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Issues: Cost Allocation and Rate Design
Witness: Paul R. Herbert
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Sponsoring Party: Missouri-American Water Company
Case No.: WR-2003-0500
Date: December 5, 2003

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WR-20003-0500

SURREBUTTAL TESTIMONY

OF

PAUL R. HERBERT

ON BEHALF OF

MISSOURI-AMERICAN WATER COMPANY

JEFFERSON CITY, MISSOURI

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

IN THE MATTER OF MISSOURI-AMERICAN)	CASE NO. WR-2003-0500
WATER COMPANY FOR AUTHORITY TO FILE)	
TARIFFS REFLECTING INCREASED RATES)	
FOR WATER SERVICE)	

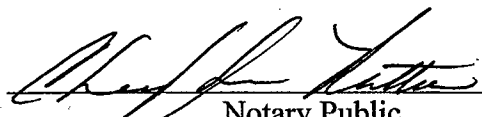
AFFIDAVIT OF PAUL R. HERBERT

Paul R. Herbert, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying surrebuttal testimony entitled "Surrebuttal Testimony of Paul R. Herbert"; that said surrebuttal testimony was prepared by him and/or under his direction and supervision; that if inquires were made as to the facts in said surrebuttal testimony, he would respond as therein set forth; and that the aforesaid surrebuttal testimony is true and correct to the best of his knowledge.



PAUL R. HERBERT

Commonwealth of Pennsylvania
County of Cumberland
SUBSCRIBED and sworn to
before me this 2nd day of DECEMBER 2003.



Notary Public

My commission expires:

NOTARIAL SEAL
CHERYL ANN RUTTER, Notary Public
Camp Hill Boro, Cumberland County
My Commission Expires Feb. 20, 2007

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1 **1. Q. Please state your name and address.**

2 A. My name is Paul R. Herbert. My business address is 207 Senate Avenue,
3 Camp Hill, Pennsylvania.

4 **2. Q. By whom are you employed?**

5 A. I am employed by Gannett Fleming, Inc.

6 **3. Q. Please describe your position with Gannett Fleming, Inc.**

7 A. I am Senior Vice President of the Valuation and Rate Division.

8 **4. Q. Have you previously submitted direct testimony in this rate proceeding?**

9 A. Yes. I submitted direct testimony and exhibits identified as Exhibit Nos. PRH
10 and PRH-1, and rebuttal testimony concerning cost of service allocation and
11 rate design.

12 **5. Q. What is the purpose of your surrebuttal testimony in this proceeding?**

13 A. The purpose of my surrebuttal testimony is to address the cost of service
14 allocation and rate design issues presented in the rebuttal testimonies of
15 Commission Staff witness Wendell R. Hubbs, Office of Public Counsel
16 witness Barbara A. Meisenheimer, St. Joseph Water Rate Coalition witness
17 Diane Drainer, and City of Riverside witness Donald Johnstone.

18 **Staff Witness Hubbs**

19 **6. Q. Please address the rate design testimony of Mr. Hubbs.**

20 A. I would first like to address the rate design in the seven districts other than
21 Jefferson City and St. Louis County. It is very important to understand the
22 history of the rates that were effective prior to the last case (WR-2000-281),
23 as well as how the rates were determined in that case which are now in effect

1 in those districts.

2 Prior to the last case (i.e., before 2000), the rates in Brunswick, Joplin,
3 Mexico, Parkville, St. Josephs, St. Charles and Warrensburg, were based on
4 a single tariff, which consisted of a common set of customer charges by meter
5 size and a single declining block structure applicable to all classes of users.
6 That is, regardless of the customer's revenue classification (residential,
7 commercial, industrial, public or sales for resale) a customer's bill was based
8 on this common rate schedule which was applicable to all seven districts.

9 In the last case at WR-2000-281, the Company proposed to continue
10 single tariff pricing in all seven districts, with a single declining block structure
11 and common customer charges applicable to all users in the seven districts
12 regardless of their class. Unfortunately, the Commission reversed itself ruled
13 in favor of district-specific pricing and essentially adopted the Staff's proposed
14 district-specific, and customer class specific, rate design. In response to the
15 Commission's Order, Staff designed the rates that are in effect today. These
16 rates include a common set of customer charges with thirty-five different
17 declining block rate structures, one for each of the five classes of customers
18 within the seven districts.

19 **7. Q. Why did Staff use 35 different sets of rates?**

20 A. I am not certain, however I believe that Staff was not aware that you can meet
21 certain class cost of service goals by using one declining block
22 structure. Instead, Staff simply increased the existing single declining block
23 rates by the necessary percents required for each class in each district. This

1 resulted in the convoluted set of rates by district that we now have. It is also
2 significant to note that in most districts, the industrial and resale rates are
3 higher than residential rates which is exactly the opposite of what a class cost
4 of service study would show.

5 **8. Q. How do we fix the problem?**

6 A. Unfortunately, in order to fix the problem and end up with a rate structure that
7 makes sense, it will cause some increases and decreases within rate classes
8 depending on the level of district specific revenues ultimately allowed in this
9 case. What's troubling to me is that the Company is being blamed for
10 proposing a rate structure that creates these increases and decreases within
11 classes when the Company is only trying to rectify the problem created by
12 Staff when it designed the present rate structure. The point I'm trying to make
13 is that the proposed rates are not the problem, it's the present rate structure.

14 **9. Q. Please illustrate the problem with the present rate design in St.**
15 **Joseph's District.**

16 A. First, remember the Company, in the last case, was proposing to continue the
17 single tariff rate structure in all seven districts and therefore proposed a new
18 single tariff which increased revenues approximately 55%, (which included
19 increases that ranged from 51% for Residential to 66% for sales for resale
20 classifications). To accomplish this, the Company proposed a 20% increase
21 to all customer charges and about a 67% increase to all consumption block
22 charges, as follows:

		<u>Present</u>	<u>Proposed</u>
1			
2	First 100,000	\$1.9548	\$3.2633
3	Next 1,900,000	1.0951	1.8280
4	Next 3,000,000	0.8451	1.4107
5	Over 5,000,000	0.5691	0.9500

6 Also recall that one of the primary reasons for the Company's rate increase
7 request was the need to recover the costs of the new St. Joe's treatment
8 plant. So, a large increase to the consumption charges was appropriate
9 because base costs increased with the added cost of treatment.

10 However, the Commission ordered district specific pricing, not single tariff
11 pricing. This placed a heavy burden on the St. Joseph District customers
12 requiring large increases because they had to carry the full cost of the new
13 treatment plant on their own. Based on the cost allocation results and using
14 the same basic customer charges proposed by the company, Staff proposed
15 the following increases to the consumption charges: Residential – 47.3%,
16 Commercial – 72.7%, Industrial – 177.3%, OPA – 102.6%, and Sales for
17 Resale – 239%, resulting in the rates set forth below:

	<u>Res.</u>	<u>Com.</u>	<u>Ind.</u>	<u>OPA</u>	<u>SFR</u>	
19	1 st	\$2.8793	\$3.3757	\$5.4203	\$3.9599	\$6.6267
20	2 nd	1.6131	1.8911	3.0364	2.2184	3.7123
21	3 rd	1.2448	1.4595	2.3433	1.7120	2.8649
22	4 th	0.8383	0.9828	1.5780	1.1528	1.9292

23
24 Alternatively, Staff could have maintained the single declining block structure
25 for each district, with St. Joseph's rates looking something like this for all
26 classes:

27		
28	1 st	\$3.00
29	2 nd	2.70
30	3 rd	2.40
31	4 th	1.75

1 This rate schedule may not have met all the class cost of service goals, but
2 gradualism should also have played a part in the rate design adopted by the
3 Commission. These rates would have been far better than the rates that
4 became effective and would not have created the problem we are now faced
5 with.

6 **10. Q. What is Staff proposing in this case to fix the problem?**

7 A. Staff obviously doesn't like the present rate structure either because it is
8 proposing district specific customer charges and single-block consumption
9 charges for each class for each district. This structure will also cause
10 increases and decreases within classes, but I agree this is necessary in order
11 to have a rate design that makes sense going into the future.

12 **11. Q. How does this compare with the Company's proposal?**

13 A. As far as customer charges are concerned, the Company proposed a 20%
14 increase to the common set of customer charges Mr. Hubbs used in the last
15 case because that is what the Company thought Staff wanted. But now, Staff
16 witness Hubbs proposes district-specific customer charges and criticizes the
17 Company for not doing so. The Company still supports its proposal but does
18 not oppose district-specific customer charges (particularly since all of the
19 other parties seem to want it). But the Company wants all parties to be aware
20 of how that impacts low-use customers' bills in certain districts. I will use the
21 5/8-inch charge in my examples which under present rates is \$7.08 per
22 month. (The Company proposed \$8.50 per month or a 20% increase).

23

1	Brunswick	\$15.28	116% increase
2	Joplin	8.14	15% increase
3	Mexico	13.34	88% increase
4	Parkville	8.78	24% increase
5	St. Charles	5.83	18% decrease
6	St. Josephs	7.89	11% increase
7	Warrensburg	7.93	12% increase

8
9 Several of the above increases are in districts where the Staff is proposing to
10 reduce residential rates, such as Joplin, Parkville, St. Joseph, and
11 Warrensburg. So in those districts, a low-use customer will actually receive
12 an increase when an average or high-use customer will receive a decrease
13 under Mr. Hubbs rate design.

14 **12. Q. Please continue with a comparison of the consumption charges.**

15 A. As mentioned previously, Mr. Hubbs proposes a single block usage charge
16 for each customer class within each district. I agree that this is an appropriate
17 design for the residential class and, in fact, the Company proposed such a
18 design in each district. However for the other classes, especially industrial
19 and sales for resale, a declining block structure is appropriate. Although
20 larger residential customers do not have better load factors than the rest of
21 their class, this is generally not true in the commercial, industrial, OPA and
22 resale classifications. Contrary to what Mr. Hubbs claims, in my experience
23 conducting class demand studies for water companies, larger non-residential
24 users usually do have better load factors which supports the use of declining
25 block rates for these classes.

26 **13. Q. What are some other advantages associated with declining block rates?**

27 A. Mr. Hubbs suggests that in order to have a small mains adjustment in the cost

1 allocation study, you need to separate those customers who are not using
2 small mains into a separate rate class so that only those customers receive
3 the benefit.

4 **14. Q. Is this necessary?**

5 A. No, not at all. By having declining block rates, the large customers who are
6 not served by small mains can receive the benefit by reflecting the small
7 mains adjustment in the tail-block rate, thus only those customers reaching
8 the tail block would receive the benefit of a reduced commodity or
9 consumption rate.

10 **15. Q. What other cost allocation issues would you like to address?**

11 A. Mr. Hubbs criticizes my classification of mains as transmission and
12 distribution saying the distinction is inappropriate.

13 **16. Q. Do you agree?**

14 A. No. The AWWA Manual allocates mains to base, max day and max hour
15 indicating that mains serve these functions. My approach segregates mains
16 into those serving base and max day (transmission) and those serving base
17 and max hour (distribution). This approach is a refinement to the example
18 used in the manual and provides a better measure of main costs allocable to
19 base, max day and max hour.

20 **17. Q. How did Mr. Hubbs allocate mains?**

21 A. By using the same breakdown as I did in my study, so I'm not sure why he is
22 criticizing my classification.

23 **18. Q. What are the differences in allocation of mains?**

1 A. Primarily in the calculation of Factor 4 where I recognize a small mains
2 adjustment and he does not. Also, we differ in the allocation of maintaining
3 mains where he allocates all maintenance expenses on max hour instead of a
4 weighting of max day and max hour. There is no basis for allocating
5 maintenance of mains entirely to max hour and, therefore should be rejected.

6 The Company has sufficiently demonstrated that a small mains
7 adjustment in the St. Joseph, Joplin and St. Louis County districts is
8 appropriate. Mr. Hubbs has also indicated that a small mains adjustment can
9 be appropriate but failed to reflect any benefit in his study. Mr. Hubbs
10 believes that one must segregate such customers into a separate class, but,
11 as I indicated earlier, this is not necessary. Using a declining block design,
12 the benefit of a small mains adjustment can be reflected in the tail block, thus
13 only providing the adjustment to large users.

14 **19. Q. Please explain the differences in class peak factors.**

15 A. Mr. Hubbs and I agree on most class peak factors except for the sales for
16 resale class. He estimates much higher factors, which are closer to
17 residential, because he assumes the sales for resale customers serve mostly
18 residential customers. His assumption ignores three important points. First,
19 most of the larger resale customers have their own storage facilities allowing
20 them to take water at a more constant rate. They can fill their storage tanks
21 during the night and use this storage to meet peak day and hour requirements
22 during the day. This will significantly reduce their peaking factors. Second,
23 some resale customers use the Company's source as base load and have

1 their own supply to meet peak demands. Third, resale customers in St. Louis
2 County are contractually discouraged to peak off of the Company's system
3 and cannot use the Company's sources for peaking purposes. By not
4 recognizing any of these items, Mr. Hubbs' estimated peak factors for the
5 resale class are flawed and should be rejected.

6 **20. Q. Please address Mr. Hubbs position on the recovery of public fire**
7 **protection costs.**

8 A. Mr. Hubbs believes public fire protection costs should be recovered in
9 consumption charges rather than on a per customer basis as proposed by the
10 Company. What this means is that the more water a customer uses, the
11 more she/he will pay for fire protection. Mr. Hubbs position is flawed for many
12 reasons. First, it ignores the fact that fire costs do not vary with water usage.
13 If the consumption on the system would double or be cut in half, the fire
14 demand would not change. Conversely, if the population on a system
15 doubled, the fire demand would increase dramatically because fire demands
16 are based on population. Second, if Mr. Hubbs really believed that fire costs
17 should be recovered through consumption charges, he should have allocated
18 the fire costs to the other classes based on Factor 1. Instead he used total
19 cost of service (Factor 19) which includes consumption related costs as well
20 as costs related to numbers of customers, meters and services. By using
21 Factor 19, his cost allocation and cost recovery are totally inconsistent. That
22 is, he is allocating the costs on a total cost of service basis, but 100% of the
23 cost recovery is in the consumption charges. Third, he totally ignores the fact

1 that most large users, those that would pay the most for fire under his
2 proposal, often provide their own fire protection by paying for a private fire line
3 and sprinkler system. Mr. Hubbs apparently has no response to this point,
4 because he does not address this fact. Fourth, the method the Company is
5 proposing in all districts is the method currently used in St. Louis County and
6 has done so for many years. Staff has not provided any reasoning for
7 changing the method that has previously been approved by this Commission.

8 **21. Q. What does Mr. Hubbs offer to support his position?**

9 A. In his rebuttal testimony he states:

10 " . . . a customer using 50,000 gallons of water a month most likely has
11 facilities that are more valuable than a customer using 5,000 gallons
12 per month."

13
14 Even if this were true, he offers no support that the fire demand or the
15 property value would be ten times that of the smaller user. In fact, in many
16 cases this isn't true. Take for example a small car wash or a small
17 neighborhood laundry. They may use about 50,000 gallons per month, but
18 their property value may not exceed the cost of a modest single family home
19 and their fire demand would even be less.

20 Another example could be two identical single family homes with the same
21 property value and fire demand. The larger user may have a pool, a garden
22 and four teenagers and the small user may have only one or two people living
23 in the home. The difference in consumption could be a factor of ten but the
24 property values and fire demands are the same.

25 These examples prove that water usage has no direct correlation to fire

1 demands and most large users provide their own fire protection. Mr. Hubbs'
2 proposal to include public fire costs in the consumption charges must be
3 rejected in favor of the Company's position.

4
5 **OPC WITNESS MEISENHEIMER**

6 **22. Q. Please address the rebuttal testimony of Ms. Meisenheimer.**

7 A. Ms. Meisenheimer recommends an equal percentage increase to the blocks if
8 a certain district receives an increase in revenue requirement in this case.

9 **23. Q. Do you agree with this proposal?**

10 A. No. As I mentioned before, the existing rate structure is deficient in many
11 ways as a result of the rate design in the last case. To continue the existing
12 structure would be a mistake. The Company's rate structure is the only
13 design that is cost-based and provides declining block rates necessary to
14 achieve certain cost of service goals. Ms. Meisenheimer's rate design
15 proposal should be rejected.

16 **24. Q. Ms. Meisenheimer opposes the Company's plan to add a line item to the
17 customer's bill for public fire protection. Does her criticism have merit?**

18 A. No. She compares the Company's proposal to a surcharge on a phone bill
19 and that her experience is that customers don't like phone bill surcharges.
20 The Company's proposal is to add one line to the bill to recover public fire
21 protection on a per customer basis. It is not a surcharge nor is it complicated
22 or confusing. This method of billing for fire protection has been in existence
23 for many years in the St. Louis County District with no problems or

1 complaints. The Company only wants to use this method in all the other
2 districts. Ms. Meisenheimer's concern is overstated or misplaced.

3
4 **ST. JOSEPH WITNESS DRAINER**

5 **25. Q. Please address the testimony of Ms. Drainer.**

6 A. Ms. Drainer's testimony focuses on the rate design for St. Joseph's District.
7 She opposes the rates proposed by the Company because of the increases
8 and decreases resulting from the change in rate structure under present
9 rates. As explained earlier in rebuttal to Staff witness Hubbs, the existing rate
10 structure is the problem and some drastic changes are necessary in order to
11 rectify the problem.

12 Under the present rates in St. Joseph, the tail-block rates in the
13 residential, commercial and OPA classes are grossly under-priced. A general
14 guideline in rate making is that no rate should be less than the base cost of
15 water. (base costs are those required to produce and deliver water at
16 average load conditions.) I am not certain what the base cost of water was in
17 the last case but it would have been similar to what I calculated in this case,
18 which is approximately \$2.00 per thousand gallons. Recall, that under district
19 specific pricing, St. Joseph district has to support the full cost of the new
20 treatment plant which significantly increased the base cost of water in that
21 district. Therefore, the rate structure should have reflected this dramatic
22 increase to base costs by increasing the tail blocks much higher (percentage-
23 wise) than the first two blocks. As I explained before, this was not the

1 approach taken by Staff. The Staff simply increased the existing rates by a
2 uniform percentage, which varied for each class.

3 **26. Q. You mentioned that the base cost of water is approximately \$2.00 per**
4 **thousand gallons and that the general guideline is that water should not**
5 **be priced below base costs. Why then do you propose a tail-block rate**
6 **for the industrial class of \$1.70?**

7 A. The \$2.00 base costs include small mains as part of the calculation. In St.
8 Joseph District, an adjustment was made to eliminate the cost of small mains
9 from certain large users, which would reduce the base cost for such
10 customers. Additionally, the industrial blocks were structured so that all
11 industrial customers would receive a decrease in their bills. In order to
12 achieve this result, higher rates in the upper blocks were required and this
13 allowed for the tail-block to be reduced to the \$1.70 level.

14 **27. Q. Please summarize your position regarding Ms. Drainer's testimony.**

15 A. Ms. Drainer's proposal that all customers within a class receive the same
16 increase or decrease is simply not appropriate. Her notion that most
17 commercial customers would receive rate increases is wrong. Over 95% of
18 commercial bills in St. Joseph stay within the first block.

19 In order to rectify the present rate structure, it is necessary to adopt the
20 Company's proposed rate design for the reasons described above. To
21 continue the existing structure, which was designed without regard to cost of
22 service principles, would simply perpetuate the significant error that was
23 created in the last case.

1
2 **RIVERSIDE WITNESS JOHNSTONE**

3 **28. Q. Please summarize your position regarding Mr. Johnstone's testimony.**

4 A. Mr. Johnstone opposes the Company's rate design and the use of customer
5 classes to determine rate schedules.

6 Mr. Johnstone opposes the rate design for many of the same reasons Ms.
7 Drainer does. As noted previously, the problem is not with the proposed rate
8 design in this case, but rather the existing rates which bear little, if any,
9 resemblance to cost of service. His proposal to go back to the 1997 rates
10 and work from there could be an option, as long as he understands that a
11 significant increase to the St. Joseph District's revenue requirement took
12 place between then and now (due to the new treatment plant) and that any
13 proposed rate structure needs to reflect that. My view is that in order to meet
14 the cost of service goals, a rate structure, much like the Company proposed,
15 is the best answer.

16 **29. Q. Please address the customer class issue?**

17 A. Mr. Johnstone opposes the use of customer classes for rate schedules if they
18 don't correlate to usage characteristics. Traditionally, the water industry has
19 used residential, commercial, industrial, etc. categories to classify customers
20 for cost allocation purposes as prescribed by the AWWA manual. Also, it was
21 traditional to use one declining block rate schedule to achieve the cost
22 allocation results. This was done prior to the last case as I explained earlier.
23 Having rate schedules by class however, makes it easier to achieve cost of

1 service indications by class. The Company's proposal, which ties the
2 residential block rate to the first block rate for the other classes (except for the
3 industrial class in St. Joseph) makes the customer classification less
4 important because the billing will be the same for the first 100,000 gallons.

5 **30. Q. Is that the basic structure you used in each district?**

6 A. Yes, I tried to use the residential block rate as the first block rate for the other
7 classes in all districts. The exceptions are the industrial class in St. Joseph,
8 the industrial class in Parkville, and the Resale class in St. Charles. These
9 exceptions were necessary to achieve rate reductions as I explained earlier or
10 to meet cost of service goals.

11 **31. Q. Mr. Johnstone provides a rate comparison for St. Joseph's present
12 rates to the Company's proposed rates. Do you have a comment on
13 that schedule?**

14 A. Yes. The present rates shown on his schedule (column B) should include an
15 additional \$0.1393 for each rate block for a property tax surcharge. That will
16 change the percentage increase or decrease that is shown in columns E and
17 H.

18 **32. Q. Does this conclude your surrebuttal testimony?**

19 A. Yes, it does.
20