Exhibit No.: _____
Issues: Cost Allocation and Rate Design
Witness: Paul R. Herbert
Exhibit Type: Rebuttal
Sponsoring Party: Missouri-American Water Company
Case No.: WR-2003-0500
Date: November 10, 2003

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WR-20003-0500

REBUTTAL 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 WATER COMPANY FOR AUTHORITY TO FILE TARIFFS REFLECTING INCREASED RATES FOR WATER SERVICE	)))))	**CASE NO. WR-2003-0500**

AFFIDAVIT OF PAUL R. HERBERT

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

Paul R. Herbert

PAUL R. HERBERT

Commonwealth of Pennsylvania
County of Cumberland
SUBSCRIBED and sworn to
before me this 4th day of November 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. Q. Please state your name and address.

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

2. Q. By whom are you employed?

A. I am employed by Gannett Fleming, Inc.

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

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

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

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

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

A. The purpose of my rebuttal testimony is to address the cost or service allocation and rate design issues presented by Commission Staff witness Wendell R. Hubbs, Office of Public Counsel witnesses Barbara A. Meisenheimer and James A. Busch, and Missouri Industrial Energy Consumers witness Michael Gorman. In addition, I will also respond to the Empire District Electric Company witness Dennis Kalbarczyk's proposal to establish an interruptible rate.

COST OF SERVICE ALLOCATION

6. Q. Please address the direct testimony of Ms. Meisenheimer.

A. Ms. Meisenheimer's testimony describes the use of economies of scope and scale in the development of the mains allocator utilized in Mr. Busch's cost of

service study.

7. Q. Are these concepts typically used in the traditional Base-Extra Capacity method?

A. No, they are not. These concepts are not a part of the traditional Base-Extra Capacity method as described in the AWWA Manual and are not typical of the many water company cost of service studies that I have prepared or reviewed.

8. Q. Is it reasonable to incorporate these concepts in an allocation of costs to customer classifications?

A. No, it is not. Ms. Meisenheimer's premise is that the extra capacity costs of mains represent only the incremental cost of adding such capacity to the system. For example, if the cost to add 50 percent extra capacity over the average capacity required results in an additional cost of something less than 50 percent, rather than use an extra capacity factor of 33 percent (0.50/1.50), as described in the AWWA manual, Ms. Meisenheimer would use an extra capacity factor of only 18 percent. The 18 percent factor is derived by taking the square root of the average day or base capacity factor of 67 percent (1.0/1.5), resulting in a base component of 82 percent. Increasing the base factor to 82 percent and subtracting from 100 percent results in the extra capacity factor of 18 percent.

9. Q. Is this consistent with the AWWA approach?

A. No. Ms. Meisenheimer has introduced marginal or incremental cost concepts

into the allocation of embedded costs to customer classifications, the results of which are used as a basis for designing rates that also are based on embedded costs. Since we are using embedded costs, it is more appropriate to consider the extent to which the facilities are used in meeting base and extra capacity requirements. If, instead of using embedded costs for rate setting, we were to adopt marginal cost pricing in which the extra capacity requirements were priced at today's marginal cost of adding such capacity, Ms. Meisenheimer's concept would at least be consistent. The AWWA manual uses the ratio of capacities, not the ratio of marginal costs to total costs, for allocating costs between the base and extra capacity functions. Ms. Meisenheimer's concept is not described or suggested in any text that sets forth methods for allocation of costs for water, gas or electric utilities.

10. Q. What other comment do you have regarding the economies of scale concept?

A. Ms. Meisenheimer's concept also is inconsistent in not extending her logic to the remainder of the pipe's cost. If we are to determine extra capacity costs based only on the incremental cost of adding such capacity by using a larger size pipe, then we also should determine the base costs based only on the incremental cost of adding the average capacity. The incremental cost of adding the average or base capacity is the cost to install a 6-inch main rather than a main of minimal size or a "zero-inch" main. The cost of a zero-inch main would largely represent the cost of mobilization, trenching, backfilling, paving and restoration. However, these costs are a significant part of the cost

of installing a 6-inch main and would significantly reduce the portion of the main allocated to the base cost function. The portion not allocated to the base or extra capacity functions, i.e., the cost of the "zero-inch" main would be considered a customer cost. This cost would be considered a customer cost because the cost was not incurred to meet usage requirements, but was incurred simply to reach the customer. Such costs are proportional to the number of customers and allocable to classes based on the number of customers in each class.

11.Q. Has the concept of the minimal size or "zero-inch" main been used in cost allocation studies?

A. Yes, it has. Although the AWWA Manual does not discuss this concept, most texts on the subject of allocating costs of gas and electric utilities present this approach, describing it as the minimum system or zero-intercept method of determining the customer cost component of mains or conductors.

12.Q. Would the use of the minimum system or zero-intercept methods be appropriate for the Company's system?

A. The use of these methods may be appropriate for determining a customer component to the Company's distribution mains. A significant portion of the cost of the system is expended just to reach the customer's service line. Such an approach would certainly be appropriate from a consistency perspective if the concept of incremental cost of capacity is introduced into the bases for allocating costs to functions. However, such an approach would not be consistent with the AWWA Manual and would not represent a

traditional functional allocation of cost of a water system.

13.Q. Please summarize your comments concerning Ms. Meisenheimer's economies of scale concept.

A. The use of economies of scale to justify the determination of extra capacity costs based on the incremental or marginal cost of capacity is not appropriate. Such an approach is not traditional or typical in the water industry or the gas and electric industries. The concept is not set forth in texts on the subject of cost allocation. Ms. Meisenheimer's concept has several inconsistencies in that it introduces marginal cost concepts into an allocation of embedded costs and not logically extending itself to the next level of functionalization, i.e. the identification of a portion of mains as customer related. Ms. Meisenheimer's economies of scale concept and the resultant indication of costs by customer class, as set forth in Mr. Busch's cost allocation exhibits, should be rejected.

14Q. How is the concept of economies of scope incorporated in OPC's study?

A. It is not clear how Ms. Meisenheimer or Mr. Busch incorporated this concept in their study. Generally, the principle attempts to ensure that each customer class's revenue requirement is no more than the cost required to provide service to that class on a stand alone basis and no less than the cost required to provide service on an incremental basis. I believe that the result of applying the base-extra capacity method as I have in this case provides for the proper sharing of the total cost of service and does not violate the

principle of economies of scope as described in Ms. Meisenheimer's testimony.

15.Q. Please address the cost allocation testimony of Mr. Hubbs.

A. Mr. Hubbs provided cost of service allocations for district specific costs using the traditional base-extra capacity method. The differences between the results of Mr. Hubbs studies and those I prepared are difficult to compare because he used Staff's level of revenue requirement which is quite different than the Company's claim. One distinct difference that affected the results in the St. Louis County, Joplin, and St. Joseph districts was that Mr. Hubbs did not use a small mains adjustment as I did for the purposes of allocating mains. My studies reflect that many of the large users in those districts are served primarily from large transmission mains (generally larger than 10-inch) and do not benefit from the smaller mains in the distribution system. A more detailed explanation of my small mains adjustment is provided on pages 8 through 10 of my direct testimony.

16.Q. Why is a small mains adjustment appropriate?

A. Generally, water flows from treatment facilities in large mains often referred to as transmission mains. The primary purpose of transmission mains is to transfer water from the treatment facilities to the distribution system. The distribution system consists of many miles of smaller mains which deliver water to customers' service lines. In larger systems, large users such as industrial and sales for resale customers are located on transmission mains and take water before it reaches the distribution system. My study recognizes

this fact and excludes certain large users from the allocation of small mains.

17.Q. What is the effect of Mr. Hubbs not using a small mains adjustment?

A. By not using a small mains adjustment, Mr. Hubbs' cost allocations result in significantly higher costs allocated to industrial and sales for resale classifications or Rates B, D and J in St. Louis County. This will have an adverse impact on industry and will make it more difficult for the Company to meet competitive pressures. As shown on his Schedule A for St. Louis County, Rates B, D and J require substantial increases while the overall cost of service for this district, based on Staff's revenue requirements, is a 17% decrease.

18.Q. Did Mr. Hubbs offer a reason for changing his position?

A. No, he did not.

19.Q. Please address the testimony of Mr. Gorman.

A. Mr. Gorman generally accepts the cost of service studies I prepared but offers two minor adjustments, the allocation of purchased power and contract sales. Mr. Gorman suggests that the demand charge portion of the Company's electric bills be allocated on an extra capacity basis, using my Factor 5 instead of Factor 1 based on average daily sales. I would agree with this refinement but not to the extent that Mr. Gorman suggests. I have conducted an analysis of another large water company power bills and noticed that most of the bills include a monthly demand charge regardless of the level of service. Most electric rates are structured with a customer charge, a demand

charge and commodity charges. Depending on the rate schedule, there will be a monthly demand charge even if power is taken at a steady rate 24 hours a day, 7 days a week. The extent that the demand charge fluctuates from month to month I would consider to be the extra capacity portion of the Company's power purchases. In my analysis of the other water company, the difference between the minimum demand charge for the lowest demand month and the demand charges for the remaining months resulted in approximately 5% of the total purchased power expense attributable to extra capacity. I would support a refinement to my cost allocation that would allocate 5% of purchased power to the extra capacity function.

20.Q. Please describe Mr. Gorman's allocation of contract sales.

A. In my cost allocation study, I deducted the contract sales from the cost of service from all classes in proportion to the result of each class's cost of service. This recognizes that contract customers have been retained on the system to the benefit of the remaining tariff customers and should offset the cost of service in proportion to each class's cost of service. I disagree with Mr. Gorman's suggestion to use Factor 2 because it would improperly place too much benefit on consumption related revenue.

21.Q. Please summarize your comments on the cost allocation issues.

A. Each of the witnesses supports the use of the base-extra capacity method. However, only the Company's studies have applied the principles consistent with embedded cost rate making and reflect the proper allocation of small mains. It is important that the Company's studies are used for the purposes

of designing rates in this case to ensure a proper allocation of costs to the various customer classes.

RATE DESIGN

22.Q. Please address the parties' rate design proposals.

A. OPC did not propose specific rate schedules, rather Ms. Meisenheimer discusses her rate design principles for district specific pricing (percentage increase by class within districts) based on the OPC's study results. She recommends capping the increase in Brunswick to 15% with the shortfall being recovered from districts that receive decreases.

Mr. Hubbs designed rates based on the staff's revenue requirements within each district. The exception was in Brunswick where Mr. Hubbs suggests that the next highest district rates are charged and that other districts or the Company make up the shortfall. Mr. Hubbs designed district specific customer charges and single block consumption charges for each classification within each district. He reallocated public fire cost of service back to the residential, commercial, industrial and public classifications, based on total cost of service results. He proposes to recover the public fire costs through the consumption charges within each district.

23.Q. Please explain the Company's position with respect to the rate design issues.

A. First, I want to reiterate the importance of using the Company's cost of service studies as a guide for rate design. This will ensure that fair and

equitable rate structures are designed for each customer classification within each district. Also, the Company strongly opposes Mr. Hubbs suggestion that the Company absorb any shortfall in the Brunswick district. This simply is contrary to the notion that ratepayers should pay for all of the prudently incurred costs necessary to provide service to them. The Company does not necessarily object to other reasonable cost shifting efforts to mitigate the rate impact on the Brunswick District.

24.Q. Please address the issue of customer charges.

A. For customer charges, the Company proposed a uniform schedule of customer charges for all districts excluding St. Louis and St. Charles, which has its own schedule of customer charges. The Company believes a uniform schedule of customer charges makes sense, since every customer is metered, has a similar service line, has his meter read in a similar manner, and has his bill prepared at a central location. Also, the present tariff has a uniform schedule of customer charges for all districts except for St. Louis and Jefferson City. For these reasons and for administrative ease and understanding, the Company would prefer to have two sets of customer charges -- one for St. Louis and St. Charles and one for the remaining districts, but would not object to district specific customer charges if all of the other parties support it.

25.Q. Please continue with consumption charges.

A. As mentioned above, Mr. Hubbs designed single-block rates for each classification within each district. The Company proposed single-block

residential rates within each district, so we are in agreement for the residential class. For all districts other than St. Louis and St. Charles, the Company proposed two to four declining block rate structures for each non-residential class. The Company believes that larger-use customers should benefit from declining block rates. Having single-block rates for each class benefits the small users at the expense of large users. The Company needs to retain large users on the system so that they will share in the fixed costs of the system which benefits all users including residential customers. Higher single-block rates may encourage large users to seek or develop alternative supplies to the detriment of the remaining customer base who would have to replace the lost revenue.

Finally, Mr. Hubbs recommends that the public fire costs that he reallocates back to the non-fire, non-resale classes be recovered in the consumption charges. The Company strongly opposes this proposal. The Company believes that such costs should be recovered on a per customer basis, as proposed in the tariffs, or recovered through fixed customer charges. The costs required to provide fire services are fixed. They include the investment and maintenance of larger-sized mains, storage facilities and the fire hydrants themselves in order to provide instantaneous fire suppression when called upon. These costs do not vary with water usage at all. Yet Mr. Hubbs proposes to recover such costs through consumption rates resulting in customers who use more water paying more for fire protection. This unfairly shifts a disproportionate share of these costs to large users.

Furthermore, large users often provide their own fire protection by paying for a private fire line. Having a private fire line connected to a sprinkler system will often eliminate the need for public fire for large users. By including public fire costs in their consumption rate, these customers are, in essence, being double-billed for fire protection. Mr. Hubbs' recommendation should be rejected in favor of the Company's proposal.

26.Q. Please address Mr. Kalbarczyk testimony regarding the contract for the Empire District Electric Company.

A. The Company does not oppose the interruptible rate of $0.666 per thousand gallons proposed by Empire as long as Empire continues to agree to purchase a minimum of $500,000 of water per year. However, the Company objects to the rate proposed by Mr. Kalbarczyk for usage beyond the $500,000 level at the "fully-loaded production cost" of $0.357 per thousand gallons.

27.Q. Why does the Company oppose such a rate?

A. The Company does not see any reason to drop below the tail-block rate of $0.666 just because Empire reaches the minimum purchase of $500,000 of water. There is no cost basis for doing so. The Company still has to deliver this water to the customer and should be compensated for such delivery in addition to the production costs. The $0.666 rate should be applied to all usage by Empire.

28.Q. Does this conclude your rebuttal testimony?

A. Yes, it does.