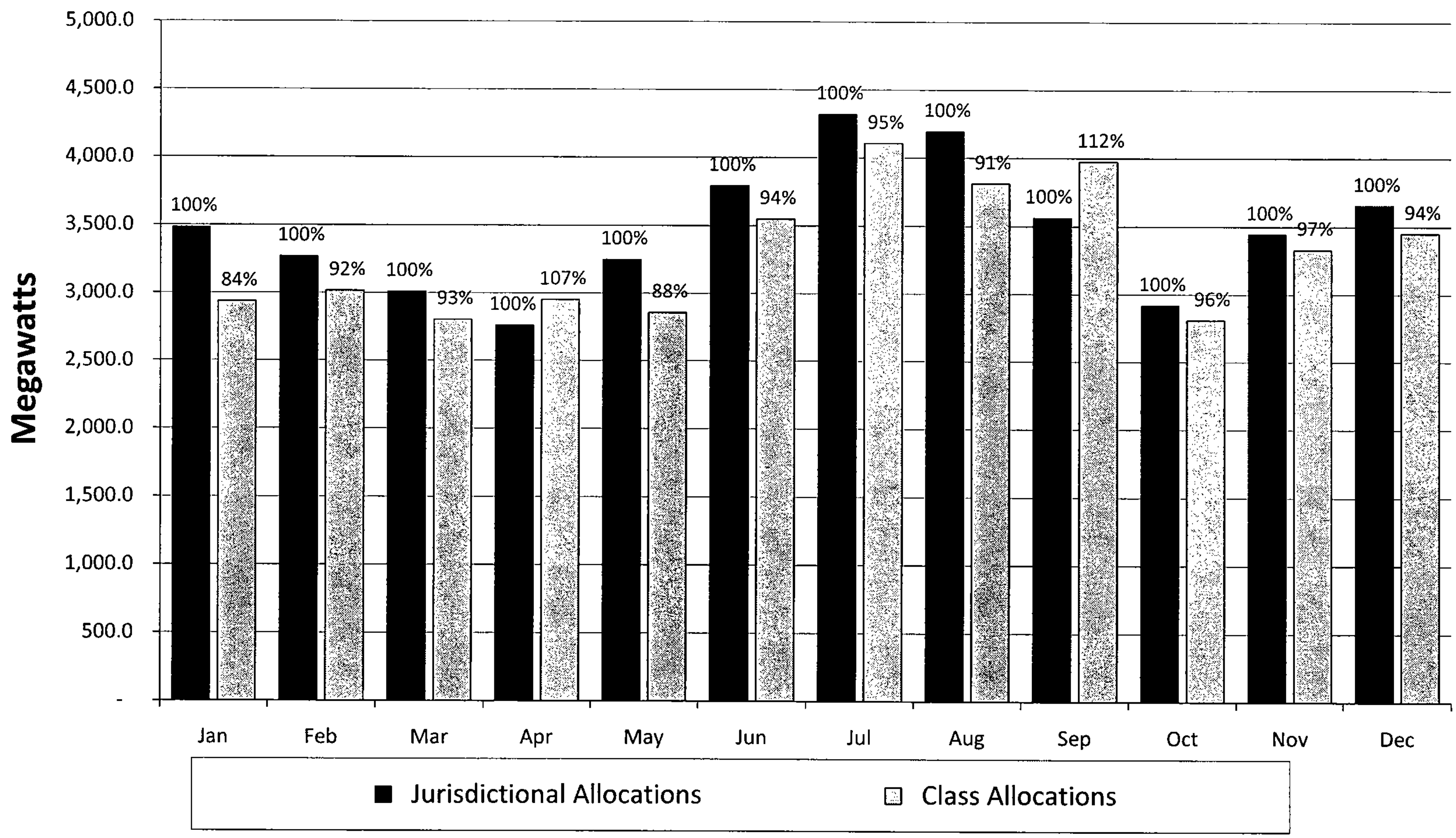
ROCKY MOUNTAIN POWER

System Peak Coincident Demands for 2008
as Estimated by Rocky Mountain Power



Source: Rocky Mountain Power Jurisdictional and Class Cost of Service Studies

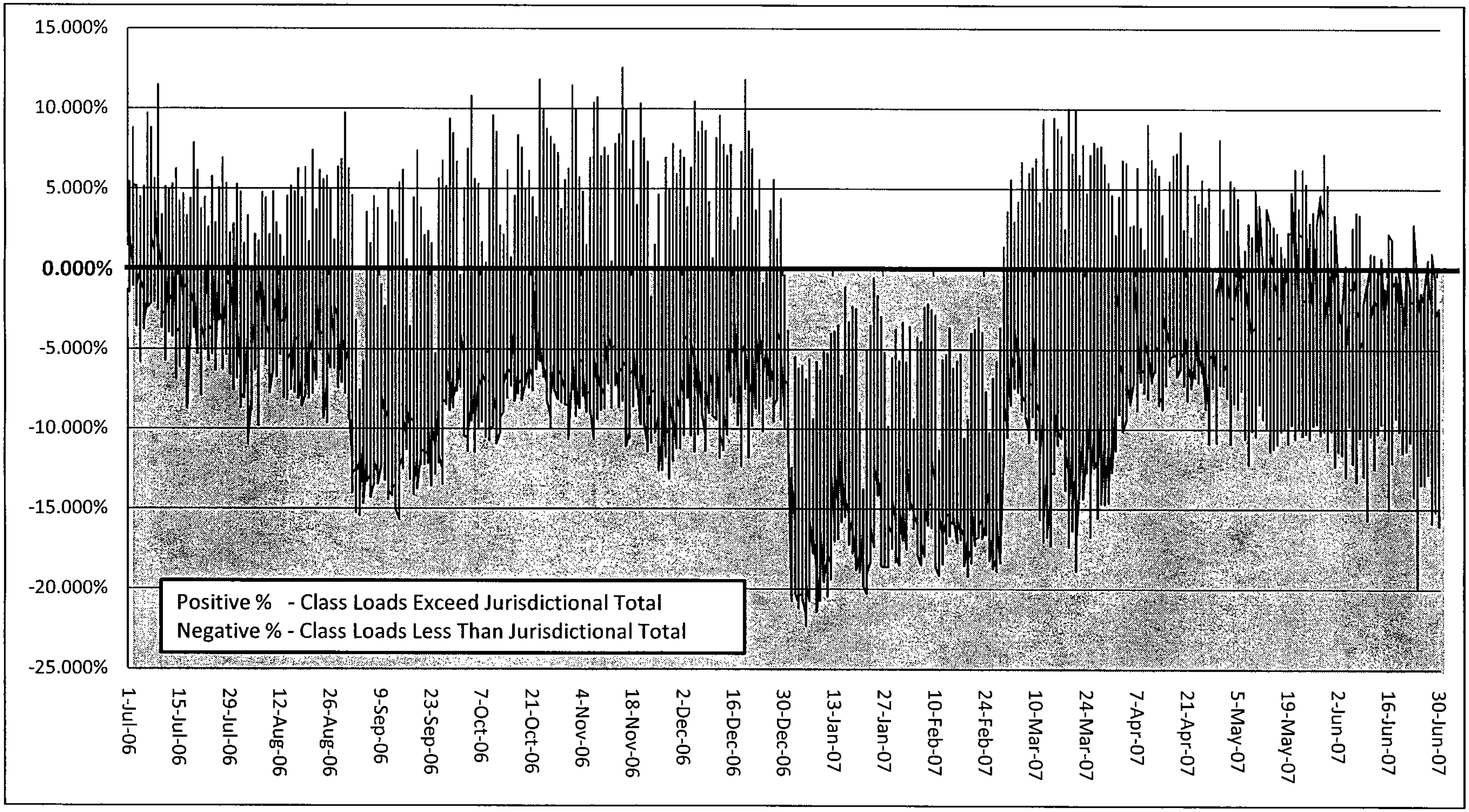
ROCKY MOUNTAIN POWER

System Peak Coincident Demands for 2008
as Estimated by RMP

Line	Total Jurisdictional	Total State of Utah	Utah as a % of Jurisdictional	Jurisdictional
	(1)	(2)	(3)	(4)
1	3,482.1	2,936.2	84%	100%
2	3,269.7	3,017.1	92%	100%
3	3,011.0	2,805.8	93%	100%
4	2,762.6	2,953.2	107%	100%
5	3,249.8	2,858.3	88%	100%
6	3,791.5	3,547.3	94%	100%
7	4,319.8	4,106.4	95%	100%
8	4,194.8	3,811.6	91%	100%
9	3,562.7	3,975.6	112%	100%
10	2,921.1	2,812.1	96%	100%
11	3,444.1	3,330.7	97%	100%
12	3,653.7	3,449.6	94%	100%
13	41,662.9	39,603.8	95%	100%

Sources:
Rocky Mountain Power - Utah Class Cost of Service Study 2008;
Exhibit RMP____(CCP-3S), TAB 5 - Page 5
Utah General Rate Case December 2008, CP ALLOCATION FACTOR; Page 10.2.2

COMPARISON BETWEEN TOTAL CLASSES AND TOTAL UTAH JURISDICTIONAL HOURLY LOADS



Rocky Mountain Power Cost of Service Study with Class Contributions to System Peaks Equal to Jurisdictional Contributions to System Peaks
State of Utah
12 Months Ended Dec 2008

	A	B	C	D	E	F	G	H	I	J	K	L	M	
Line No.	Schedule No.	Description	Annual Revenue	Return on Rate Base	Rate of Return Index	Total Cost of Service	Generation Cost of Service	Transmission Cost of Service	Distribution Cost of Service	Retail Cost of Service	Misc Cost of Service	Increase (Decrease) to = ROR	Percentage Change from Current Revenues	
1	1	Residential	539,693,437	6.82%	1.02	537,824,454	283,830,979	28,227,985	199,562,480	23,819,561	2,383,449	(1,868,983)	-0.35%	1
2	6	General Service - Large	381,039,399	8.05%	1.20	365,880,445	251,269,382	25,198,494	83,254,038	4,424,455	1,734,076	(15,158,954)	-3.98%	2
3	8	General Service - Over 1 MW	114,860,522	7.32%	1.09	112,840,422	80,482,497	7,449,913	23,364,961	1,026,587	516,465	(2,020,100)	-1.76%	3
4	7,11,12,13	Street & Area Lighting	13,066,659	7.57%	1.13	12,806,846	2,800,145	186,128	9,675,811	105,111	39,650	(259,813)	-1.99%	4
5	9	General Service - High Voltage	170,428,984	5.81%	0.87	174,625,165	157,073,382	15,117,491	778,315	848,135	807,842	4,196,181	2.46%	5
6	10	Irrigation	9,994,195	1.16%	0.17	12,007,510	7,288,536	693,154	3,872,733	100,737	52,351	2,013,315	20.14%	6
7	12	Traffic Signals	399,557	4.27%	0.64	428,182	180,508	15,802	157,568	72,746	1,558	28,625	7.16%	7
8	12	Outdoor Lighting	731,194	41.96%	6.25	404,916	324,423	19,099	47,567	12,290	1,538	(326,278)	-44.62%	8
9	23	General Service - Small	97,623,876	5.44%	0.81	101,685,491	58,271,334	6,134,534	32,360,512	4,453,712	465,399	4,061,615	4.16%	9
10	25	Mobile Home Parks	755,668	8.21%	1.22	721,084	464,593	43,963	211,163	(2,026)	3,390	(34,584)	-4.58%	10
11	SpC	Customer A	8,564,009	2.57%	0.38	9,595,726	8,712,829	749,616	70,402	19,357	43,522	1,031,717	12.05%	11
12	SpC	Customer B	23,253,000	-4.29%	(0.64)	29,828,576	26,503,106	1,646,697	122,788	1,444,880	111,105	6,575,576	28.28%	12
13	SpC	Customer C	22,731,197	4.04%	0.60	24,492,879	22,156,640	2,071,966	104,417	45,639	114,218	1,761,682	7.75%	13
14		Total Utah Jurisdiction	1,383,141,697	6.71%	1.00	1,383,141,697	899,358,354	87,554,842	353,582,755	36,371,184	6,274,562	(0)	0.00%	14

Footnotes :

Column C : Annual revenues based on January 2008 thru December 2008 forecasted data.
Column D : Calculated Return on Ratebase per January 2008 thru December 2008 Embedded Cost of Service Study
Column E : Rate of Return Index. Rate of return by rate schedule, divided by Utah Jurisdiction's normalized rate of return.
Column F : Calculated Full Cost of Service at Jurisdictional Rate of Return per the January 2008 thru December 2008 Embedded COS Study
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Column L : Increase or Decrease Required to Move From Annual Revenue to Full Cost of Service Dollars.
Column M : Increase or Decrease Required to Move From Annual Revenue to Full Cost of Service Percent.

Rocky Mountain Power Cost of Service Study with Class Contributions to System Peaks Equal to Jurisdictional Contributions to System Peaks
State of Utah
12 Months Ended Dec 2008

	A	B	C	D	E	F	G	H	I	J	K	L	M	
Line No.	Schedule No.	Description	Annual Revenue	Return on Rate Base	Rate of Return Index	Total Cost of Service	Generation Cost of Service	Transmission Cost of Service	Distribution Cost of Service	Retail Cost of Service	Misc Cost of Service	Increase (Decrease) to = ROR	Percentage Change from Current Revenues	
1	1	Residential	539,693,437	6.82%	1.02	578,523,239	299,007,273	34,109,454	218,810,116	24,124,661	2,471,735	38,829,802	7.19%	1
2	6	General Service - Large	381,039,399	8.05%	1.20	393,012,922	265,088,643	30,535,217	91,211,764	4,372,499	1,804,799	11,973,523	3.14%	2
3	8	General Service - Over 1 MW	114,860,522	7.32%	1.09	120,799,856	84,633,565	9,035,063	25,582,151	1,011,084	537,992	5,939,334	5.17%	3
4	7,11,12,13	Street & Area Lighting	13,066,659	7.57%	1.13	13,529,972	2,905,506	224,078	10,249,353	110,216	40,818	463,313	3.55%	4
5	9	General Service - High Voltage	170,428,984	5.81%	0.87	185,726,127	164,936,483	18,317,201	788,675	838,388	845,380	15,297,143	8.98%	5
6	10	Irrigation	9,994,195	1.16%	0.17	12,873,341	7,639,409	827,052	4,252,195	100,307	54,378	2,879,146	28.81%	6
7	12	Traffic Signals	399,557	4.27%	0.64	456,142	189,214	19,131	172,201	73,983	1,614	56,585	14.16%	7
8	12	Outdoor Lighting	731,194	41.96%	6.25	427,016	336,897	23,583	52,450	12,478	1,608	(304,178)	-41.60%	8
9	23	General Service - Small	97,623,876	5.44%	0.81	109,337,892	61,541,509	7,403,954	35,467,000	4,442,237	483,191	11,714,016	12.00%	9
10	25	Mobile Home Parks	755,668	8.21%	1.22	776,253	488,966	53,348	232,437	(2,022)	3,524	20,585	2.72%	10
11	SpC	Customer A	8,564,009	2.57%	0.38	10,190,799	9,139,822	912,888	73,370	19,153	45,566	1,626,790	19.00%	11
12	SpC	Customer B	23,253,000	-4.29%	(0.64)	31,255,827	27,561,402	2,029,662	124,557	1,423,568	116,637	8,002,827	34.42%	12
13	SpC	Customer C	22,731,197	4.04%	0.60	26,066,717	23,278,554	2,517,267	106,279	45,085	119,533	3,335,520	14.67%	13
14		Total Utah Jurisdiction	1,383,141,697	6.71%	1.00	1,482,976,104	946,747,244	106,007,899	387,122,548	36,571,638	6,526,776	99,834,407	7.22%	14

Footnotes :

Column C : Annual revenues based on January 2008 thru December 2008 forecasted data.
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Rocky Mountain Power Cost of Service Study with Class Contributions to System Peaks Equal to Jurisdictional Contributions to System Peaks
F10 and F11 With 100% Demand
State of Utah
12 Months Ended Dec 2008

	A	B	C	D	E	F	G	H	I	J	K	L	M	
Line No.	Schedule No.	Description	Annual Revenue	Return on Rate Base	Rate of Return Index	Total Cost of Service	Generation Cost of Service	Transmission Cost of Service	Distribution Cost of Service	Retail Cost of Service	Misc Cost of Service	Increase (Decrease) to = ROR	Percentage Change from Current Revenues	
1	1	Residential	539,693,437	6.62%	0.99	541,241,152	286,585,734	28,836,360	199,566,324	23,827,769	2,424,964	1,547,715	0.29%	1
2	6	General Service - Large	381,039,399	7.62%	1.14	370,468,287	254,968,386	26,015,402	83,259,201	4,435,477	1,789,821	(10,571,112)	-2.77%	2
3	8	General Service - Over 1 MW	114,860,522	7.62%	1.14	111,867,198	79,697,823	7,276,621	23,363,865	1,024,249	504,639	(2,993,324)	-2.61%	3
4	7,11,12,13	Street & Area Lighting	13,066,659	8.90%	1.33	12,442,334	2,506,253	121,224	9,675,401	104,235	35,221	(624,325)	-4.78%	4
5	9	General Service - High Voltage	170,428,984	6.72%	1.00	170,369,299	153,642,038	14,359,694	773,526	837,912	756,130	(59,685)	-0.04%	5
6	10	Irrigation	9,994,195	1.59%	0.24	11,799,579	7,120,889	656,130	3,872,499	100,237	49,824	1,805,384	18.06%	6
7	12	Traffic Signals	399,557	4.77%	0.71	421,659	175,248	14,640	157,561	72,731	1,479	22,102	5.53%	7
8	12	Outdoor Lighting	731,194	57.84%	8.62	362,126	289,923	11,479	47,519	12,187	1,018	(369,068)	-50.47%	8
9	23	General Service - Small	97,623,876	4.90%	0.73	103,578,110	59,797,282	6,471,533	32,362,642	4,458,258	488,395	5,954,234	6.10%	9
10	25	Mobile Home Parks	755,668	8.25%	1.23	720,242	463,914	43,813	211,162	(2,028)	3,380	(35,426)	-4.69%	10
11	SpC	Customer A	8,564,009	3.63%	0.54	9,286,945	8,463,871	694,634	70,055	18,615	39,770	722,936	8.44%	11
12	SpC	Customer B	23,253,000	-0.80%	(0.12)	26,580,753	23,884,508	1,068,391	119,133	1,437,078	71,642	3,327,753	14.31%	12
13	SpC	Customer C	22,731,197	4.71%	0.70	24,004,013	21,762,485	1,984,919	103,867	44,464	108,278	1,272,816	5.60%	13
14		Total Utah Jurisdiction	1,383,141,697	6.71%	1.00	1,383,141,697	899,358,354	87,554,842	353,582,755	36,371,184	6,274,562	0	0.00%	14

Footnotes :

Column C : Annual revenues based on January 2008 thru December 2008 forecasted data.
Column D : Calculated Return on Ratebase per January 2008 thru December 2008 Embedded Cost of Service Study
Column E : Rate of Return Index. Rate of return by rate schedule, divided by Utah Jurisdiction's normalized rate of return.
Column F : Calculated Full Cost of Service at Jurisdictional Rate of Return per the January 2008 thru December 2008 Embedded COS Study
Column G : Calculated Generation Cost of Service at Jurisdictional Rate of Return per the January 2008 thru December 2008 Embedded COS Study.
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Column L : Increase or Decrease Required to Move From Annual Revenue to Full Cost of Service Dollars.
Column M : Increase or Decrease Required to Move From Annual Revenue to Full Cost of Service Percent.

Rocky Mountain Power Cost of Service Study with Class Contributions to System Peaks Equal to Jurisdictional Contributions to System Peaks
F10 and F11 With 100% Demand
State of Utah
12 Months Ended Dec 2008

	A	B	C	D	E	F	G	H	I	J	K	L	M	
Line No.	Schedule No.	Description	Annual Revenue	Return on Rate Base	Rate of Return Index	Total Cost of Service	Generation Cost of Service	Transmission Cost of Service	Distribution Cost of Service	Retail Cost of Service	Misc Cost of Service	Increase (Decrease) to = ROR	Percentage Change from Current Revenues	
1	1	Residential	539,693,437	6.62%	0.99	582,328,411	302,034,706	34,831,719	218,813,639	24,132,755	2,515,592	42,634,974	7.90%	1
2	6	General Service - Large	381,039,399	7.62%	1.14	398,122,395	269,153,791	31,505,054	91,216,495	4,383,368	1,863,688	17,082,996	4.48%	2
3	8	General Service - Over 1 MW	114,860,522	7.62%	1.14	119,715,978	83,771,221	8,829,331	25,581,148	1,008,778	525,500	4,855,456	4.23%	3
4	7,11,12,13	Street & Area Lighting	13,066,659	8.90%	1.33	13,124,016	2,582,524	147,023	10,248,977	109,353	36,140	57,357	0.44%	4
5	9	General Service - High Voltage	170,428,984	6.72%	1.00	180,986,376	161,165,489	17,417,541	784,287	828,306	790,751	10,557,392	6.19%	5
6	10	Irrigation	9,994,195	1.59%	0.24	12,641,768	7,455,168	783,097	4,251,980	99,814	51,709	2,647,573	26.49%	6
7	12	Traffic Signals	399,557	4.77%	0.71	448,877	183,434	17,752	172,194	73,967	1,531	49,320	12.34%	7
8	12	Outdoor Lighting	731,194	57.84%	8.62	379,361	298,982	14,537	52,406	12,377	1,059	(351,833)	-48.12%	8
9	23	General Service - Small	97,623,876	4.90%	0.73	111,445,700	63,218,502	7,804,040	35,468,952	4,446,720	507,485	13,821,824	14.16%	9
10	25	Mobile Home Parks	755,668	8.25%	1.23	775,315	488,220	53,170	232,436	(2,024)	3,513	19,647	2.60%	10
11	SpC	Customer A	8,564,009	3.63%	0.54	9,846,910	8,866,220	847,614	73,052	18,421	41,602	1,282,901	14.98%	11
12	SpC	Customer B	23,253,000	-0.80%	(0.12)	27,638,730	24,683,604	1,343,095	121,208	1,415,874	74,948	4,385,730	18.86%	12
13	SpC	Customer C	22,731,197	4.71%	0.70	25,522,268	22,845,384	2,413,924	105,775	43,927	113,258	2,791,071	12.28%	13
14		Total Utah Jurisdiction	1,383,141,697	6.71%	1.00	1,482,976,104	946,747,244	106,007,899	387,122,548	36,571,638	6,526,776	99,834,407	7.22%	14

Footnotes :

Column C : Annual revenues based on January 2008 thru December 2008 forecasted data.
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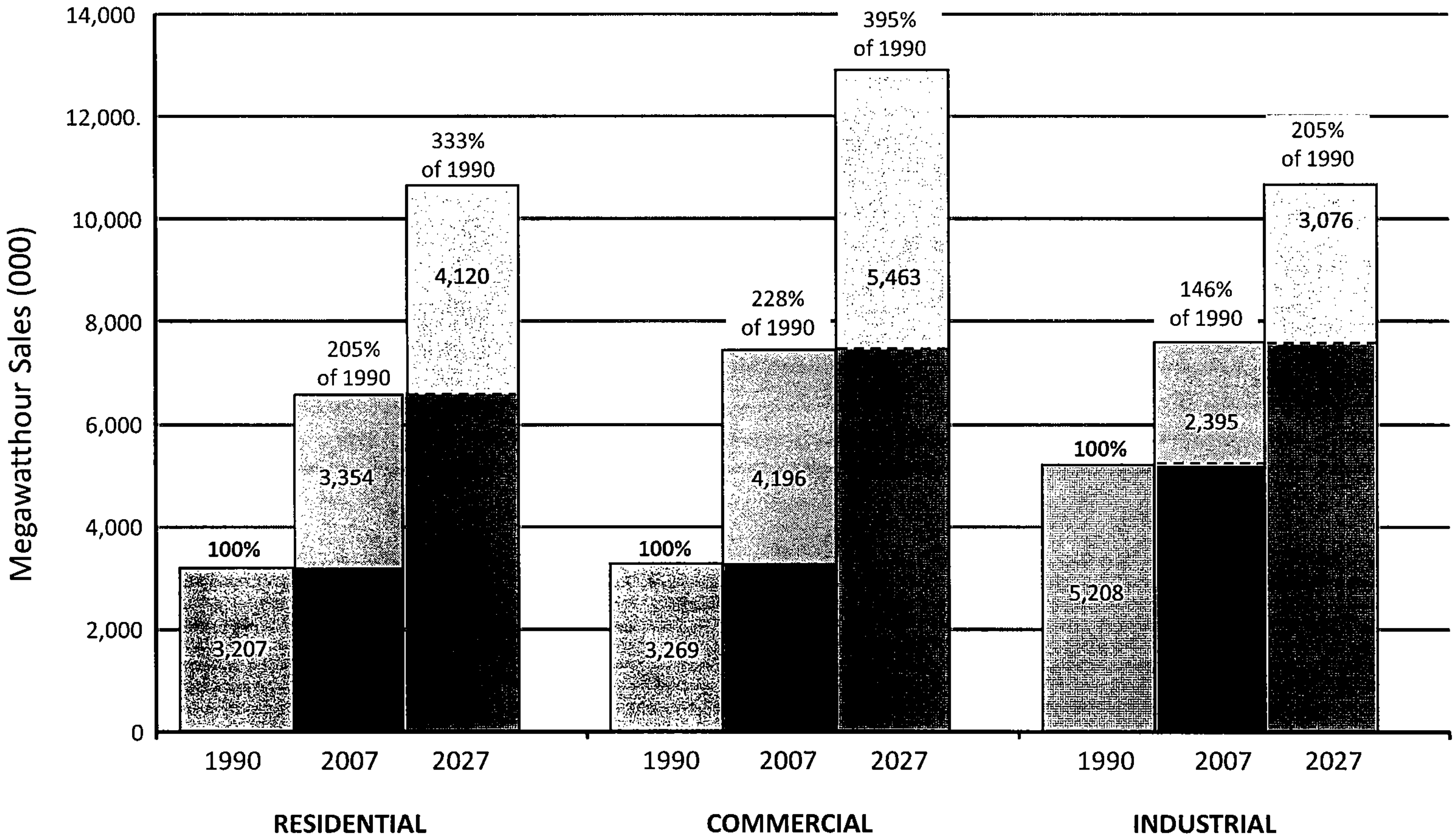
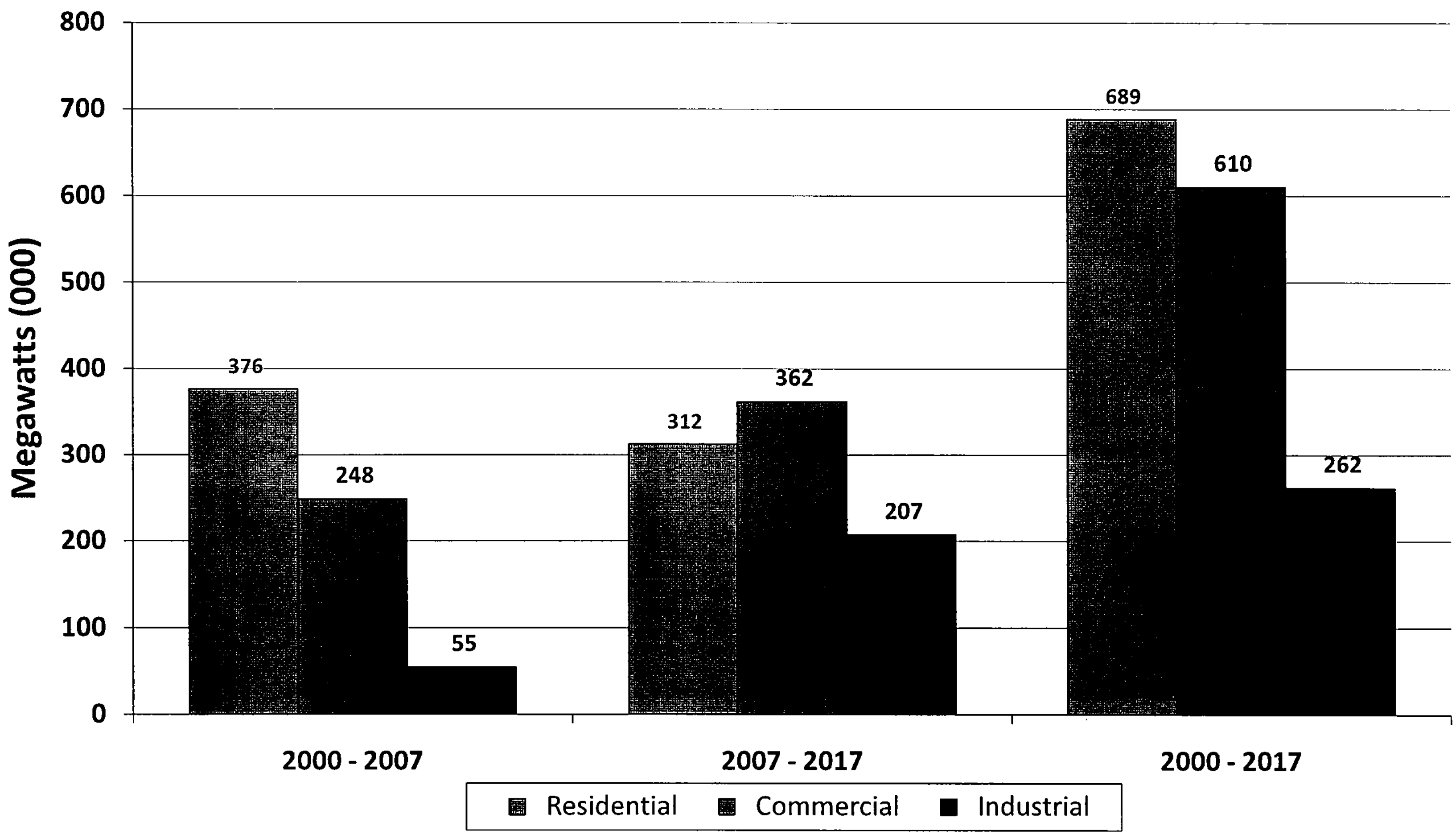
ROCKY MOUNTAIN POWER
Customer Class Sales in Utah



Source: Rocky Mountain Power response to UIEC Data Request 16.5

ROCKY MOUNTAIN POWER

Estimated Growth in Contribution to Rocky Mountain Power System Peak Demand



Source: UIEC___(MEB-7), Page 2 of 2

ROCKY MOUNTAIN POWER

Growth Analysis 2007 to 2017
(Thousands of MWhrs & MW)

Line	Description	Residential (1)		Commercial (2)		Industrial (3)	
	Sales of Energy						
1	2000	4,912		6,051		7,149	
2	2007	6,561		7,465		7,604	
3	2017	7,929		9,525		9,328	
	Growth in Sales						
4	2000 - 2007	1,649	(34%)	1,414	(23%)	455	(6%)
5	2007 - 2017	1,368	(21%)	2,060	(28%)	1,724	(23%)
6	2000 - 2017	3,017	(61%)	3,474	(57%)	2,179	(30%)
7	**Load Factor Based on Contribution to System Peak**	50%		65%		95%	
	Estimated Growth in Contribution to System Peak Demand						
8	2000 - 2007	376		248		55	
9	2007 - 2017	312		362		207	
10	2000 - 2017	689		610		262	

Source: MWh Sales from RMP Response to UIEC 16.5; Load Factor calculated from 2008 Class Cost of Service, Exhibit CCP-3S, TAB 5 - pages 7 and 16.