

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

In the Matter of the Examination of Class   )  
Cost of Service and Rate Design in the   )  
Missouri Jurisdictional Electric Service   )  
Operations of Aquila, Inc., Formerly       )  
Known as UtiliCorp United Inc.            )

Case No. EO-2002-384

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**STAFF'S POSTHEARING BRIEF**

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**EXECUTIVE SUMMARY**

**PURPOSE**

This case was established for purposes of examining, class-by-class, the match between the revenues Aquila is collecting from the class and the costs Aquila prudently incurs to serve the class.

**Determination and Implementation of Inter-class Revenue Adjustments**

In this section of the brief, the Staff presents its additional factual support and arguments for why inter-class revenue adjustments should not be determined in this case and, instead should be determined and implemented in Aquila's current rate case, Case No. ER-2005-0436.

**ALLOCATION OF GENERATION-RELATED COSTS**

In this section of the brief, the Staff sets forth its additional factual support and argument for why the most appropriate manner of allocating fixed generation costs to customer classes is on a time-of-use basis, which involves the consideration of customer class contribution to generation demand for every hour of the year, rather than solely at the hour of generation peak demand.

## **CHANGES TO RATE STRUCTURES ON EACH RATE SCHEDULE**

In this section of the brief, the Staff presents its additional support for why the changes Aquila proposes to the rate structures on each rate schedule are inappropriate.

### **ISSUES**

#### **PURPOSE**

This case was established for purposes of examining, class-by-class, the match between the revenues Aquila is collecting from the class and the costs Aquila prudently incurs to serve the class.<sup>1</sup> To do so it was necessary for Aquila to collect “load research data,” hour-by-hour customer usage data of representative members of each class. To reduce the issues in this case and limit them to differences in methodology, not data, the original parties agreed to use the same weather-normalized class load data and the cost and revenue data from Aquila’s last rate case, Case No. ER-2004-0034, as inputs in their class cost-of-service studies filed in this case. That cost and revenue data, from calendar year 2002 updated for known and measurable changes through September 30, 2003, was determined by the Commission when it approved the Stipulation and Agreement of the parties in Case No. ER-2004-0034.

### **DETERMINATION AND IMPLEMENTATION OF INTER-CLASS REVENUE ADJUSTMENTS**

Aquila, SIEUA and FEA argue much time and effort already expended by the parties in this case will have been for naught, or that much additional time and effort will be required, if the Commission adopts the Staff’s proposal and does not rely on the specific results of a cost-of-service study filed in this case to evaluate how Aquila’s rates should be changed to move toward

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<sup>1</sup> Attachment A (Unanimous Stipulation and Agreement) to **Order Approving Stipulation and Agreement**, pp. 5-6, entered February 21, 2002, *In the Matter of the Tariff Filing of Missouri Public Service (MPS), a Division of UtiliCorp United Inc., to Implement a General Rate Increases for Retail Electric Service Provided to Customers in the Missouri Service Area of MPS*, Case No. ER-2001-672.

matching, class-by-class, the revenues that should be collected from the class with the costs Aquila prudently incurs to serve the class.<sup>2</sup>

The Staff disagrees. First, the Staff's proposal for the Commission to consider class cost-of-service study results based on the same load research data collected and used in the class cost-of-service studies filed in this case, but instead of relying on cost and revenue data from 2002 updated for known and measurable changes through September 30, 2003, rely on cost and revenue data from 2004 updated through June 30, 2005, would not delay implementation in rates of any inter-class revenue responsibility shifts the Commission might determine appropriate based on the study results. This is because, as no party disputes, the Commission must consider all relevant factors when changing rates; therefore, the earliest such shifts will be implemented would be in Aquila's pending Missouri general electric rate increase case, Case No. ER-2005-0436.<sup>3</sup>

Second, the Commission will determine the cost and revenue data for calendar year 2004 updated for known and measurable changes through June 30, 2005 and trued-up through October 31, 2005 in Case No. ER-2005-0436 by April 21, 2006, the operation-of-law date in Case No. ER-2005-0436; therefore, that data will be available at essentially the same time as when the Commission will be able to implement in rates any interclass revenue responsibility shifts it determines are appropriate to better match, class-by-class, the revenues that should be collected from the class with the costs Aquila prudently incurs to serve the class.

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<sup>2</sup> Aquila statement of positions; Aquila prehearing brief; SIEUA statement of positions; SIEUA prehearing brief; SIEUA and FEA joint motions filed in Case No. ER-2005-0436 on November 8 and December 16, 2005 to strike class cost-of-service and rate testimony in that case.

<sup>3</sup> SIEUA statement of positions at pp. 3-4; SIEUA prehearing brief at p. 30; FEA statement of positions at p. 3; FEA prehearing brief at pp.3-4, Aquila statement of positions at p. 3; Aquila witness J. Matt Tracy surrebuttal testimony at p. 7)

Third, the Staff proposes the Commission determine in this case the issue of which class cost-of-service study allocation *methods* should be used for generating the class cost-of-service study *results* the Commission considers as a *relevant factor* in setting Aquila's rates in Case No. ER-2005-0436. It was the load research data used as an input in calculating the allocation factors which took so much time to obtain, not the calculations of the allocation factors or the calculation of the cost-of-service study results.

Aquila, SIEUA and FEA advocate the Commission to evaluate interclass revenue responsibility shifts in this case, determine interclass rate shifts in this case, and then, without further consideration, apply those rates shifts in Aquila's pending general electric rate case, Case No. ER-2005-0436.<sup>4</sup> During opening statements Aquila stated that the Staff was having "problems" with a new cost of service study it had apparently developed for Aquila's pending rate case.<sup>5</sup> The Staff stated in the conclusion section on page 26 of its prehearing brief that the results of the Staff's class cost-of-service studies it "filed in Aquila's pending general electric rate case are quite different from those filed in this case and the Staff has not yet been able to determine why they are so different." The matter was not one of "problems," but rather determining of what specific changes in the cost and revenue data inputs caused such marked changes in study results. As stated in surrebuttal testimony it has prefiled in Case No. ER-2005-0436, the Staff has performed that analysis and determined the marked changes in results is due to increases in generating capacity, replacing certain generating capacity with higher cost capacity, and marked increases in fuel costs.<sup>6</sup> Increases in production costs do not affect the cost of serving each class proportionately. The greatest cost increase is in serving high-use, high-load factor customers.

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<sup>4</sup> Aquila statement of positions; SIEUA statement of positions; FEA statement of positions.

<sup>5</sup> Tr. 70.

<sup>6</sup> Staff witness Watkins, Surrebuttal, p.3., ll, 14-17, prefiled December 13, 2005 in Case No. ER-2005-0436.

### ALLOCATION OF GENERATION-RELATED COSTS

The time-of-use allocation method used by the Staff in this case originated with Dr. Mike Proctor, currently the Staff's chief economist, when he was the manager of the predecessor of the Staff's economic analysis section. This was shortly after the enactment of PURPA, the Public Utility Regulatory Policy Act of 1978, and when that section of the Staff began considering how to develop a method that would create an economically rational basis for seasonal rate differentials and for blocked rates.<sup>7</sup> A seasonal rate differential is appropriate because, as a resource, electricity is more costly in the summer than in the winter.<sup>8</sup> For most blocked rates, the first block (increment of usage) is assumed to be for on-peak usage, the last block (increment of usage) is assumed to be for off-peak usage, and if there is a middle block (increment of usage), it is assumed to be between on and off-peak usage.<sup>9</sup>

If an allocation method that relies on a summer peak is used to allocate joint production costs into rates, the rates would not reflect any of the joint production costs incurred in the winter.<sup>10</sup> Staff's time-of-use allocation method reflects joint winter production costs in rates by calculating the cost for each increment of load, determining how long that incremental load lasts during the year, dividing the total cost of serving that load increment by the number of hours that incremental load lasts during the year, and then allocating that result to each hour that incremental load lasts during the year. Then, for each hour, the Staff looks at each class' contribution to the sum of the incremental loads in that hour and allocates that result to each class on an hourly basis. Therefore, as each class' load varies hour-by-hour throughout that part of the year where a particular increment of load exists, that class' share of the costs varies hour-

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<sup>7</sup> Tr. 322.

<sup>8</sup> Tr. 323.

<sup>9</sup> Tr. 323-24.

<sup>10</sup> Tr. 324-25.

by-hour throughout that part of the year. The Staff then aggregates all the hours to obtain the total costs of all the classes for each increment of load.<sup>11</sup>

In contrast to the Staff's time-of-use allocation method, which considers cost and usage based on hourly increments throughout a year, the methods touted by Aquila, SIEUA and FEA rely only on three hours of usage during the year, not 8,760 hours (24 hours per day times 365 days), which has the effect of pushing more costs onto residential and small general service customers.<sup>12</sup> Page 51 of the NARUC manual includes a note that the single coincident peak average and excess method will yield the same allocators as the single coincident peak method, which is classified as a peak demand method in the NARUC manual.<sup>13</sup>

The Staff's time-of-use method tracks how customers use Aquila's system.<sup>14</sup> The Staff's time-of-use method accounts for both the generation capacity that must be built to meet peak load and the best mix of generation capacity to serve loads throughout the year.<sup>15</sup> This is because "generation capacity which is used, say, every hour of the year, an equal portion of that is allocated to each hour of the year" and "generation capacity that's only used one hour on the peak, its entire capacity would be allocated<sup>16</sup> to that peak hour, and then the load ratio shares on every hour throughout the year for each class would allocate hourly to each class, and the annual allocation would be the sum over all the hours."<sup>17</sup>

For example, during a short-term peaking event where costly generation such as a relatively costly to operate combustion turbine peaking unit is engaged to supply power, the Staff's method takes into account the cost causers by allocating to the time of that event the high

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<sup>11</sup> Tr. 325-26.

<sup>12</sup> Tr. 327-28.

<sup>13</sup> Tr. 317.

<sup>14</sup> Tr. 329.

<sup>15</sup> Tr. 329-30.

<sup>16</sup> The uncorrected transcript erroneously states "calculated," rather than the correct "allocated."

<sup>17</sup> Tr. 330.

energy cost due to using that higher operating cost unit and the relative lower capacity cost of the combustion turbine peaking unit rather than a base-load unit—thereby taking into account both the lower costs of having that capacity available (construction and maintenance costs) and the higher operating costs (fuel and operating costs) assigned to that period of time.<sup>18</sup>

On the energy side, the methods employed by Aquila, SIEUA and FEA allocate fuel and purchased power based on annual sales which effectively means one average price of electricity to their customers throughout the entire year, despite the fact that fuel and purchased power prices vary throughout the year.<sup>19</sup> As extreme, but not unrealistic examples of the variability of power prices, Staff witness Watkins stated they could range from \$1 per megawatt hour to \$5,000-to-\$7,000 per megawatt hour.<sup>20</sup>

The time-of-use method employed by the Staff is consonant with the methodology described in the NARUC manual as the “probability-of-dispatch method.”<sup>21</sup> Aquila disagrees taking the position the Staff’s time-of-use method is not described in the NARUC manual although the manual includes a category where Aquila would include the Staff’s method and pushes the position that no other state uses either the Staff’s method or the time-of-use method described in the NARUC manual.<sup>22</sup> The 1992 NARUC manual includes the probability-of-dispatch method.<sup>23</sup> As noted and cited extensively in the Staff’s prehearing brief, this Commission, in 1983, issued a decision in *Re Kansas City Power and Light Company*, 53 PUR4th 315, 25 Mo. P.S.C. (N.S.) 605 (Case No. EO-78-161, March 30, 1983 Report and Order), in which it stated:

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<sup>18</sup> Tr. 330-31.

<sup>19</sup> Tr. 332.

<sup>20</sup> Tr. 333.

<sup>21</sup> Tr. 336-37.

<sup>22</sup> Tr. 173-76.

<sup>23</sup> Tr. 262, 409.



As will be discussed in greater detail, *infra*, based on the evidence presented in this case, *the commission finds the time-of-use method to be the most theoretically appropriate approach for allocating generation costs*(emphasis added) and, further, finds the average and peak allocation method for fixed generation cost as the most reasonable alternative to a full time-of-use procedure.

If the time-of-use method truly is unique to Missouri, a proposition not seriously challenged, then the following question occurs: Why would the NARUC manual describe a probability of dispatch method that no commission ever used? An obvious answer is that the NARUC manual is describing the time-of-use method this Commission had earlier cited with approbation.

The Office of the Public Counsel witness Barbara Meisenheimer testified that she considers the Staff's time-of-use method to be superior to both the method she used and the methods employed by Aquila, SIEUA and FEA and, further, with adequate resources she likely would have used a time-of-use method.<sup>24</sup>

While the numbers in the class cost-of-service study results presented to the Commission are precise, the results are not. Aquila witness J. Matt Tracy characterized them as "kind-of-squishy" and that the accuracy goal for load research data, part of the data input to obtain the results, is "to be within plus or minus 10 percent of the true value 90 percent of the time."<sup>25</sup>

#### **CHANGES TO RATE STRUCTURES ON EACH RATE SCHEDULE**

On the issue of rate design, Aquila has provided no valid reason for changing the structure of its rates and did not even evaluate on an assumed typical customer basis the impact of its proposed rate changes on such a customer's monthly bills; therefore, the Staff does not support Aquila's rate design changes.<sup>26</sup>

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<sup>24</sup> Tr. 414.

<sup>25</sup> Tr. 113-116.

<sup>26</sup> Tr. 342-343.

Aquila Networks-MPS' current rate structures are similar to those of AmerenUE, which AmerenUE has had since for at least a decade and the current rate structures of Aquila Networks-L&P are similar to those of KCP&L, which it has had since at least the mid-1990's.<sup>27</sup>

Aquila's support for its arguments that (1) putting more costs in an energy charge rather than in a fixed charge results in lowest income customers have larger utility bills than if the energy charge were less and the fixed charge greater and (2) as result any subsidization of residential customers by other customers benefits low-income residential customers less than other residential customers is based on a study of Colorado residential customers participating in a LIHEAP.<sup>28</sup> Aquila presented nothing that shows its Missouri customers are similarly situated to these Colorado customers; therefore, the support has little, if any, relevance to this proceeding. Further, Aquila witness Tracy specifically stated Aquila's Colorado residential customer load shapes differ from those of its Missouri residential customers.<sup>29</sup>

Aquila witness J. Matt Tracy also testified that, other than the residential space heating class, the load shapes of its Missouri customers are essentially the same now as they were twenty years ago.<sup>30</sup>

### **CONCLUSION**

Having further addressed the evidence bearing on the issues set forth in the list of issues, the Staff again recommends the Commission only determine in this case the appropriate allocation factors to be used in a class cost-of-service study.

**WHEREFORE**, the Staff submits the foregoing as its posthearing brief in this matter.

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<sup>27</sup> Tr. 405.

<sup>28</sup> Tr. 117-119.

<sup>29</sup> Tr. 143-44.

<sup>30</sup> Tr. 143-44.

Respectfully submitted,

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**Certificate of Service**

I hereby certify that copies of the foregoing have been mailed, hand-delivered, transmitted by facsimile or electronically mailed to all counsel of record this 19<sup>th</sup> day of December, 2005.

**/s/ Nathan Williams**