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Service and
Rate Design
Witness: James C. Watkins
Sponsoring Party: MoPSC Staff
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Case No.: EO-2002-384
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MISSOURI PUBLIC SERVICE COMMISSION
UTILITY OPERATIONS DIVISION

SURREBUTTAL TESTIMONY

OF

JAMES C. WATKINS

AQUILA, INC.

CASE NO. EO-2002-0384

Jefferson City, Missouri
October 28, 2005

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Missouri Public
Service Commission

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

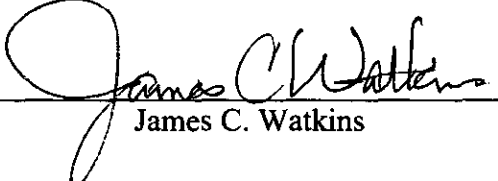
In the Matter of an Examination of the)
Class Cost of Service and Rate Design in)
the Missouri Jurisdictional Electric)
Service Operations of Aquila, Inc.,)
formerly known as UtiliCorp United, Inc.)

Case No. EO-2002-0384

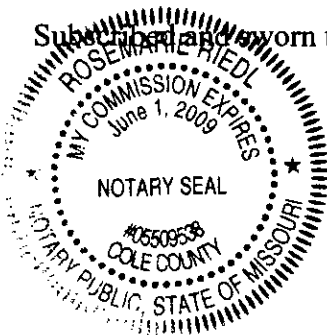
AFFIDAVIT OF JAMES C. WATKINS

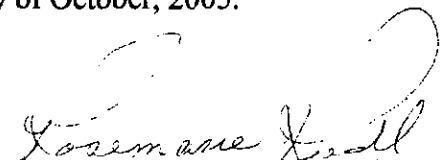
STATE OF MISSOURI)
) ss
COUNTY OF COLE)

James C. Watkins, of lawful age, on his oath states: that he has participated in the preparation of the following Surrebuttal Testimony in question and answer form, consisting of 8 pages of Surrebuttal Testimony to be presented in the above case, that the answers in the following Surrebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.


James C. Watkins

Subscribed and sworn to before me this 26th day of October, 2005.




Notary Public

My commission expires June 1, 2009

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Distribution Cost Allocation

Allocating a portion of primary distribution costs on density weighted customers numbers is appropriate, unless doing so would double allocate a portion of the demand related costs to low-usage customers.

Revenue Shifts and Implementation

Any revenue shifts implemented in Aquila's pending rate case, Case No. ER-2005-0436, should be limited by the combined impact on customers of any rate structure changes, any revenue shifts, and any overall rate increase from both cases.

Any further revenue shifts should be addressed in subsequent revenue requirement cases where all relevant factors can be considered.

TIME-OF-USE ALLOCATIONS

Q. On page 10, lines 12-13, of the prefiled rebuttal testimony of SIEUA/AG Processing/FEA (Intervenors) witness Maurice Brubaker, he claims that the Staff's time-of-use methodology (TOU) is not described in the NARUC cost allocation manual. On page 11, line 5, of the prefiled rebuttal testimony of Aquila witness David L. Stowe, he make the same claim. Are they correct?

A. No. The methodology is found generally in the "Time-Differentiated Embedded Cost of Service Methods" section beginning on page 59 of the 1992 NARUC cost allocation manual, and in particular to the "Probability of Dispatch Method" sub-section 4, on page 62. The method, commonly referred to in Missouri as "The Staff's Time-of-Use Method," is described as follows:

The probability of dispatch (POD) method is primarily a tool for analyzing cost of service by time periods. The method requires analyzing an actual or estimated hourly load curve for the utility and identifying the generating units that would normally be used to serve each hourly load. The annual

1 revenue requirement of each generating unit is divided by the number of
2 hours in the year that it operates, and that "per hour cost" is assigned to each
3 hour that it runs. In allocating production plant costs to classes, the total cost
4 for all units for each hour is allocated to the classes according to the KWH
5 use in each hour. The total production plant cost allocated to each class is
6 then obtained by summing the hourly cost over all hours of the year. These
7 costs may then be recovered via an appropriate combination of demand and
8 energy charges. It must be noted that this method has substantial input data
9 and analysis requirements that may make it prohibitively expensive for
10 utilities that do not develop and maintain the required data.
11

12 Q. On pages 12-15 of the prefiled rebuttal testimony of Mr. Brubaker, he
13 claims that the capacity mix is not important for purposes of performing class cost
14 allocation studies and, if it were important, not all hours of the year would influence the
15 capacity mix. What is your response?

16 A. Mr. Brubaker addresses two separate questions as if they were one. The
17 first relates to the role of loads throughout the year in determining the capacity mix.
18 Beginning at the bottom of page 13 of his prefiled rebuttal testimony, he provides an
19 example of a "break-even" analysis that demonstrates this relationship. It is precisely
20 these relationships between capacity costs, running costs and load duration described in
21 his example that the Staff uses to derive the incremental capacity costs associated with
22 each increment of load from the hourly loads and running costs determined in a fuel
23 model run. He concludes that in this example "only slightly more than 11% of the hours
24 in the year (1,000 out of 8,760) are arguably important in the technology choice
25 question." The conclusion he draws from this example is that "[s]ince the additional
26 hours are not relevant in this decision . . . , it is wrong to include loads in those additional
27 hours in the cost allocation process." This conclusion is wrong. The correct conclusion
28 is that peak loads determine the amount of capacity required, but loads throughout the
29 year determine the capacity mix and, thus, the cost of that amount of capacity. The

1 question of what hourly loads should be used in the allocation process is a separate
2 question.

3 This second question is really, given that a portion of the capacity mix serves load
4 in all 8760 hours of the year, should that portion of the capacity costs be allocated to
5 every hour, or should its cost be allocated to only the peak hours? Based on the
6 allocation method Mr. Brubaker chose, his answer must be that it should be allocated to
7 only the peak hours. Nowhere has he explained why it is reasonable to allocate that
8 portion of the capacity costs the same way he would allocate the cost of capacity that is
9 utilized only in the peak hours of the year.

10 Q. On page 15 of his prefilled rebuttal testimony, Mr. Brubaker states that he
11 would expect Staff's TOU allocation of energy costs to result in high load factor
12 customers receiving a below-average allocation of energy costs, and he notes that for the
13 L&P system the LPS class receives a 0.08% higher than average cost allocation. Can
14 you explain this result which Mr. Brubaker seems to view to be inconsistent?

15 A. On the L&P system, on a stand-alone basis, energy costs per kWh do not
16 increase as load increases. In fact they may decrease a little, resulting in a slightly higher
17 than average energy cost to the LPS (Large Power Service Customer) class. This is not
18 the case for the larger MPS system.

19 Q. Throughout the prefilled rebuttal testimonies of Aquila witnesses Mr. J.
20 Matt Tracy and Mr. David Stowe is the claim that the Staff's TOU allocator for
21 production capacity costs is too close to being an energy allocator. What is your
22 response?

1 A. Mr. Tracy sums up Aquila's rationale in selecting a method in his answer
2 at the bottom of page 12 of his prefiled rebuttal testimony: "The key is seeing how the
3 different demand allocators will impact the load shapes. . . . By selecting a demand
4 allocator that is less like Energy, though still far from NCP, customers with higher load
5 factors will increase their use, improving the system load factor, lowering the overall cost
6 of providing electricity to all consumers."

7 First, I don't think such a result-oriented approach can be the basis for a sound
8 quantitative analysis. Second, nowhere does he explain why using more energy is a good
9 thing. Third, nowhere does he explain how increasing the system load factor would
10 lower the overall cost of providing electricity. In Aquila's situation, increasing the
11 system load factor would result in running its natural gas-fired generation even more, or
12 investing in more baseload capacity to serve that load while existing gas-fired capacity
13 stands idle.

14 DISTRIBUTION COST ALLOCATIONS

15 Q. Beginning on page 7 of the prefiled rebuttal testimony of Office of the
16 Public Counsel witness Barbara Meisenheimer, she addresses allocation of the primary
17 distribution system costs. In that testimony she rejects the notion of allocating a portion
18 of the primary distribution system costs on density weighted customer numbers. Is her
19 criticism of the approach taken by all of the other parties valid?

20 A. To the extent that her criticism is based on rejecting the minimum system
21 approach to determining the customer-related portion of the primary distribution system
22 costs and double allocating a portion of the demand-related costs to low usage customers,
23 her criticism is not valid. The customer-related portion of the primary distribution

1 system costs was not determined by the minimum system approach. Nor has a portion of
2 the demand-related costs been double allocated to low usage customers.

3 **REVENUE SHIFTS AND IMPLEMENTATION**

4 Q. In Sections II and III of the prefiled rebuttal testimony of Aquila witness
5 Mr. Tracy, he addresses class revenue shifts in terms of a destination and a plan to arrive.
6 For Mr. Tracy the destination is the result of a class cost-of-service study chosen by the
7 Commission. Is that your view of the destination?

8 A. No. That is much too simplistic and assumes there is no margin for error
9 in the results of a study. In addition, no sensitivity analysis has been done to determine
10 how robust the study results are with respect to transient changes in the distribution of
11 Aquila's costs. Such changes might include the addition of new generating plant and
12 fluctuations in fuel prices.

13 Q. Should the Commission consider in Aquila's pending rate case how the
14 distribution of Aquila's costs of providing service may have changed since the last rate
15 case?

16 A. Yes. The Staff has performed that analysis in Aquila's pending rate case
17 and the results of its class cost-of-service study are quite different from the results based
18 on costs and revenues determined in Aquila's last rate case. The parties in this case used
19 cost data from that last rate case for the studies they performed in this case.

20 Q. In Section III of the prefiled rebuttal testimony of Aquila witness Mr.
21 Tracy, he addresses a plan to arrive. For Mr. Tracy the plan to arrive is to take one giant
22 step. Is that your view of a plan to arrive?

1 A. No. The Commission should consider the combined impact of any
2 approved rate structure changes and any approved shifts in class revenue responsibility
3 together with any allowed overall increase in revenues in determining how big of a step
4 to take.

5 Q. At the top of page 5 of the prefiled rebuttal testimony of Aquila witness Mr.
6 Tracy, he proposes two alternatives for implementing a combined increase in excess of 15%
7 to 20%. One is to phase in the changes with a single order. Please comment on this
8 alternative?

9 A. Since I doubt that Mr. Tracy has the authority to commit Aquila, Inc. to a
10 phase-in of any rate increase granted in its pending rate case, I assume he means a phase-
11 in of the revenue shifts and Aquila's proposed rate structure changes so that no customer
12 would have its rates increased by more than 15% to 20% in each phase of the phase-in.
13 Since Aquila has produced no evidence in this case as to how customers would be
14 impacted by its proposed rate structure changes, this approach would be impossible.

15 Q. Mr. Tracy's alternative proposal is to take the steps in successive revenue
16 cases. Please comment on this alternative?

17 A. This alternative is consistent with the proposals of all of the other parties,
18 unless his comment that "this approach requires some commitment on the part of the
19 Commission to support that effort" implies that the Commission would not revisit a class
20 cost of service determination until the "phase-in" had been completed.

21 Q. Do you have any further testimony at this time?

22 A. Yes, I have one additional item, a correction that I have already provided
23 to the parties. Aquila witness Matt Tracy pointed out to me late last week that in

Surrebuttal Testimony
James C. Watkins

1 reviewing my workpapers provided with my direct testimony in this case that the
2 allocation of transmission costs to 12/30 looked awfully high. I finally found the
3 problem---in the calculation of the transmission cost allocator, I neglected to convert the
4 order of the hourly costs that were developed for January 1 through December 31 to the
5 order of the hourly class loads that were developed for June 1 through May 31. I
6 corrected that problem and provided the revised TOU allocation factors to Mr. Brubaker,
7 Mr. Tracy and Ms. Meisenheimer on the morning of October 25, 2005. Staff Witness
8 James A. Busch has updated the Staff's class cost-of-service study to reflect the change
9 in the transmission capacity allocator and has presented those results in his surrebuttal
10 testimony.

11 Q. Does this complete your prefiled testimony in this case?

12 A. Yes.