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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WR-200-281

Rebuttal Testimony of

WILLIAM M. STOUT, P.E.

on Behalf of

MISSOURI-AMERICAN WATER COMPANY (MAWC)

Jefferson City, Missouri

FILED[3]
MAY 04 2000
Missouri Public Service Commission

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's general rate increase.	)))	Case No. WR-2000-281

AFFIDAVIT OF WILLIAM M. STOUT

William M. Stout, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying rebuttal testimony entitled "Rebuttal Testimony of William M. Stout"; that said rebuttal testimony and schedules attached hereto were prepared by him and/or under his direction and supervision; that if inquiries were made as to the facts in said rebuttal testimony and schedules, he would respond as therein set forth; and that the aforesaid rebuttal testimony and schedules are true and correct to the best of his knowledge, information and belief.

William M. Stout

William M. Stout

State of PENNSYLVANIA

County of CUMBERLAND

SUBSCRIBED and sworn to before me this 2ND day of MAY, 2000.

Notary Public

NOTARIAL SEAL
CHERYL ANN RUTTER, Notary Public
Swatara Twp., Dauphin County
My Commission Expires Feb. 20, 2003

My commission expires: FEBRUARY 20, 2003

My County Residence is: DAUPHIN COUNTY

REBUTTAL TESTIMONY
WILLIAM M. STOUT, P.E.

MISSOURI-AMERICAN WATER COMPANY
CASE NO. WR-2000-281
CASE NO. SR-2000-281

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

A. William M. Stout. My business address is 207 Senate Avenue, Camp Hill, Pennsylvania.

2. **Q. Have you previously filed testimony in this proceeding?**

A. Yes. My direct testimony was filed on November 29, 1999.

3. **Q. What is the purpose of your rebuttal testimony?**

A. The purpose of my rebuttal testimony is to comment on the direct and supplemental testimonies of Utility Services Division and Utility Operations Division (Commission staff) witnesses Doyle L. Gibbs, C.P.A., and Wendell R. Hubbs; the Office of the Public Counsel (OPC) witnesses Hong Hu and James A. Busch; and City of Warrensburg et al (Intervenors) witness Ernest Harwig.

4. **Q. What are the subjects of your rebuttal testimony?**

A. The subjects of my rebuttal testimony are (1) the allocation of corporate costs to the operating districts, (2) the allocation of the cost of service by district to its customer classes, (3) the rate design recommendations of Messrs. Busch, Harwig and Hubbs, (4) the affordability of the Company's single tariff pricing proposal and (5) a capital addition surcharge proposal.

ALLOCATION OF CORPORATE COSTS TO DISTRICTS

5. **Q. Have you reviewed the allocation of corporate costs presented by the other parties in this proceeding?**

A. Yes, I have. Commission staff witness Gibbs and OPC witness Hu allocated corporate costs to the operating districts. Intervenors' witness Harwig accepted the results of my allocation in developing his positions in this proceeding.

6. **Q. How do the results of your and Mr. Gibbs' allocations compare?**

A. Although it is somewhat difficult to compare the results of our allocations given the significant differences in revenue requirements and rate base used by the Commission staff in their initial submission, the bases for Mr. Gibbs' and my allocations are very similar. It is my expectation that the use of his allocation factors with a comparable revenue requirement and rate base would produce results very close to those that I developed.

7. Q. Do you have any comments on the allocation factors used by Mr. Gibbs?

A. Yes, I have two comments. First, Mr. Gibbs has allocated the utility plant in service and related depreciation of the corporate district based on the sum of the assigned district and allocated corporate labor. Inasmuch as the plant being allocated is used by those persons whose labor is included in the corporate district, I believe it is more appropriate to use only the allocated corporate labor as the basis for allocating corporate district plant items.

Second, Mr. Gibbs has correctly allocated certain customer accounting costs using the number of bills. However, the number of bills used for the St. Joseph district continues to reflect quarterly billing, rather than adjusting to monthly billing for these customers.

8. Q. Please comment on the allocation of corporate costs to districts by Ms. Hu.

A. Ms. Hu has allocated all corporate costs to districts based on the number of customers in the district. The use of the number of customers does not consider the causative basis for the corporate costs and allocates more costs to the larger districts than is appropriate. Although it is difficult to compare the allocation results, as different revenue requirements and rate base were used

in Ms. Hu's allocations, the results of her allocations should not be considered in evaluating the assigned and allocated cost of serving each district.

9. Q. Have you determined the cost of service by district based on MAWC's rebuttal position on revenue requirements?

A. Yes, I have. Table 3-A of Schedule WMS-3 presents the development of the cost of service by district. The determination is based on Mr. Gibbs' allocation of Commission staff revenue requirements and the assignment or allocation to districts of MAWC's adjustments to such revenue requirements.

ALLOCATION TO CUSTOMER CLASSES

10. Q. Have you reviewed the allocations of district-specific costs to customer classes as performed by Commission staff witness Mr. Hubbs and by OPC witness Ms. Hu?

A. Yes, I have. I have reviewed the testimony, exhibits and workpapers of each witness as they relate to the allocation of district-specific costs to customer classes.

11. Q. Please comment on Mr. Hubbs' allocation of district-specific costs to customer classes.

A. Mr. Hubbs' allocation of district-specific costs to customer classes is based on appropriate methods and factors and results in indications of costs by class that are reasonable.

12. Q. Has Mr. Hubbs used the traditional Base-Extra Capacity Method as described in the American Water Works Manual M-1, "Water Rates"?

A. Yes, he has.

13. Q. Has Ms. Hu, in developing factors for her allocation to customer classes used the traditional Base-Extra Capacity Method?

A. No, she has not. Ms. Hu has introduced the concept of "economies of scale" into the bases for her allocation factors. This concept is not a part of the traditional Base-Extra Capacity Method as described in the AWWA manual and is not typical of the many water company cost of service studies that I have prepared or reviewed.

14. Q. Is the concept of "economies of scale" used by Ms. Hu the same as the economies of scale to which you referred in your direct testimony?

A. No, it is not. My reference to economies of scale refers to the lower cost of service per customer in large water systems as compared to small water systems. Ms. Hu's concept refers to the incremental cost of additional capacity, i.e., that the additional cost of installing an 8-inch main as compared to a 6-inch main is not in proportion to the additional capacity obtained with the 8-inch pipe, but rather reflects an economy of scale.

15. Q. Is it reasonable to incorporate Ms. Hu's economies of scale concept in an allocation of costs to customer classes?

A. No, it is not. Ms. Hu's premise is that, in contrast to Mr. Hubbs' and AWWA's definition of extra capacity costs, extra capacity costs represent only the incremental cost of adding such capacity to the system. For example, if the cost to add the 50 percent of extra capacity over the average capacity required by the system results in an additional expenditure of something less than 50 percent; rather than use an extra capacity factor of 33 percent (50 percent extra capacity/(100 percent average capacity + 50 percent extra capacity)) as

described in the traditional Base-Extra Capacity Method, Ms. Hu would use an extra capacity factor of only 18 percent. The factor of 18 percent is derived by taking the square root of the average day or base capacity factor of 67 percent (100 percent total capacity - 33 percent extra capacity), or 82 percent, increasing the base factor to this level and then deducting this amount from 100 percent to obtain an extra capacity factor of 18 percent.

Ms. Hu has introduced *marginal* or *incremental* cost concepts into the allocation of *embedded* costs to customer classes, 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. Hu'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. Hu's concept is not described or suggested in any text that sets forth methods for allocation of costs for water, gas or electric utilities.

Ms. Hu 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, e.g., the additional cost to install an 8-inch main rather than a 6-inch main; 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 such a main would largely represent the cost of mobilization, trenching, backfilling and paving. However, these costs are a significant part of the cost of installing a 6-inch or 8-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.

16. 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.

17. 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. 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 functionalization of costs for a water system.

18. Q. Please summarize your comments on Ms. Hu'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. Hu's concept has several inconsistencies in that it introduces marginal cost concepts into an allocation of embedded costs and does not logically extend itself to the next level of functionalization, i.e., the identification of a portion of mains as customer related. This concept and the resultant indication of costs by customer class should be rejected.

RATE DESIGN RECOMMENDATIONS OF OTHER PARTIES

19. Q. Have you reviewed the rate design proposals of the other parties' witnesses?

A. Yes. I have reviewed the rate design proposals of Messrs. Hubbs, Busch and Harwig.

20. Q. Please summarize the rate design proposal of Mr. Hubbs.

A. Commission staff witness Mr. Hubbs has designed rates that recover the exact cost of service by customer class within each district as determined from the cost allocation to districts conducted by Mr. Gibbs and the subsequent

allocations to customer classes that he conducted. The rates were designed by adopting MAWC's proposed customer charges and then factoring the present consumption rates to produce revenues equal to the allocated cost of service.

21. Q. Do you agree with the approach used by Mr. Hubbs?

A. No, I do not. Mr. Hubbs has adopted District Specific Pricing (DSP) and has not considered any rate design factors other than cost. Such other factors include gradualism, value of service, understandability and ease of application, social and community concerns and others. Mr. Hubbs' rate design results in increases as high as 490 percent to the Sales for Resale customers in Brunswick with numerous classes receiving increases in excess of 100 percent and decreases as high as 24 percent to the Private Fire customers in St. Joseph and 19 percent to the Commercial customers in Joplin. Such rate changes are beyond the bounds of gradualism, do not recognize the value of service principle, and are confusing in that there are now over 30 rate schedules for MAWC. Further, Mr. Hubbs has not addressed his reasons for abandoning MAWC's Single Tariff Pricing (STP) in favor of DSP.

22. Q. Please summarize the rate design proposal of OPC witness Busch.

A. Mr. Busch proposes what he calls "a compromise between STP and DSP". His proposal is based on (1) a limitation of 15 percent on annual increases to a district over a period of seven years until the revenues by district equal the currently allocated cost of service to each district, (2) an initial increase to Joplin of ten percent and (3) a sharing of the subsidy from Joplin in the Brunswick, Parkville and Mexico districts such that these districts receive the same total

increase over the period. In addition, Mr. Busch proposes to shift revenues between classes within the districts based on the cost of service indications from Ms. Hu's study.

23. Q. Do you agree with Mr. Busch's compromise approach?

A. No, I do not. First, Mr. Busch has not proposed a compromise between STP and DSP. Instead he has proposed a phase-in plan that has as its goal DSP. MAWC witness Jenkins has described the reasons that a phase-in plan is not acceptable. Regardless of the timing of the revenue increases, from the perspective of rate design, it is clear that Mr. Busch has adopted DSP in his proposal.

24. Q. Is Mr. Busch's approach to inter-class shifts reasonable?

A. The type of approach used by Mr. Busch for shifting revenues between classes based on the indications of a cost of service allocation study is reasonable. However, he is relying on the indications of a cost of service study that is not sound and not consistent with the manual of the American Water Works Association as I have previously described. Thus, the proposed inter-class shifts should be rejected as relying on a cost study that does not produce reasonable indications of cost responsibility.

25. Q. Are Mr. Busch's reasons for supporting DSP sound?

A. No, they are not. First, Mr. Busch believes that use of DSP will create accountability, avoid investments in "extravagant, unnecessary facilities", and permit customers a say in the investments that are made in their district. He further believes that "the Company controls rate volatility", that "It alone determines the when and how much is going to be spent in any given district."

Mr. Busch ignores the impact on capital requirements of the regulations of federal and state agencies pursuant to legislation as well as the impacts of nature and customer demands. His theory seems to be that after customers have elected legislators that pass laws establishing safe drinking water requirements, these same customers can then turn around and veto construction of the facilities necessary to comply with these laws. MAWC alone does not control rate volatility or how much is going to be spent. Environmental and economic agencies of the federal and state governments, ***on behalf of the people***, also have a very significant say in how much is going to be spent and, therefore, they also have control over rate volatility.

Mr. Busch also ignores the impacts of nature and customer demands on the need for capital improvements. The Missouri River is known for finding a way out of its banks and for its periodic high levels of turbidity, i.e., Big Muddy. Dealing with such issues while maintaining reliable, quality service that meets the demands of customers is not an inexpensive proposition. The level of control that the Company has is the selection of a *least* cost alternative, not necessarily a *low* cost alternative. Furthermore, the selection of a least cost solution based on long term revenue requirements cannot overcome the inherent front-end loading of rate of return/rate base regulation using original cost. The suggestion that these requirements and constraints will miraculously disappear with the introduction of DSP is unrealistic. MAWC capital spending requirements will not change with DSP, only the manner in which the related revenue requirements are recovered will change.

26. Q. Please continue your discussion of Mr. Busch's rationale for DSP and against STP.

A. Mr. Busch also criticizes STP for not achieving its intended goal of rate stability because the proposed increase in rates approximates 50 percent. His solution is to recommend DSP rates that will result in cumulative increases of 66 to 93 percent over the next few years for four of the seven districts. Larger increases such as these for certain districts will continue under DSP. It is Mr. Busch's unacceptable phase-in plan that produces a false sense of stability, not his proposal to use DSP. STP provides more rate stability than DSP.

Finally, Mr. Busch suggests that the value of the service received is not the same because customers do not receive the same service. He notes hardness, taste and odor as issues that affect the sameness of service. Although such issues are a concern and, if severe, do affect the aesthetics of the water, they do not change the fact that the water supply enables customers to drink, cook, bathe and water their lawns with a safe and reliable product. Any variation in the value of this service is relatively minor in comparison to the potential temporal variations in the cost of service. STP is far more consistent with the value of service than DSP.

27. Q. Please summarize the rate design proposal of Mr. Harwig.

A. Mr. Harwig has proposed DSP with a three-year phase-in plan that limits the increase in a single year to 35 percent. Although more palatable than Mr. Busch's phase-in, it is nevertheless unacceptable. Further, from a rate design perspective, it will result in increases to districts that range from negative ten to positive 146 percent over a three-year period with the Brunswick District

receiving further increases in subsequent years until its rates have increased by 232 percent. Mr. Harwig's proposal for the St. Joseph District of 35 percent is predicated on the treatment facility construction plan of Dr. Morris and not MAWC's actual construction cost.

28. Q. **On page 6 of his testimony, Mr. Harwig states that your arguments in support of STP related to the age of plant are "simplistic and unsupported by fact". Please comment on this statement.**

A. Mr. Harwig is ignoring the facts. In Case No. WO-98-204, the district with the youngest average age was St. Charles and the assigned and allocated cost to this district was greater than the STP revenue. In contrast, the age of plant in the St. Joseph District was the second highest and its STP revenues were significantly greater than its assigned and allocated costs. In this case, St. Joseph now has the youngest average age of plant and requires a temporal subsidy, such as the one received by St. Charles. On the other hand, St. Charles no longer has the youngest plant and its STP revenues exceed its assigned and allocated costs. These facts demonstrate the manner in which the age of plant impacts the cost of service on a temporal basis. Mr. Harwig's search for sufficient investment in the next four years to reverse the impact of the St. Joseph treatment plant as well as the current significant investments in Mexico, Parkville and Warrensburg is short-sighted. Public policy should be established with a view to the long term future, not the next few years.

29. Q. **On pages 9 and 10, Mr. Harwig states that your treatment level argument is "totally irrelevant to this case" as "Rates must be set in this case on the**

basis of treatment regulations ... which are in effect right now..." Please comment.

A. Mr. Harwig is once again short-sighted and not mindful of the trend to increasing levels of regulation that have occurred over the past 30 years. Although it is not possible today to predict exactly what the treatment requirements will be in the future, it is difficult to escape the conclusion that they will be greater and require further investment on the part of MAWC. As each district constructs facilities and implements procedures to achieve these new requirements, the cost of service in that district will increase. As those without the latest technologies and processes obtain them, their unit costs related to treatment, adjusted for economies of scale as discussed below, will move past the unit costs related to treatment in the other districts. The ability to spread such costs over a larger base as they are incurred rather than burdening a single district removes a potential disincentive, i.e., the need to seek large increases from a single district and the adverse reaction of its customers, from providing the highest and best quality service. Customers have given to their representatives in the legislative, executive and judicial branches of government the power to determine the level of treatment that is appropriate. The creation of a system that provides greater encouragement for customers to seek compromises in the manner in which their water is treated in order to avoid the resultant cost is a very slippery slope.

30. Q. **On pages 10 and 11 of his testimony, Mr. Harwig suggests that the large increase proposed in this proceeding contradicts your economies of scale argument. Please comment.**

A. Mr. Harwig has missed my point related to economies of scale if he believes that the proposed increase in this proceeding was driven by the types of costs to which I am referring. The proposed increase is driven by $100 million in capital, most of which enjoys the benefits of economies of scale. Those items of capital that do not enjoy the benefits of economies of scale are, on a system-wide basis, much smaller and not the primary reason for the proposed increase. Such capital, as well as operating costs, is reasonably well absorbed in a large system as compared to the potential impact on the smaller districts. The ability to absorb such costs throughout the entire system is good public policy and supports the use of STP.

31. Q. **Beginning on page 12 of his testimony, Mr. Harwig sets forth his theory of "rate base expansion" as a primary benefit of STP. Do you agree?**

A. Absolutely not. The expansion of rate base does not directly benefit the shareholder of American Water Works Company. In fact, the expansion of rate base requires either the sale of more stock or the issuance of debt. Each of these components of capital requires an appropriate return as determined by the markets and this Commission. Thus, the higher amount of return generated by higher rate base is required to service higher debt or to properly compensate a greater number of shares.

32. Q. **Does STP encourage MAWC to acquire utilities with dilapidated plant or high unit costs?**

A. No, it does not. In my experience, the acquisition of such troubled systems is usually encouraged by government agencies in order to improve service. STP enables the customers in such systems to receive the service that they deserve

at a reasonable price rather than at rates such as those proposed for the Brunswick District by Messrs. Hubbs, Busch and Harwig. Although it may sound corny, helping the little guy is as American as apple pie and is still good public policy. STP promotes such policy, DSP does not.

33. Q. **Would you characterize MAWC's recent acquisitions as having dilapidated plant or high unit costs?**

A. No, I would not. The most significant recent acquisition of MAWC is its merger with St. Louis County Water Company, an excellent system that is three times the size of MAWC.

34. Q. **Please summarize your testimony related to the rate design recommendations of Messrs. Hubbs, Busch and Harwig.**

A. Messrs. Hubbs, Busch and Harwig recommend the adoption of rates that will lead to the use of District Specific Pricing for MAWC. DSP produces very large increases for four of MAWC's seven districts and will continue to produce such increases for the smaller districts in the future. The merits of DSP as outlined by Messrs. Busch and Harwig are based on unrealistic views of the causes of capital expenditures and lead to more drastic increases in rates. The merits of STP as discussed in my direct testimony warrant its continuation and the rejection of their recommendations for DSP.

AFFORDABILITY OF SINGLE TARIFF PRICING

35. Q. **On page 15 of his testimony, Mr. Harwig states that "STP is promoted as a means to achieve affordable rates for ratepayers in general. However, the burden of this goal is arbitrarily placed on the shoulders of a relative few who, by mere chance, also happen to live in a district served by**

MAWC." Is this an accurate portrayal of MAWC's rate proposal in this proceeding?

A. No, it is not. All of the cost allocations prepared in this proceeding determined that, as compared to STP revenues, the Joplin, St. Charles and Warrensburg customers would be subsidizing the Brunswick, Mexico, Parkville and St. Joseph customers. There are 54,026 customers in the Joplin, St. Charles and Warrensburg districts. There are 40,996 customers in the Brunswick, Mexico, Parkville and St. Joseph districts. Suggesting that the burden is being placed on the shoulders of a relative few is certainly misleading.

36. Q. **Does the continued use of STP result in affordable rates in this proceeding?**

A. It most certainly does. Table 3-B of Schedule WMS-3 presents the monthly bill under proposed STP rates for the average residential customer in each district. The rates used in developing these bills are set forth in Table 3-C and are designed to produce revenues equal to the Company's revised revenue requirement claims.

The average residential monthly bill using STP rates will increase from a range of $13.37 to $22.56,averaging $18.84, under present rates to a range of $18.94 to $33.61, averaging $27.68, under proposed rates. The monthly bill increase for the system-wide average residential customer of $8.84 represents $0.29 per day, less than the price of a cup of coffee, a can of soda or a lottery ticket.

Such an increase is certainly affordable given the far greater value of this commodity. While many will readily pay $0.99 for a two liter bottle of soda,

$0.99 will buy a customer nearly 1000 liters of water. Similarly, the cost of the shampoo for washing your hair is far greater than the water required to work with it. The cost of seeding and fertilizing the lawn is far greater than the cost of the water required to nourish it. Also consider the amount most customers pay per month for cable service. As shown in Table 3-E, the average monthly cable bill in 1999 was $28.92, somewhat greater than the proposed monthly bill to MAWC's average residential customer. Despite what is admittedly a large percent increase, water remains a bargain.

37. Q. **How do the proposed STP rates compare to the rates of other water utilities?**

A. The proposed STP rates compare favorably to many utilities in the same geographic region. Table 3-D presents the monthly bill for use of 7,500 gallons at 15 utilities in Missouri, Kansas, Iowa and Illinois. Several of these utilities bill as much as $35 to $40 for such use. MAWC's proposed STP rates result in a monthly bill of $30.49 for 7,500 gallons. Although above average, as would be expected for a utility with this amount of newly constructed facilities, many of the utilities presented in Table 3-D are charging rates that are in the $25 per month range for this level of use, only $5 per month less.

CAPITAL ADDITION SURCHARGE PROPOSAL

38. Q. **Have you prepared alternative rate proposals for the Commission's consideration?**

A. Yes, I have. In the event that the merits of STP as set forth in my direct testimony, the affordability of STP as described above and the overwhelming

use of STP in multi-district utilities of all types do not persuade the Commission to retain STP for MAWC, I have prepared two alternatives for its consideration.

39. Q. What is the premise of your alternative rate proposals?

A. The premise of the alternative rate proposals is the objection of the parties to the impact that the St. Joseph treatment plant has on the rates in other districts under STP. Although new plant in at least two other districts will also require assistance from other customers under STP, it is the St. Joseph treatment plant that is the focus of the other parties' debate. Thus, I have developed alternatives that mitigate the impact of the St. Joseph treatment plant on the rates in the other districts while preserving many of the benefits of STP.

40. Q. Please describe the manner in which you developed the alternative rate proposals.

A. I developed the alternative rate proposals by limiting the impact that the St. Joseph treatment plant has on the rates of other districts and determining a surcharge to be applied to bills in the St. Joseph District in order to recover the remaining revenue requirements. This remains a STP proposal as the customer charges and consumption rates will remain the same for all districts. The only difference will be the application of a surcharge to the total bills of St. Joseph customers.

I first calculated the capital-related revenue requirements of the St. Joseph treatment plant by applying a factor of 0.154 for return, income taxes and depreciation to the treatment plant cost of $69,600,000. The resultant capital-related revenue requirements of $10,718,400 are approximately 35 percent of total company revenues under present rates. By limiting the impact

to 15 or 20 percent of present revenues, I calculated an amount to be recovered in the St. Joseph surcharge.

With a 15 percent limit on the plant's impact, the proposed STP revenues represent an increase of approximately 28 percent for all other districts as compared to 48 percent without any St. Joseph surcharge. Under this limitation, the St. Joseph surcharge is 48.356 percent, resulting in an overall increase in St. Joseph revenues of 89.63 percent. With a 20 percent limitation, the increase to the other districts is approximately 33 percent, the St. Joseph surcharge is 34.882 percent and the overall increase in St. Joseph revenues is 79.35 percent.

Tables 3-B and 3-C present the average monthly bills for residential customers and the schedule of rates for these two alternatives. The average bill for a residential customer in St. Joseph remains affordable under these two alternatives. It becomes $5 to $8 greater per month than the other districts and benefits other customers' bills by about $3 to $4 per month.

41. Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

Schedule WMS-3

MISSOURI-AMERICAN WATER COMPANY

WATER DISTRICTS

TABLES TO ACCOMPANY REBUTTAL TESTIMONY OF WILLIAM M. STOUT, P.E.

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, INC.

HARRISBURG, PENNSYLVANIA

MISSOURI-AMERICAN WATER COMPANY
TABLE 3-A. SUMMARY OF COST OF SERVICE BY DISTRICT BASED ON COMPANY REBUTTAL POSITION
USING COMMISSION STAFF ALLOCATION OF CORPORATE COSTS TO DISTRICTS

Line	Description	Brunswick	Joplin	Mexico	Parkville	St. Charles	St. Joseph	Warrensburg	Total
1	Present Revenues per Staff Accounting Schedule 1	116,725	7,581,907	1,580,962	1,517,468	7,964,148	9,979,848	1,842,147	30,583,205
2	Additional Revenue Requirement per Staff Accounting Schedule 9 (10.75% on Equity)	315,236	(536,245)	1,362,056	1,095,476	558,410	9,133,789	641,769	12,570,491
3	Total Revenue Requirement per Staff (Lines 1+2)	431,961	7,045,662	2,943,018	2,612,944	8,522,558	19,113,637	2,483,916	43,153,696
	Adjustments to Staff Position:								
4	Add back Rate Base related to Pre-merger Missouri Cities Deferred Taxes	46,313		249,760	238,144	1,036,157		253,531	1,823,905
5	Add back Rate Base related to new St. Joseph Treatment Plant						1,705,391		
6	Total Rate Base Adjustments (Lines 4+5)	46,313	0	249,760	238,144	1,036,157	1,705,391	253,531	3,529,296
7	Return and Income Taxes related to Rate Base Adjustments (Line 6 x 0.1126)	5,215	0	28,123	26,815	116,671	192,027	28,548	397,399
8	Staff Rate Base per Accounting Schedule 1	886,980	20,567,179	11,044,994	8,212,345	25,496,926	89,918,282	9,512,010	165,638,716
9	Company Rate Base (Lines 6+8)	933,293	20,567,179	11,294,754	8,450,489	26,533,083	91,623,673	9,765,541	169,168,012
10	Additional Return and Taxes at Company Rate of Return (Line 9 x 0.00699	6,526	143,816	78,979	59,090	185,533	640,679	68,286	1,182,909
11	Property Tax and Other Adjustments						677,158		
12	Cost of Service by District per Company (Lines 3+7+10+11)	443,702	7,189,478	3,050,120	2,698,849	8,824,762	20,623,501	2,580,750	45,411,162

MISSOURI-AMERICAN WATER COMPANY

TABLE 3-B. COMPARISON OF AVERAGE MONTHLY BILLS BY DISTRICT UNDER PRESENT AND PROPOSED ALTERNATIVE RATES

District	Average Monthly Usage	Monthly Bill Present Rates	Single Tariff Pricing			Single Tariff Pricing With 34.882% Surcharge on St. Joseph District			Single Tariff Pricing With 48.356% Surcharge on St. Joseph District		
			Monthly Bill	Increase		Monthly Bill	Increase		Monthly Bill	Increase	
				Per Month	Per Day		Per Month	Per Day		Per Month	Per Day
Brunswick	3.8	$ 13.37	$ 18.94	$ 5.57	$ 0.18	$ 17.38	$ 4.01	$ 0.13	$ 16.86	$ 3.49	$ 0.11
Joplin	6.0	17.67	25.81	8.14	0.26	23.35	5.68	0.18	22.53	4.86	0.16
Mexico	4.9	15.52	22.37	6.85	0.22	20.37	4.85	0.16	19.70	4.18	0.13
Parkville	8.5	22.56	33.61	11.05	0.36	30.13	7.57	0.24	28.96	6.40	0.21
St. Charles	8.3	22.16	32.99	10.83	0.35	29.58	7.42	0.24	28.45	6.29	0.20
St. Joseph	5.6	16.89	24.56	7.67	0.25	30.03	13.14	0.42	31.89	15.00	0.48
Warrensburg	5.6	16.89	24.56	7.67	0.25	22.26	5.37	0.17	21.50	4.61	0.15
Total Company	6.6	18.84	27.68	8.84	0.29	24.97	6.13	0.20	24.07	5.23	0.17
Nat'l Average	7.5	20.60	30.49	9.89	0.32	27.41	6.81	0.22	26.39	5.79	0.19

MISSOURI-AMERICAN WATER COMPANY

TABLE 3-C. COMPARATIVE SCHEDULE OF PRESENT AND PROPOSED ALTERNATIVE RATES

Meter Size	Present Rate	Single Tariff Pricing	Single Tariff Pricing W/ Surcharge	Single Tariff Pricing W/ Surcharge
Monthly Minimum Charges:				
5/8"	$ 5.94	$ 7.08	$ 7.08	$ 7.08
3/4"	7.60	9.12	9.12	9.12
1"	10.77	12.96	12.96	12.96
1-1/2"	18.73	22.44	22.44	22.44
2"	28.28	33.96	33.96	33.96
3"	50.54	60.60	60.60	60.60
4"	82.34	98.76	98.76	98.76
6"	161.85	194.28	194.28	194.28
8"	257.26	308.76	308.76	308.76
Consumption Per Thousand Gallons:				
Block 1	$ 1.9548	$ 3.1211	$ 2.7113	$ 2.5747
Block 2	1.0951	1.7485	1.5189	1.4424
Block 3	0.8451	1.3493	1.1722	1.1131
Block 4	0.5691	0.9087	0.7894	0.7496
St. Joseph Surcharge		-	34.882%	48.356%
Private Fire Service Per Annum:				
Private Fire Hydrant	$ 555.00	$ 826.92	$ 826.92	$ 826.92
2" Fire Line	79.56	118.56	118.56	118.56
3" Fire Line	136.68	203.64	203.64	203.64
4" Fire Line	216.84	323.04	323.04	323.04
6" Fire Line	444.72	662.64	662.64	662.64
8" Fire Line	765.24	1,140.24	1,140.24	1,140.24
10" Fire Line	1,176.24	1,752.60	1,752.60	1,752.60
12" Fire Line	1,677.12	2,498.88	2,498.88	2,498.88

MISSOURI-AMERICAN WATER COMPANY

TABLE 3-D. REGIONAL SUMMARY OF MONTHLY WATER BILLS FOR 7,500 GALLONS

Utility	Location	Monthly Bill for 7,500 Gallons
Public Water Supply, Dist. No. 1	Arnold, MO	$24.92
Belton Water Department	Belton, MO	38.55
Carthage Water & Electric	Carthage, MO	22.42
Kansas City Water Services Dept.	Kansas City, MO	25.04
United Water - Missouri	Jefferson City, MO	25.11
Raytown Water Company	Raytown, MO	40.03
Platte County Water District No. 1		42.50
Iowa City Water Dept.	Iowa City, IA	25.77
Fort Madison Water Dept.	Fort Madison, IA	23.49
Kansas City Public Utility Board	Kansas City, KS	24.15
Arkansas City Water Dept.	Arkansas City, KS	34.06
Leavenworth Water Dept.	Leavenworth, KS	25.30
Johnson County Water District	Johnson Co., KS	23.88
Northern Illinois Water Company	Champaign - Urbana, IL	22.04
City of Naperville	Naperville, IL	25.25

Sources:

Water:\Stats American Water Works Association 1996
1998 Water and Wastewater Rate Survey Raftelis Environmental Consulting Group
Individual Tariffs

Table 3E

The Cable Industry
AT A GLANCE

AVERAGE MONTHLY RATES: 1984-1999

Year*	Basic Rate	Pay Rate
1984	8.98	9.96
1985	9.73	10.25
1986	10.67	10.31
1987	12.18	10.23
1988	13.86	10.17
1989	15.21	10.20
1990	16.78	10.30
1991	18.10	10.27
1992	19.08	10.17
1993	19.39	9.11
1994	21.62	8.37
1995	23.07	8.54
1996	24.41	8.35
1997	26.48	8.29
1998	27.81	8.20
1999	28.92	8.04

* - At Year-End

Note: As of year-end 1994, the basic and expanded basic rates are combined as regulated basics.

Source: Paul Kagan Associates, Inc., *The Cable TV Financial Databook, 1999, p. 7, 10.* . Reprinted with permission.