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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	**Docket No. 09-035-23**

PREFILED REBUTTAL TESTIMONY OF ROGER J. SWENSON

[COST OF SERVICE, RATE SPREAD]

US Magnesium LLC ("US Mag") hereby submits the Prefiled Rebuttal Testimony of Roger J. Swenson on cost of service and rate spread issues.

DATED this 12th day of November, 2009.

/s/ ______________________________
Gary A. Dodge,
Attorneys for US Magnesium LLC

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing was served by email this 12th day of November, 2009, on the following:

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BEFORE

THE PUBLIC SERVICE COMMISSION OF UTAH

Rebuttal Testimony of Roger J. Swenson

on behalf of

US Magnesium LLC

Docket No. 09-035-23

[Cost of Service, Rate Spread]

November 12, 2009

REBUTTAL TESTIMONY OF ROGER J. SWENSON

Introduction

Q. Please state your name and business address.

A. My name is Roger J. Swenson. My business address is 1592 East 3350 South, Salt Lake City, Utah, 84106.

Q. By whom are you employed and in what capacity?

A. I am an independent energy consultant specializing in energy related matters including regulatory proceedings and energy project development.

Q. On whose behalf are you testifying in this proceeding?

A. My testimony is being sponsored by the US Magnesium LLC ("US Mag"), which has petitioned for intervention in this docket.

Q. Please describe your professional experience and qualifications.

A. I have a BS degree in Physics and a MS degree in Industrial Engineering from the University of Utah. I have worked in the energy industry for over 25 years. Prior to working as a consultant I was the Vice President of Energy Marketing for an oil and gas production company that was affiliated with a cogeneration development company. Prior to that I worked for Questar Corporation in various positions including rate making matters.

OVERVIEW AND CONCLUSIONS

Q. What is the purpose of your testimony in this proceeding?

A. My testimony responds to testimony filed by parties in regards to cost of service (COS) and rate spread issues in the general rate case filed by Rocky Mountain Power ("RMP," "Company" or "PacifiCorp").

Q. Please summarize your primary conclusions and recommendations with respect to rate spread as proposed by parties in this case.

A. I recommend that the rate spread in this matter should be determined based on the "revenue apportionment" method suggested by UAE witness Higgins. This method provides reasonable movement towards the indicated direction of the cost of service results presented in this case without unduly penalizing any class. No solid evidence has been presented by any party that could provide confidence to the Commission that it has a full and accurate picture of class cost responsibility. Until a more accurate and complete picture can be presented, caution should be the course of action to follow.

Q. Please summarize your primary conclusions and recommendations with respect to cost of service based on the testimony as filed in this proceeding.

A. The cost of service evidence presented in this docket cannot reasonably produce confidence in accurate cost of service results. The Commission should require a systematic and comprehensive approach to reviewing and revising cost of service. First, we need confidence that we have numbers that we can rely upon, based on the best information available. Then, the multitude of subjective and policy based determinations of how fixed and variable costs should be apportioned among classes should be addressed. Cost redistributions should not be based simply upon opinions. Any significant proposed changes to cost allocations should be carefully vetted with facts, discussion and rational testimony such that just and reasonable findings can be made.

RATE SPREAD REBUTTAL DISCUSSION

Q. Do you have any comments on the rate spread proposal presented by OCS witness Gimbal?

A. Yes, I have. The most important factor informing the OCS position on rate spread is called out on page 13 of Mr. Gimbal's testimony, in which he indicates that he has relied on the COS results as presented by RMP. We know from testimony presented from many other parties in this case that there are significant flaws in the data used to derive the COS results; therefore any conclusions based on the COS results as presented are suspect. Indeed, Mr. Gimbal's base assertion that the residential customer class is a strong performer is based on peak demand and energy determinates from load forecasts that are brought into serious question by several witnesses in this case.

Q. What about the rate spread proposal presented by DPU witness Brill in his original testimony and his supplemental testimony?

A. Mr. Brill's initial proposal is to collect the entire revenue shortfall suggested by the DPU's direct testimony from schedule 9 and 10 customers. This suggestion is hard to understand given other DPU testimony filed in this case and, indeed, Mr. Brill's own direct testimony (pg 15 lines 292-293). Mr. Brill's supplemental testimony suggests that only the Residential customers should receive the rate decrease based on the DPU's revised position. Unfortunately, the DPU has elected not to share its spread recommendations at any revenue requirement outcome other than those two distinct numbers. That makes it very difficult for any other party to respond to or critique the DPU's spread recommendations.

Q. Why do you suggest that Mr. Brill's direct testimony is inconsistent with his initial spread recommendation?

A. Mr. Brill confirms that he does not trust the COS results because of load forecasting concerns and errors identified by his consultant. He affirmatively alleges that the COS results are flawed, but nevertheless proposes to push the entire proposed cost increase to two singled-out customer classes based on those flawed COS results.

Q. Doesn't Mr. Brill also point to the fact that schedule 9 has been under paying for several rate cases?

A. Yes, but the same COS methodology has been utilized for those same cases. That methodology has now been shown to have bad data that go to the very heart of cost allocation. Indeed, information provided by UEA and UIEC witnesses demonstrate that systemic errors have been allowed to creep into the billing determinates. Those forecasting errors have been used in the rate cases on which Mr. Brill relies. Moreover, it appears that those errors are getting larger.

Q. Please explain the forecast errors identified by DPU witness Nuns.

A. Mr. Nuns' direct testimony states ;

" the Company's methodology with respect to its industrial class is problematic in certain respects and has resulted in an overstatement of that portion of the sales forecast."

Q. Wouldn't this seem to suggest that the results of the COS for industrial classes are suspect?

A. Yes. The DPU consultant has waived a red flag associated with the inputs to the COS model, but that information is ignored in Mr. Brill's spread recommendations. No mention is made that any portion of the apparent under recovery by these classes may be caused by the systemic load forecast and measurement errors introduced into the model.

Q. What does this suggest in terms of any proposal to dump all or the bulk of any rate increase stemming from this case onto the backs of Schedule 9 customers?

A. There is no good basis to accept any such rate spread proposal. The evidence in this case demonstrates that the COS results cannot be trusted and any spread recommendations which rely upon those results to direct all or any significant portion of a rate increase to Schedule 9 should be rejected.

<u>CLASS COST OF SERVICE REBUTTAL</u>

Q. Do you have any general comments on the class cost-of-service results presented in the direct testimony filed in this case?

A. Yes. It is clear from the testimony in this case that we first need reliable, fully vetted data before we begin COS allocations. If we do not have good information to begin with, we cannot trust the output of the model. Once we have good information, then we can begin the difficult process of determining the most fair and reasonable means of assigning costs.

Q. Why is the process of assigning costs difficult?

A. The assignment of costs is determined largely by subjective determinations. What we know with some certainty is that some fixed costs do not vary with consumption, some variable costs do vary with consumption and some costs relate to serving a customer directly. Beyond that, the means of determining how much cost responsibility each customer class should bear for specific fixed, variable and customer costs is a matter of policy and judgment.

Q. What is your reaction to the testimony presented in this case with respect to the appropriate assignment of costs to customer classes?

A. The testimony reminds me why there is a tendency to shy away from COS. Many people don’t like the subjective nature of the COS process. Also, it involves a very complicated model with many moving pieces.

I believe COS needs to be approached on a systematic basis. The problem needs to be broken down into parts that can be focused on, reviewed and resolved in the normal course of rate proceedings. The COS testimony in this case looks like it was largely geared towards picking and choosing a few important pieces of the puzzle, but not addressing the puzzle as a whole.

Q. What do you suggest as the steps to break the problem down?

A. Rather than just dealing with a few discrete COS items as most of the testimony seems to do in this case, I suggest that a multitude of important COS issues should be dealt with on a systematic basis. First, accurate billing determinants must be determined. Next, allocation issues relevant to one full section of the COS (such as Generation) should be addressed. Then, allocation issues relevant to other elements (Transmission, Distribution, etc.) should be systematically reviewed. This type of process should produce meaningful results that the Commission could properly rely upon in future rate cases.

<u>Rebuttal of Specific COS testimony</u>

Q. Do you wish to share any specific concerns as to the COS testimony of OCS witness Chernick?

A. Yes, particularly Mr. Chernick's suggestion that the Commission should move to an allocation of generation plant that would spread more fixed costs that do not vary with usage based on the energy consumed by customer classes. He suggests shifting the existing 25% / 75% weighting of the F10 allocation factor to a 50% / 50% weighted factor.

Q. What is the basis for this proposal?

A. His primary basis seems to be that the 25% / 75% factor was arbitrarily selected. Interestingly, he then proposes an arbitrary factor to replace the arbitrary factor that he dislikes. While Mr. Chernick attempts to support his proposal by pointing to other factors, they do not support his argument and his proposed allocation factor is every bit as arbitrary as the factor he wishes to replace.

Q. What does Mr. Chernick purport to rely upon in support of his proposal?

Mr. Chernick points to the cost of peaking resources -- costs that vary from $65 to $122 per kw/yr. However, he fails to take into account the fuel cost of those peaking resources and the question of how much gas would be consumed by a peaking resource to be able to catch each coincident peak. Any such proposal should consider all relevant costs and we should understand the specifics of such a determination. There is clearly not enough information to understand the specifics of his proposal.

Q. What does Mr. Chernick propose in regards to power purchases?

A. Mr. Chernick also discusses the nature of energy costs associated with firm electric purchases and attempts to compare them to fuel costs. The full thrust of his argument (on pages 22-23) is unclear, but he appears to be suggesting that firm contracts should be allocated on energy. His argument seems to be that fuel is related only to energy so firm electric purchases also relate only to energy.

Q. **Do you agree with the suggestion that contract purchases should be based on energy alone?**

No, I disagree based partially on two important factors. First, it ignores which customer classes are causing these costs to be incurred. If purchased power costs were to be assigned based on energy, they should also be assigned to those customers or time periods for which they were contracted and a true value attributed for the power delivered in higher value periods. Second, if purchased power costs are to be allocated based on energy and directed to specific periods, fuel costs should also be allocated to those periods in which the plant for which it was purchased was in operation and assigned based on energy usage by class during those same periods.

Q. Wouldn't this be difficult?

A. Not necessarily. I believe the grid model should be capable of extracting out exactly when the plants are running and using fuel. I also believe that firm contracts can be shown to be used during specific hours. Once we identify the specific operational parameter of plants or contract takes we can also identify energy usage per class during those same periods and thereby properly allocate cost responsibility in a more granular fashion.

Q. Would this be a more appropriate method of allocating fuel or contract costs than the use of an annual energy factor?

A. Yes. It would provide a fairer allocation of costs directed to the customer classes that caused those costs.

Q. Can you provide an example of why this would be fairer?

A. Yes. For instance, let us assume one customer class that uses no energy during on peak periods but only during off peak periods. Also assume that firm contract purchases occur only during on peak periods. If we allocate those costs solely on an annual energy allocation factor, the off peak customer class would be allocated costs that it did not cause.

Q. What else could be done to allocate contract costs on a more rational basis?

A. We know from other proceedings involving avoided cost calculations that power costs should be shaped by hourly scalars to give better cost/price signals. This has been used in both the US Mag QF contract pricing and as a basis to shift the cost of wind projects in regards to the proxy plant. Energy usage should be gathered for super peak 8 hour periods and shoulder hour periods. The power contract pricing used to meet load requirements can then be adjusted with the scalars within the relevant periods. That way, customers that cause more contract demand and have more usage in the more expensive super peak periods will bear more of those costs, providing a more correct pricing signal through rates.

Q. Should this concept be used for allocating fuel costs as well?

A. Yes. Natural gas costs have become a very large component of the Company’s cost structure. These costs should be allocated directly to the customer classes that are taking energy during those periods when natural gas is being used and not to customer classes that are not causing the costs to be incurred.

Q. What else could be done to allocate gas cost on a more rational basis than the use of an annual energy factor?

A. Mr. Brubaker suggests that it does not appear to make very much difference as to the allocation of costs in regards to seasonal factors. My sense is that PacifiCorp's contracting practices for both physical volume and financial hedging are smoothing these costs out over the course of the test year. This does not send correct price signals. We should find a methodology that provides better price signals. Longer term flat pricing could easily be converted into monthly pricing based on when contracted power is used.

Q. Do you take issue with what Mr. Chernick says in regards to line losses and high demand periods?

A. I only take issue with the fact that we are not taking this very important fact into account in determining the billing determinants used in the COS. Mr. Chernick is right that line losses increase with high loads. Peak period line losses will be more than double the average line losses. We need to take this factor into account in terms of specific monthly peaks at input determination as well as the energy usage during peak periods. This factor may also explain some of the variance in the load input data described by parties in this case in regards to the jurisdictional allocation and the COS quantities.

Q. Can you explain this in more detail?

A. Let me start by providing some relevant definitions from the BPA tariff:

losses - The general term applied to energy (kilowatthours) and power (kilowatts) lost when operating an electric system, occurring mainly as energy turns to waste heat in electrical conductors and apparatus.

energy loss - The difference between power supplied and power received, due to dissipation by the transmission line or other facility.

line loss - The electric energy lost (dissipated) in transmission and distribution lines. Varies with the current (amperes) of the line. If the current doubles, the losses will increase by a factor of four.

system loss - The difference between the system net energy (or power) input and output, resulting from losses and unaccounted energy between the sources of supply and the metering points of delivery on a system.

The significant implication for cost allocation purposes is that if electric current doubles in a system, line losses go up by a factor of 4. Line losses are a function of the current squared. It is not a linear relationship. This can introduce significant errors in two important and distinctive ways.

Q. May this help explain issues raised in this case associated with measurement?

A. Yes. As the loads of a customer class grow, more current will flow to the appliances and equipment being used. This increase in current is recognized as increased demand on an instantaneous basis and an increase in energy usage as appliances and equipment operate over time. Mr. Higgins' testimony in Table KCH-6 shows how energy usage has increased over time. If this increased usage is proportional to the current flowing, then the increases in usage will drive line losses up in proportion to the square of the increase.

Q. Can you estimate the line loss increase attributable to the class increases?

A. Yes. Based on the increases shown in Mr. Higgins' Table KCH-6, and the assumption that electric current increase is directly proportional to increased electricity use, the following will result from the indicated line loss increases:

	Residential	Commercial	Industrial
TY MWH	6,616,982	7,491,492	7,314,906
1997 MWH	4,279,332	4,840,806	6,809,086
TY / 1997 MWH	1.5463	1.5476	1.0743
Increase squared	2.391	2.395	1.154

In other words, the projected line losses attributable to just the increase in Residential and Commercial customer load growth since 1997 have increased by more than 139%, more than doubling in this period, while the line losses for industrial customer have gone up by only about 15%.

Q. What would you expect to see in the data as a result of this if the losses are not being counted or assigned correctly?

A. I would expect that over time if we don't take this change into account we would see that the difference between the forecasted loads using old factors and the JAM loads as measured increase. That is exactly what Mr. Brubaker and Mr. Higgins have shown. The difference between the JAM and forecasted loads has increased significantly.

Q. What else would you expect to see as these line losses grow?

A. I would expect to see the greatest difference between what is being forecasted and actual JAM quantities in the highest usage months (the highest current draw months), as that is when the Residential and Commercial classes, with their lower load factors, have much higher usage. Again, that is exactly what the data provided by Mr. Brubaker shows. The summer month differences between the forecast and JAM are becoming more pronounced in summer high demand months. This suggests that the shortfalls are likely coming largely from line losses that are not being captured.

Q. What other important factor comes into play with how the COS and line losses interact?

A. The COS uses a simple linear factor to adjust from sales to input in both the demand and energy factors for all months regardless of quantity of sales or the peak level. This assumption introduces additional error into the numbers because a month with 50% of the average usage will in reality have only 25% of the line loses. This becomes especially important if we begin to use more focused CP methodologies or if we drive the COS to better accuracy with more detail granular monthly pricing for contract energy and fuel purchases.

Q. How do you respond to Mr. Chernick's testimony in regards to the use of the COS results in this case?

A. Mr. Chernick recommends that we make improvements to the COS and suggests that the COS output should be disregarded for one class because of questionable data. I suggest that the questionable data means that the entire COS should be disregarded in this case.

Q. Have you reviewed Mr. Mancinelli's testimony for the DPU in this case in regards to consistency with JAM allocations as a basis for intra-state allocations?

A. I have and I have to admit to being somewhat confused by his testimony in this regard.

Q. Why is that?

A. He seems to suggest that the COS should follow JAM allocations except where he wants to deviate from it. For the most part, he suggests consistency with JAM allocations. Inconsistently, he then suggests deviating from the JAM for allocation of wind costs. It seems to me that the logic of his testimony should be that we should use the best allocation basis available for each and every cost input, rather than following JAM allocations which may have been the result of various compromises.

Q. Do you take issue with that logic?

A. No, I agree that cost allocation decisions should be based on good rational thinking. My previous example of a customer class that used energy only in the middle of the night is an example. Just because JAM allocations may be flawed should not require us to use absurd cost allocation factors in Utah.

Q. What else can you say about Mr. Mancinelli's argument for pushing all wind costs to an energy allocation basis?

A. I think we should not base allocation decisions on any one argument or viewpoint, even if it may have some surface logic. For example, one could just as easily argue that the peaking plants and all the fuel that they use should be allocated on only a demand allocator. That is just as valid as Mr. Mancinelli's suggestion for wind. We need to have a good and consistent basis for allocating all costs, and we need to take into account why various resources were installed and who will benefit from them.

Q. U.S. Mag is an industrial customer with a very high load factor. Will it benefit from wind resources in rate base?

A. Not very much. Those who will benefit from wind resources are customers decades in the future. I expect that if you asked most industrial entities that are struggling to get by in today's economy if they would like these facilities in place now with their higher costs to protect against the potential for higher costs in the future, they would say no. They simply cannot afford to do that and survive. What Mr. Mancinelli is proposing will thrust a very large portion of those cost onto today's high load factor customers.

Q. Mr. Mancinelli shows many COS output variations based on various scenarios. Do you accept his output as correct?

A. No. The key is that the basis for these scenarios and the starting input values for the class data is suspect. We need to start with revised accurate information before we start to make wholesale changes to the COS methodology

Q. What other issues concerning wind power resources do you wish to comment on?

A. DPU witness Zenger describes some shortcomings of the wind resources being brought on by PacifiCorp to serve native load. She explicitly talks about the PacifiCorp proposition that the basis for building these intermittent resources is the IRP and how these resources will reduce the risk of fuel price volatility in the future. She emphasizes that the IRP has not been approved by the Utah PSC.

Q. Do you agree that wind is an important resource that will benefit future rate payers?

A. I agree that it is a resource that someday in the future will likely be of considerable value. However, I am afraid that the combination of building these high capital cost plants and the transmission resources required to deliver the power they produce on a firm basis are extraordinarily expensive for today's customers, especially as these high cost/low load factor resources and low load factor transmission upgrades get put into rate base.

Q. Would you suggest that we should not be developing these resources?

A. No. I would actually suggest that we develop more wind resources and get them put on line quickly to fill what will essentially be empty transmission paths. I suggest that all the power from these resources should be put on line as quickly as possible and sold to markets at Mona in Utah or Mid Point in Idaho. At those points, the value for the wind power is likely to be much higher than the value to the PacifiCorp system. One only has to look at the California Market Price Referent at over $110/MWH to know that is where the wind power should be directed for now. If we contract wind resources out now for 10, 15 or even 20 year contracts for delivery at Mona or Mid-point, the resources can be directed to benefit Utah ratepayers when the contracts terminate in the future.

Q. **How would the utility make such a program work?**

A. PacifiCorp could do a reverse RFP as it does often, but for 1500 MWs of wind or whatever network resource rights it will have in the upgraded Gateway transmission line. It could ask for proposals for various contract lengths. It could at the same time issue a request for resources to fill its needs for these contracts as it has done with its recent RFP's for wind resources.

Q. What would this do for Utah ratepayers?

A. It would maximize the value over time to Utah ratepayers by getting value from the transmission line immediately and getting other entities to pay for resources that we will need in the future. It would ensure that the Gateway transmission line is used and useful to the customers that will pay for it in whatever cost allocation scheme is adopted.

Q. **Is this an out of the ordinary approach to utility resource development?**

A. No. Large power plant projects that involve transmission lines have multiple off taker arrangements for specific terms for the very reason that most utilities cannot use the output all at once. The only difference here is that we would have a large diverse mix of projects, not only with multiple shafts but multiple generation sites.

Q. Some parties in this case have suggested a task force be instituted to deal with some of the COS issues brought up. Would you participate in a task

force to work on cost of service issues and do you think it would be a good use of time?

A. We know that for US Mag we must participate and we would do so, but I would also want to push the Commission to require the systematic approach discussed above to the improvement of the COS model and its implementation and development in ongoing proceedings. I have spent many hours in task forces that did not bring much in the way of closure to issues. I would hope that there could be very specifically defined objectives and goals in terms of identifying what the task force would be working on.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.