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Issues:	Cost of Service; Revenue Apportionment
Witness:	Kevin C. Higgins
Sponsoring Party:	The Commercial Group
Type of Exhibit:	Direct Testimony
Case No.:	ER-2007-0002
Date Testimony Prepared:	February 5, 2007

BEFORE
THE MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. ER-2007-0002

Rebuttal Testimony of Kevin C. Higgins

on behalf of

The Commercial Group

Cost-of-Service / Rate Design

February 5, 2007

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REBUTTAL TESTIMONY OF KEVIN C. HIGGINS

Introduction

Q. Please state your name and business address.

A. Kevin C. Higgins, 215 South State Street, Suite 200, Salt Lake City, Utah, 84111.

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

A. I am a Principal in the firm of Energy Strategies, LLC. Energy Strategies is a private consulting firm specializing in economic and policy analysis applicable to energy production, transportation, and consumption.

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

A. My testimony is being sponsored by The Commercial Group. The Commercial Group is comprised of the Missouri locations of Lowe's Home Centers, Inc.; Wal-Mart Stores East, LP; and J.C. Penney Corporation, Inc.

Q. Are you the same Kevin C. Higgins who pre-filed direct testimony in the Revenue Requirement phase of this proceeding?

A. Yes, I am.

Overview and Conclusions

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

A. My testimony responds to: (1) the revenue apportionment recommendations presented in the direct testimony of Staff witness James A. Busch; (2) the proposals by Office of Public Counsel ("OPC) witness Barbara A.

Meisenheimer and AARP witness Ronald J. Binz to ignore customer-related costs in allocating distribution plant for FERC Accounts 364-368; and (3) recommendations to use the Peak and Average method for allocating production cost-of-service, as proposed by Ms. Meisenheimer and Mr. Binz.

Q. What conclusions and recommendations do you offer based on your analysis?

A. I offer the following conclusions and recommendations:

(1) I recommend that the Commission adopt a revenue apportionment, or rate spread, in this proceeding that moves customer classes toward rates that are closer to cost-of-service. In particular, I recommend that some movement toward cost should be adopted for the LGS class, contrary to Staff's recommendation. The class cost-of-service analyses performed by AmerenUE, Staff, and MIEC witness Maurice Brubaker each demonstrate that the Company is over-recovering costs from the LGS rate class relative to the jurisdictional average; in two of the studies the revenue neutral downward adjustment that is warranted for this class is in excess of 10 percent. This unmistakable pattern indicates that some adjustment toward cost-of-service for this class is warranted.

(2) I recommend that the Commission reject the proposals of OPC witness Barbara A. Meisenheimer and AARP witness Ronald J. Binz to ignore customer-related costs in allocating distribution plant associated with FERC Accounts 364-368. The proposed treatment of these accounts by Ms. Meisenheimer and Mr. Binz is inconsistent with the guidelines published by the National Association of

Regulatory Utility Commissioners in the "Electric Utility Cost Allocation Manual" and would result in an unwarranted cost shift to commercial customers.

(3) I recommend that the Commission reject the proposals of Ms. Meisenheimer and Mr. Binz to use the Peak and Average method for allocating fixed production cost. The Peak and Average method is an analytically-flawed approach that double-counts class demand during peak periods. Instead, I recommend that the Commission approve the adoption of the "Average and Excess Demand" method, versions of which are presented both by AmerenUE and by MIEC witness Maurice Brubaker. The Average and Excess Demand method allocates a portion of fixed production cost on an energy basis – as does Peak and Average – but it does not suffer from the analytical shortcomings of the Peak and Average method.

Revenue apportionment

Q. What did Mr. Busch recommend with respect to revenue apportionment, or rate spread?

A. Mr. Busch reviewed the results of Staff's class cost-of-service study and noted that the study indicates that the following revenue adjustments would exactly align each class' revenues with its cost-of-service: Res, -9.50%; SGS, -17.46%; LGS, -14.05%: LPS +5.73%; and LTS, +0.98%. Subtracting Staff's overall revenue reduction from these results produces revenue neutral rate shifts as follows: Res, +0.44%; SGS, -7.52%; LGS, -4.11%: LPS +15.67%; and LTS, +10.92%.

Based on this information, Mr. Busch concludes that only two classes should experience a rate change that differs from an across-the board equal percentage change: SGS and LPS.

Q. Do you agree with this recommendation?

A. No, I do not. In particular, I believe that some effort should be made to move the LGS class closer to its cost-of-service. Mr. Busch concludes that because this class was within 5 percent of it cost-of-service, no movement toward cost is necessary. I note that Staff's study shows LGS as warranting a 4.11 percent reduction on a revenue neutral basis, so it is just within Mr. Busch's threshold. Further, Ameren's class cost-of-service study, which follows nationally accepted standards, shows LGS as warranting a revenue neutral reduction of 10.34 percent.[1] In addition, the class cost-of-service study prepared by MIEC witness Maurice Brubaker – which also adheres to nationally recognized standards – shows LGS as warranting a revenue neutral rate decrease of between 10.7 and 11.6 percent.[2] The pattern here is unmistakable: the Company is over-recovering costs from the LGS rate class relative to the jurisdictional average, and some adjustment toward cost-of-service for this class is warranted.

Q. Do you have a specific recommendation in this regard?

A. In my direct testimony I recommended a specific revenue apportionment based on the Company's class cost-of-service study. My recommendation moves classes closer to their respective costs-of-service, while recognizing the value of

[1] See Table KCH-3 in my direct testimony (COS), which summarizes the Company's cost-of-service results.
[2] Schedule MEB-COS-4 and MEB-COS-5.

mitigating the rate impact on the Residential class, which warrants a significant revenue neutral increase according to the Company's study. I continue to recommend that the final revenue apportionment move classes closer to cost-based rates.

Distribution Cost-of-Service and Customer-Related Costs

Q. What aspect of distribution cost-of-service are you addressing in your rebuttal?

A. I am addressing the appropriate treatment of customer-related costs in the allocation of distribution plant. Both OPC witness Barbara A. Meisenheimer and AARP witness Ronald J. Binz ignore customer-related costs in allocating distribution plant associated with FERC Accounts 364-368. Instead, each allocates cost responsibility for these accounts strictly on the basis of demand. This treatment is inconsistent with the guidelines published in the Electric Utility Cost Allocation Manual by the National Association of Regulatory Utility Commissioners ("NARUC Manual') and results in an unwarranted cost shift to commercial customers. I recommend that the treatment of these accounts proposed by Ms Meisenheimer and Mr. Binz be rejected.

Q. Do other studies filed in this case recognize that some portion of the plant included in Accounts 364-368 is customer-related?

A. Yes. In their respective cost-of-service studies, both AmerenUE and Staff recognize that a portion of distribution plant associated with FERC Accounts 364-368 should be classified as customer-related. I recommend that the Commission

adopt the cost allocation treatment of these accounts as proposed either by the Company or Staff.

Q. What type of distribution plant is included in Accounts 364-368?

A. Account 364 covers poles, towers, and fixtures. Account 365 is comprised of overhead conductors and devices; Accounts 366 and 367 are comprised of underground circuits, conductors, and devices, and Account 368 is comprised of line transformers.

Q. What does the NARUC Manual state with respect to the classification of these costs?

A. The NARUC Manual is unequivocal on this point. Table 6-1 of the NARUC Manual lists the cost classification components for each distribution plant account. Accounts 364-368 are each identified as having customer-related and demand-related cost characteristics. Regarding the proper recognition of the customer component of these costs, the manual states: "The customer component of distribution facilities is that portion of costs which varies with the number of customers. Thus the number of poles [Account 364], conductors [Accounts 365-367], transformers [Account 368], services, and meters are directly related to the number of customers on the utility's system."[3] [Brackets added.]

Q. Do you agree with the prescription in the NARUC manual to classify some portion of Accounts 364-368 as customer-related?

A. Absolutely. As the manual states, the greater the number of customers a distribution utility is attempting to serve, the more poles, conductors, and line

[3] NARUC Electric Utility Cost Allocation Manual, 1992, p. 90.

transformers it is going to require. Failure to recognize this fact will severely distort cost allocation.

Q. How do you respond to Mr. Binz's argument that this approach does not account for differences in the density of customers?

A. The fact that distribution costs may differ with varying densities of customer population is not a valid reason for ignoring customer-related costs. Greater or lesser density of customers may affect the amount of the per-customer investment in plant that is required, but it does not alter the fact that a significant portion of distribution plant is built to reach customers – irrespective of the size of these customers. All things being equal, a denser concentration of customers will be reflected in a smaller amount of plant costs to allocate in the first instance; this does not change the fact that the distribution plant – whether serving a relatively dispersed or highly-concentrated population – was built in order to reach individual customers – whether small or large.

Q. Does allocating Accounts 364-368 simply on the basis of demand address Mr. Binz's alleged concerns about properly reflecting the density of customers?

A. Not at all. Mr. Binz criticizes the Company's classification of poles, conductors, and transformers as partially customer-related on the grounds that customer density is not properly accounted for in the analysis, but then goes on to classify all of these facilities as entirely demand-related. In so doing, of course, Mr. Binz entirely ignores density issues himself. His remedy bears no relationship to his critique. It is a non-sequitur.

Q. How do you respond to Mr. Binz's criticism that the zero-intercept method utilized by the Company is invalid because it is based on a "fictional or hypothetical" distribution system?

A. The costs that are allocated to the customer classes in the Company's distribution cost-of-service study are those of the *actual* distribution system. In order to *classify* the costs it is necessary to make analytical assumptions about that system. This is comparable to the process of classifying a portion of the utility's production plant as "energy-related" and another portion as "capacity-related" – an exercise that Mr. Binz engages in without reservation later in his testimony.

Q. Do you have any comments on Mr. Binz's statement that the zero-intercept method shifts the Company's revenue requirement away from large distribution customers such as Large General Service and Primary General Service toward the Residential customer class?

A. I suggest that the attempt to shift costs is originating with Mr. Binz, and he is attempting to shift them in the opposite direction, i.e., from residential to commercial customers. It is simply not credible to maintain that the miles of conductors and numerous line transformers serving a residential subdivision are really somehow caused by the level of distribution demand needed to serve commercial customers.

Q. Do you have any other observations about Mr. Binz's testimony on this subject?

A. Yes. Mr. Binz's discussion of this cost allocation issue is commingled with his discussion of rate design issues, i.e., his preference for smaller customer

charges for residential customers. It is important to make a careful distinction between these issues: a preference for a smaller customer charge as a matter of rate design should not be the basis for shifting cost responsibility among customer classes.

Q. Do you have any recommendations as to how this debate can be resolved in the longer term?

A. Yes. The development of sophisticated data management tools is now allowing utilities to track the deployment of their distribution plant at a highly-granular level. This tracking, in turn, is providing utilities with the information necessary to directly assign a significant portion of distribution plant cost responsibility to the classes that are using these facilities. This direct assignment can properly be made when the distribution plant inventory is matched with the individual customers being served by the plant in question. For example, a recent study performed by Puget Sound Energy shows that even though most of its line transformers are used by more than one customer, a large portion of individual transformers – approximately 85 percent – are being used exclusively by only one customer class.[4] This information allows a large proportion of line transformer costs to be directly assigned to the classes that have exclusive use of the transformers, rather than relying on a cost allocation metric such as customer count or class demand.

I recommend that AmerenUE be encouraged to develop the data bases necessary to make such direct assignment of plant possible in future cases, which

[4] These results were presented before the Washington Utilities and Transportation Commission in Docket Nos. UE-040641 and UG-040640, a proceeding in which I participated as a witness.

would limit the need to allocate costs to only those facilities that are used jointly by more than one class.

Production Cost of Service Methodology

Q. You stated that Ms. Meisenheimer and Mr. Binz advocate for the use the Peak and Average method to allocate fixed production costs across customer classes. Can you briefly characterize this method?

A. The Peak and Average method is described in the NARUC Manual, which classifies it as a "Judgmental Energy Weighting" approach. According to the Peak and Average method, fixed production cost is allocated based on a combination of each class' share of energy usage, as well as each class' share of coincident peak demand. In applying this method, class energy consumption is typically expressed as "average demand."[5] (Average demand is simply annual energy divided by the number of hours in the year.)

As I will demonstrate below, the Peak and Average method contains a significant analytical flaw. This flaw results in a double-counting of average demand during the system peak month(s). As a result, the method does not properly assign the cost of the incremental amount of production plant used to serve the system peak to the users at system peak.

Q. Please explain the analytical flaw in the Peak and Average method.

A. We can use a simple example to illustrate the Peak and Average method and its fatal flaw. Assume we have two customer classes: Flat and Peaky. To

[5] This gives rise to the name "Peak and Average."

highlight the underlying drivers of the Peak and Average method, let us assume that the Flat class has a constant load of 500 MW throughout the year. Let us further assume that the load pattern of the Peaky class is as follows: January-March: 300 MW; April-May: 500 MW; June: 800 MW; July: 900 MW; August: 800 MW; September-October: 500 MW; and December: 300 MW. This example is illustrated in Figure KCH-1, below.

Figure KCH-1

Peak and Average Allocation Method: Illustrative Example

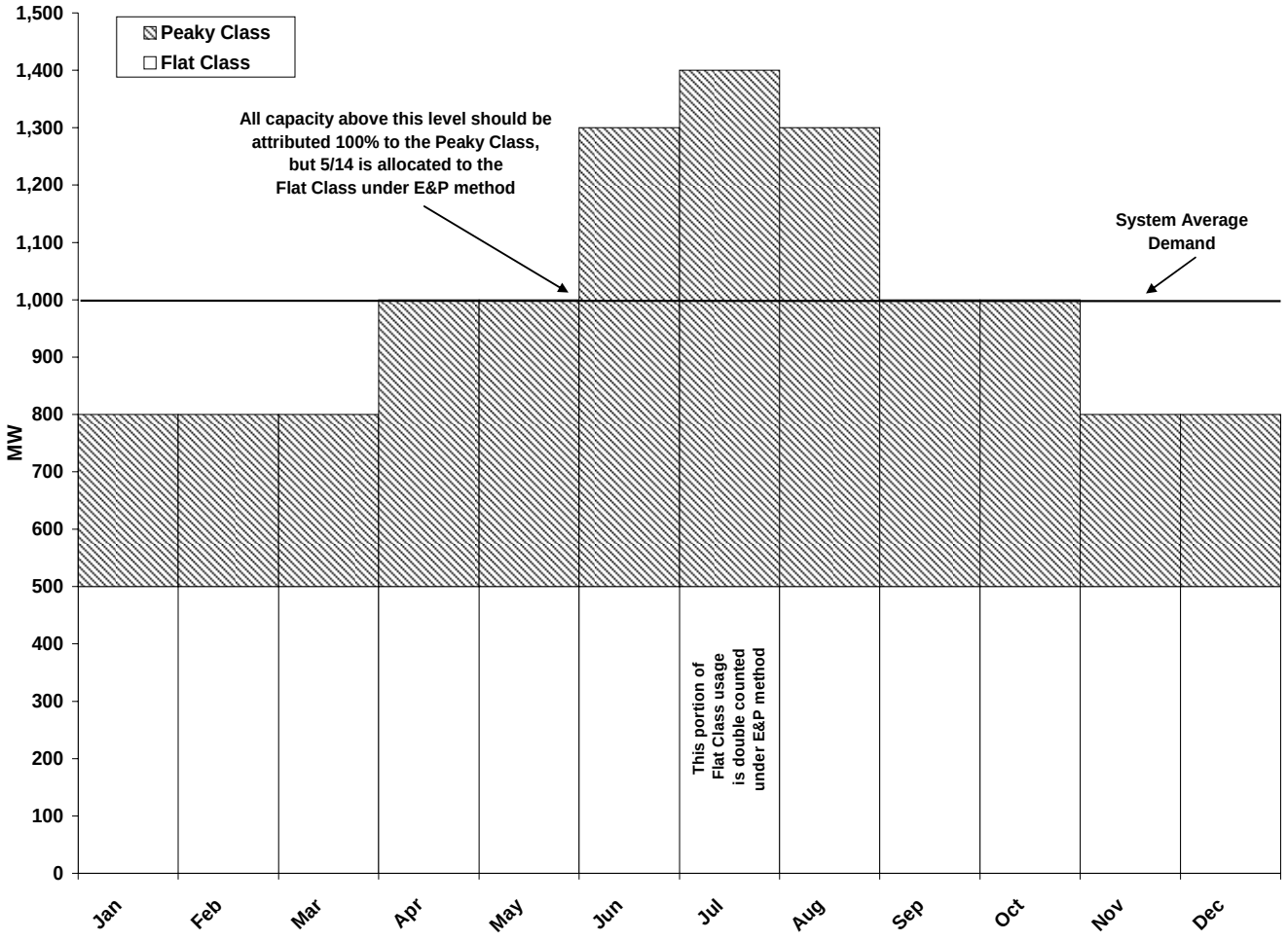

Figure KCH-1 shows the monthly demand of the Flat class at the bottom of the diagram. The monthly demand of the Peaky class is stacked on top of the Flat class' demand, such that the sum of the two constitutes the total demand for the system. The average demand of each of these classes is 500 MW, resulting in an average demand for this two-class system of 1000 MW. Accordingly, the Peak and Average method will allocate each of these classes 50 percent of the responsibility for the energy, or average demand, portion of costs.

The system peak demand of 1400 MW occurs in July. It is clear in this example that all of the incremental capacity required above the system average of 1000 MW demand is attributable to the needs of the Peaky class – after all, the load of the Flat class is, of course, flat. But the Peak and Average method will not allocate the full cost of this incremental capacity to the Peaky class. Instead, it will allocate these incremental costs in accordance with the share of each class' demand during the peak month of July; that is, the Flat class will be allocated 5/14 of the incremental cost and the Peaky class will be allocated 9/14 of the incremental cost. Put another way, even though all of the Flat class' usage during July has already been accounted for in the allocation of average demand, the Flat class will be allocated an additional 5/14 of the costs of the incremental capacity above system average demand when the July peak demand is apportioned. This additional allocation occurs because the Peak and Average method allocates capacity costs based on total demand during July – not just the excess above average demand, even though average demand has already been fully allocated in the first step. This additional allocation is the double-counting to which I referred

previously in my testimony. In my opinion, this double-counting amounts to a fatal analytical flaw in the Peak and Average method.

Q. How can this double-counting be avoided?

A. This problem can be avoided through the use of the Average and Excess Demand method, which uses the same allocation treatment of energy, or average demand, as the Peak and Average method, but treats differently the incremental capacity requirements above average demand. Under the Average and Excess Demand method, the incremental amount of production plant that is required to meet loads that are above average demand is properly assigned to the users who create the need for the additional capacity.

Q. How does the Average and Excess Demand method apportion responsibility for incremental production plant that is required to meet loads that are above average demand?

A. The Average and Excess Demand method allocates the cost of capacity above average demand in proportion to each class' excess demand, where excess demand is measured as the difference between each class' individual peak demand[6] and its average demand. By focusing on excess demand, this method avoids the double-counting of average demand that occurs in the Peak and Average method.

Q. How would the Average and Excess Demand method allocate the capacity above average demand in your illustrative example?

[6] A class' individual peak demand is often referred to as "Class Non-Coincident Peak Demand" or "Class NCP."

A. The capacity above excess demand would be allocated in proportion to each class' share of excess demand. In this example, the individual peak of the Flat class is the same as its excess demand; that is, its excess demand is zero. The individual peak for the Peaky class is 900 MW, which translates into a class excess demand of 400 MW (i.e., 900 MW - 500 MW), which, of course, is also the entirety of the excess demand on this system. Thus, the Peaky class is allocated all of the cost associated with incremental capacity above average demand.

Q. What is your recommendation to the Commission on this issue?

A. I recommend that the Commission reject the proposals of Ms. Meisenheimer and Mr. Binz to use the Peak and Average method for allocating fixed production cost. The Peak and Average method is an analytically-flawed approach that double-counts class demand during peak periods. Instead, I recommend that the Commission approve the adoption of the "Average and Excess Demand" method, versions of which are presented both by AmerenUE and by MIEC witness Maurice Brubaker. The Average and Excess Demand method allocates a portion of fixed production cost on an energy basis – as does Peak and Average – but does not suffer from the analytical shortcomings of the Peak and Average method.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area.	)))))	Case No. ER-2007-0002

AFFIDAVIT OF KEVIN C. HIGGINS

STATE OF UTAH)
)
COUNTY OF SALT LAKE)

Kevin C. Higgins, being first duly sworn, deposes and states that:

1. He is a Principal with Energy Strategies, L.L.C., in Salt Lake City, Utah;

2. He is the witness who sponsors the accompanying testimony entitled "Rebuttal Testimony of Kevin C. Higgins;"

3. Said testimony was prepared by him and under his direction and supervision;

4. If inquiries were made as to the facts and schedules in said testimony he would respond as therein set forth; and

5. The aforesaid testimony and schedules are true and correct to the best of his knowledge, information and belief.

Kevin C. Higgins

Subscribed and sworn to or affirmed before me this 12 day of December, 2006, by Kevin C. Higgins.

Notary Public

My Commission No.: 7
My Commission Expires: 3-28-10
(SEAL)

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COMM. EXP. 03/28/2010