

Exhibit No.:
Witness: Maurice Brubaker
Type of Exhibit: Surrebuttal Testimony
Issue: Cost of Service
Sponsoring Party: Ag Processing, Inc.
Federal Executive Agencies
Sedalia Industrial Energy
Users' Association
Case No.: EO-2002-384

**Before the Public Service Commission
of the State of Missouri**

In the Matter of an Examination of Class Cost of Service)
and Rate Design in the Missouri Jurisdictional Electric)
Service Operations of Aquila, Inc., formerly known as) Case No. EO-2002-384
UtiliCorp United Inc.)
_____)

Surrebuttal Testimony of

Maurice Brubaker

On behalf of

**Ag Processing, Inc.
Federal Executive Agencies
Sedalia Industrial Energy Users' Association**

Project 7796
October 28, 2005



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of the State of Missouri**

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and Rate Design in the Missouri Jurisdictional Electric)
Service Operations of Aquila, Inc., formerly known as)
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Case No. EO-2002-384

STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

Affidavit of Maurice Brubaker

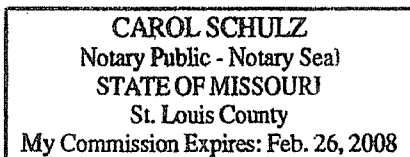
Maurice Brubaker, being first duly sworn, on his oath states:

1. My name is Maurice Brubaker. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 1215 Fern Ridge Parkway, Suite 208, St. Louis, Missouri 63141-2000. We have been retained by Ag Processing, Inc., Federal Executive Agencies and the Sedalia Industrial Energy Users' Association in this proceeding on their behalf.
2. Attached hereto and made a part hereof for all purposes is my surrebuttal testimony which was prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. EO-2002-384.
3. I hereby swear and affirm that the testimony is true and correct and that it shows the matters and things it purports to show.



Maurice Brubaker

Subscribed and sworn to before this 27th day of October 2005.





Notary Public

My Commission Expires February 26, 2008.

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Surrebuttal Testimony of Maurice Brubaker

1 **Q ARE YOU THE SAME MAURICE BRUBAKER WHO HAS PREVIOUSLY FILED**
2 **DIRECT TESTIMONY AND REBUTTAL TESTIMONY IN THIS PROCEEDING?**

3 A Yes, I am.

4 **Q WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?**

5 A I will respond to the rebuttal testimony of OPC and Commission Staff witnesses with
6 respect to cost of service issues. Also, I will reference responses to data requests
7 that were served on Staff and OPC, to which replies were not timely provided, making
8 it impossible to consider those responses in the preparation of my rebuttal testimony.

9 **Executive Summary**

10 **Q PLEASE SUMMARIZE YOUR TESTIMONY.**

11 A My testimony may be summarized as follows.

12 1. In the updates to their cost of service studies, both Staff and OPC continue to use
13 the same flawed methods that they used in the studies that accompany their
14 direct testimony.

**Maurice Brubaker
Page 1**

- 1 2. The Staff's allocation method is not based on cost-causation at all.
- 2 a. It assigns capacity costs to all hours of the year regardless of whether any
- 3 hour had any influence at all on the decision to install capacity, or the type of
- 4 capacity to install.
- 5 b. It does not accurately implement the system planning principals that it
- 6 explores, and in fact is in conflict with them.
- 7 c. It is more of a bookkeeping exercise than a cost-causation analysis.
- 8 3. Both Staff and OPC agree that the methodologies they are proposing for
- 9 allocation of generation fixed costs are not used in any other state.
- 10 4. OPC's reliance on a Rural Electrification Administration distribution investment
- 11 study, using data from the 1970s, is misplaced and does not support OPC's
- 12 failure to include a customer component in primary distribution equipment.
- 13 5. Despite Staff's claim to the contrary, I have not used the peak responsibility
- 14 allocation method for generation and transmission. Rather, as explained in some
- 15 detail in my direct testimony, I used an average and excess allocation
- 16 methodology.

17 **Allocation of Generation and Transmission Fixed Costs**

18 **Q HAVE YOU REVIEWED THE REBUTTAL TESTIMONIES OF STAFF AND OPC?**

19 A Yes.

20 **Q DID STAFF AND OPC PROVIDE UPDATES OF THEIR CLASS COST OF SERVICE**

21 **STUDIES?**

22 A Yes. Mr. Busch provided an update for Staff and Ms. Meisenheimer provided an

23 update for OPC.

1 **Q DID YOU NOTE ANY MATERIAL DIFFERENCES IN APPROACH OR**
2 **METHODOLOGY BETWEEN THE STUDIES OFFERED BY THESE WITNESSES IN**
3 **THEIR DIRECT TESTIMONY AND THE UPDATED STUDIES CONTAINED IN**
4 **THEIR REBUTTAL?**

5 A No. The same basic methodology that was used in preparation of the studies which
6 accompanied their direct testimonies continues to be used in these update studies
7 that accompany their rebuttal testimonies.

8 As a result, all of the shortcomings associated with their initial studies remain
9 in their updated studies.

10 **Q PLEASE EXPLAIN.**

11 A Let me begin with the Staff's methodology. In SIEUA and AGP Data Request No. 2,
12 Staff was asked about its reference at page 11 of Mr. Busch's direct testimony that
13 Staff's methodology in this case "...is equivalent to the capacity utilization method if
14 each increment of capacity is priced at its marginal cost." In responding, Mr. Watkins
15 stated "Capacity Utilization is the method of allocating each block of capacity to the
16 time periods in which that capacity is utilized to serve load, so that its cost can then
17 be allocated to customer classes based on their loads in that time period." Therein, is
18 the fundamental problem.

19 **Q HOW IS THIS A PROBLEM?**

20 A Staff's allocation methodology assigns capacity cost to every hour during which any
21 generation unit operates. It doesn't matter that it is the middle of the night, it doesn't
22 matter that it is during some other off-peak period, and it doesn't matter whether the
23 load in that hour had any bearing on the decision to install capacity. While Staff says

1 that the concept behind its allocations is to reflect “cost-causation,” its allocation
2 method does nothing of the kind. Staff’s method is not an analysis of the causation of
3 the costs of generation. Indeed, the phrase “capacity utilization” is very descriptive of
4 the objective and mechanics of Staff’s methodology and clearly reveals that Staff
5 believes that it is appropriate for capacity costs to be allocated to every hour,
6 regardless of whether loads in that hour have anything at all to do with the decision to
7 install capacity. Stripped of the rhetoric, this looks more like an exercise in
8 bookkeeping than in cost-causation analysis.

9 **Q DID STAFF’S RESPONSE TO DATA REQUESTS ALSO PROVIDE CITATIONS OF**
10 **PREVIOUS CASES TO WHICH MR. BUSCH REFERRED AT PAGE 12 OF HIS**
11 **DIRECT TESTIMONY WHEN HE SAID THAT “THE TOU ALLOCATION**
12 **METHODOLOGY HAS BEEN FAVORED BY PAST COMMISSIONS”?**

13 **A**Yes. In response to SIEUA and AGP Data Request No. 3, Staff provided citations to
14 three Commission cases from the early- to mid-1980s.

15 **Q DO THESE CASES FROM 20 YEARS AGO PROVIDE BASIS FOR ADOPTION OF**
16 **STAFF’S PROPOSALS IN THIS CASE?**

17 **A**No. In none of these cases are the facts and circumstances remotely comparable. In
18 one of these cases the main issue was how to appropriately allocate costs when
19 there was one very large interruptible load on the utility’s system. The other two
20 cases dealt with circumstances where the utility was placing into rates a new,
21 extremely expensive, nuclear generation facility and customers were facing extremely
22 large rate increases. Thus, the facts and circumstances being addressed in these
23 cases differ significantly from the circumstances in the case at hand.

1 **Q WHAT ELSE IS NOTABLE ABOUT THOSE CASES?**

2 A In each instance, the Commission pointed out that it was choosing an allocation
3 approach from among those that it had been offered on the record. I do not read the
4 cases to say that the Commission adopted a methodology for all time, or that the
5 approach used in those cases was to be considered reasonable under all
6 circumstances, or to the exclusion of any other approach.

7 More particularly, in each instance the Commission seemed to be saying that
8 a pure “peak responsibility” allocation method had shortcomings, and methods that
9 considered a broader allocation basis were preferred. This may explain, in part, why
10 Mr. Watkins would like to have this Commission believe that I have used the peak
11 responsibility cost allocation methodology. I have not used a peak responsibility
12 allocation and will address this contention later in my testimony.

13 **Q DID OPC CITE THESE SAME CASES IN ITS RESPONSE TO SIEUA AND AGP**
14 **DATA REQUEST NO. 5?**

15 A Yes.

16 **Q AT PAGES 3 AND 4 OF HIS REBUTTAL TESTIMONY MR. WATKINS DISCUSSES**
17 **TECHNOLOGY CHOICES AVAILABLE TO A UTILITY IN DOING ITS**
18 **GENERATION CAPACITY PLANNING. DOES STAFF’S METHODOLOGY**
19 **APPROPRIATELY TAKE THESE FACTORS INTO CONSIDERATION?**

20 A No, it does not. Even if one were to accept the Staff’s premise that the technology
21 choices considered in planning should be incorporated into an allocation factor,
22 Staff’s method does not give proper recognition to planning considerations.

1 To illustrate, I will draw from an example that I included in my rebuttal
2 testimony at pages 11 through 15. This example showed that in evaluating the
3 choice between a combustion turbine peaking unit and a combined cycle unit, that the
4 combined cycle unit was the economic choice if it was expected to operate 1,000
5 hours or more per year. An allocation methodology that incorporated system
6 planning principles, as Staff purports to do, would only consider 1,000 hours, and not
7 8,760 hours. Yet, under Staff's methodology, capacity cost is allocated to each and
8 every one of the 8,760 hours per year, even though 7,760 of those hours had
9 absolutely nothing to do with the decision to install the combined cycle unit as
10 contrasted to a peaking unit.

11 Staff's approach to incorporating system planning into the allocation question
12 is overly simplistic, and as I said before, more nearly resembles a bookkeeping
13 exercise than an analysis of cost-causation.

14 **Q IN YOUR REBUTTAL TESTIMONY YOU INDICATED THAT YOU ARE NOT**
15 **AWARE OF THE ALLOCATION METHODOLOGY THAT STAFF HAS PROPOSED**
16 **TO USE FOR GENERATION BEING USED IN ANY OTHER STATE. HAS STAFF**
17 **CONFIRMED THIS?**

18 **A**Yes. In response to SIEUA and AGP Data Request No. 12, Mr. Busch confirmed that
19 it is not used anywhere else.

1 **Q ALSO, IN YOUR REBUTTAL TESTIMONY YOU INDICATED THAT YOU HAD NOT**
2 **SEEN THE METHOD PROPOSED BY OPC FOR ALLOCATION OF GENERATION**
3 **CAPACITY USED IN ANY OTHER JURISDICTION. DID OPC CONFIRM THIS?**

4 **A Yes. In response to SIEUA and AGP Data Request No. 13. OPC confirmed that its**
5 **method is not used anywhere.**

6 **Q AT PAGE 1, AND AGAIN AT PAGE 3, OF HIS REBUTTAL TESTIMONY, MR.**
7 **WATKINS CLAIMS THAT YOU USED A PEAK RESPONSIBILITY ALLOCATION**
8 **METHOD FOR GENERATION. IS HE CORRECT?**

9 **A No, he is not correct. I did not use a peak responsibility allocation methodology for**
10 **any costs. As explained in my direct testimony, at pages 20 to 23, I used an average**
11 **and excess allocation method which relies on class non-coincident peak demands**
12 **and class energy consumption for the allocation of generation and transmission**
13 **costs. Accordingly, all of Staff's commentary with respect to my generation allocation**
14 **methodology is inapplicable.**

15 **Definition of Classes**

16 **Q ON PAGE 2 OF HIS REBUTTAL TESTIMONY, MR. BUSCH INDICATES THAT IN**
17 **YOUR DIRECT TESTIMONY YOU USED SUBCLASSES, RATHER THAN**
18 **CLASSES, TO DERIVE CLASS PEAKS FOR THE RESIDENTIAL AND CERTAIN**
19 **OTHER CUSTOMER CLASSES. IS MR. BUSCH CORRECT?**

20 **A He is only correct in part.**

1 **Q PLEASE EXPLAIN.**

2 A First, for production and transmission allocations I used the broad classes. I do not
3 believe that there is any difference in my class definitions for this purpose as
4 compared to Staff. There is also no difference with respect to distribution substations
5 and distribution primary investment. The only place that I utilized the subclass peak
6 demands was in the allocation of secondary conductors and devices. Investments at
7 the secondary level are much more related to individual customer peak demand than
8 to broad class peak demands, so it was appropriate to make this distinction. It
9 recognizes, for example, that residential space heating customers experience their
10 peak demands in the wintertime, and that secondary and other system elements that
11 are close to the customer must be sized to meet the higher winter peak demands of
12 these customers.

13 **Allocation of Portions of Accounts 364-367**

14 **Q BEGINNING ON PAGE 7 OF HER REBUTTAL TESTIMONY, OPC WITNESS**
15 **MEISENHEIMER DISCUSSES REASONS WHY SHE BELIEVES THAT PRIMARY**
16 **DISTRIBUTION FACILITIES HAVE ONLY A DEMAND-RELATED COMPONENT**
17 **AND NO CUSTOMER COMPONENT. HAVE YOU REVIEWED THIS TESTIMONY?**

18 A Yes. She bases a large part of her conclusion on an article published in a 1980
19 *Public Utilities Fortnightly*.

20 **Q HAVE YOU REVIEWED THAT ARTICLE?**

21 A Yes. Essentially, this article reported on the results of a study conducted by the Rural
22 Electrification Administration (then REA, now RUS) of changes in distribution plant

investment and number of customers over the period 1971 to 1978 for a large sample of REA distribution utilities.

Q DO YOU BELIEVE THAT THE STUDY WOULD BE APPLICABLE TO AQUILA?

A It is difficult to see that a study conducted for a group of REAs using data that is now 30 years old would be applicable to Aquila. Not only is the data quite old, but it is questionable whether the characteristics of rural electric systems are applicable to most of Aquila's service territory. Not only has technology changed, but certainly a large part of Aquila's service territory cannot be described as rural.

Q PUTTING ASIDE THE QUESTION OF APPLICABILITY, DO THE STUDY RESULTS STAND FOR THE PROPOSITION THAT MS. MEISENHEIMER ATTRIBUTES TO IT?

A No. Ms. Meisenheimer's cites to this article for the proposition that investment in distribution facilities is not correlated with the number of customers. However, the study did not address this question. The study was basically done to examine economies of scale in the electric distribution utilities.

Indeed, at page 37 the author notes:

"In 1979 we analyzed three randomly selected samples of distribution borrowers' statistics. Multiple regression studies of the data indicated high probabilities that historical economies of scale at the distribution level still exist and would be confirmed by extensive economic analyses of the total population. Our a priori reasoning, years of experience, size stratification analyses, and the glaring lack of proof to the contrary had let us to that thesis."

Indeed, the more extensive statistical study did in fact verify this. The conclusion stated at page 38 of that article is:

"The consistency of the inverse correlations with change in year-round farm and residential consumers and at all levels of growth rate show

1 continued economies of scale with respect to distribution system
2 investment.”

3 In other words, the study found that investment per customer decreased as
4 customers were added. This provides no basis for the conclusion that Ms.
5 Meisenheimer has drawn, namely that investment in certain aspects of the distribution
6 system are not related to the number of customers. This is a question that the REA
7 study did not even address. Rather, as the article notes, it confirms the existence of
8 economies of scale. Thus, it provides no support for her position concerning the
9 proper classification of distribution primary investment.

10 **Q DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?**

11 **A** Yes, it does.

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