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Issues: Consolidated Tariff Pricing  
Witness: Karl A. McDermott  
Exhibit Type: Rebuttal  
Sponsoring Party: Missouri-American Water Company  
Case No.: WR-2015-0301  
SR-2015-0302  
Date: February 19, 2016

**MISSOURI PUBLIC SERVICE COMMISSION**

**CASE NO. WR-2015-0301  
CASE NO. SR-2015-0302**

**REBUTTAL TESTIMONY**

**OF**

**KARL A. MCDERMOTT**

**ON BEHALF OF**

**MISSOURI-AMERICAN WATER COMPANY**

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

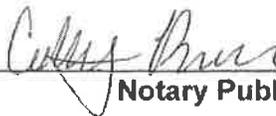
<b>IN THE MATTER OF MISSOURI-AMERICAN )</b>	
<b>WATER COMPANY FOR AUTHORITY TO )</b>	
<b>FILE TARIFFS REFLECTING INCREASED )</b>	<b>CASE NO. WR-2015-0301</b>
<b>RATES FOR WATER AND SEWER )</b>	<b>CASE NO. SR-2015-0302</b>
<b>SERVICE )</b>	

**AFFIDAVIT OF KARL A. MCDERMOTT**

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

  
\_\_\_\_\_  
Karl A. McDermott

**County of Champaign  
State of Illinois  
SUBSCRIBED and sworn to  
Before me this 16<sup>th</sup> day of February 2016.**

  
\_\_\_\_\_  
Notary Public

**My commission expires:** 11/5/19

Courtney Brown  
Notary Public, State of Illinois  
My Commission Expires November 5, 2019

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**REBUTTAL TESTIMONY  
KARL A. MCDERMOTT  
MISSOURI-AMERICAN WATER COMPANY  
CASE NO. WR-2015-0301  
CASE NO. SR-2015-0302**

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## REBUTTAL TESTIMONY

KARL A. MCDERMOTT

1

### I. INTRODUCTION

2 **Q. PLEASE STATE YOUR NAME.**

3 A. My name is Karl A. McDermott.

4

5 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS**  
6 **PROCEEDING?**

7 A. Yes, I submitted direct testimony in this proceeding.

8

9 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

10 A. I reply to the testimony of Dr. Geoff Marke on behalf of the Missouri Office of  
11 Public Counsel (“OPC”) and Mr. Brian C. Collins on behalf of the Missouri  
12 Industrial Energy Consumers (“MIEC”).

13

14

### II. REPLY TO DR. MARKE AND MR. COLLINS

15

16 **Q. WHAT ARE DR. MARKE’S AND MR. COLLINS’ CONCERNS WITH**  
17 **CONSOLIDATED TARIFF PRICING (“CTP”)?**

18 A. Dr. Marke claims that the Company’s CTP proposal:

19 • Is not appropriate for water utilities because water service is inherently  
20 local in nature unlike other public utilities such as electricity and natural  
21 gas. (Marke Dir., 4:17-14:10)

22 • Is not sufficiently justified to cause the Commission to depart from the  
23 “Cost Causation” principle. (Id. 15:1-20:9)

24 • Will send an “inappropriate price signal” to consumers. (Id. 20:10-  
25 21:21)

26 • Could lead to “overinvestment” in infrastructure. (Id. 22:1-24:13)

27

1 Mr. Collins claims that the Company's CTP proposal is inappropriate  
2 because:

- 3 • Some customers may see larger increases under the CTP proposal  
4 relative to district pricing. (Collins, Dir., 3:10-15)
- 5 • There is no "common" cost structure across the districts. (Id. 4:12-5:3)
- 6 • It ignores cost differences across districts (Id. 5:4-15)
- 7 • It may erode the efficiency of the water system (Id. 5:16-6:14)
- 8 • It could cause the Company to not undertake sufficient due diligence in  
9 acquiring new properties. (6:15-21)

10  
11 **Q. HOW WILL YOU ORGANIZE YOUR RESPONSE TO THESE WITNESSES?**

12 A. While these witnesses cite several concerns, these concerns are really  
13 associated with the following statement: CTP is not sufficiently cost-based  
14 and because of that it sends poor price signals and leads to inefficiencies in  
15 production and consumption. I will address that issue broadly in the context of  
16 the direct testimony of those parties opposing CTP.

17  
18 **Q. HOW DO ECONOMISTS VIEW THE ISSUE OF COST-BASED RATES AS  
19 IT RELATES TO PRODUCTION AND CONSUMPTION EFFICIENCY?**

20 A. Economics has only one view of costs in relation to consumption and  
21 production efficiency: Prices should be based on marginal opportunity cost  
22 which provides the correct price signal for firms to produce in an efficient  
23 manner and consumers to consume in an efficient manner. Any other  
24 measure of cost does not tell us anything about the efficient production and  
25 consumption patterns.

26  
27 **Q. HOW DO ECONOMISTS VIEW THE ISSUE OF SUBSIDIES IN PRICING?**

28 A. A subsidy exists only if the price is less than the marginal cost or exceeds the  
29 standalone costs.<sup>1</sup>

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<sup>1</sup> G. Faulhaber, (1975). "Cross-Subsidization: Pricing in Public Enterprises," *American Economic Review*, 65:5, 966-77

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**Q. HAS ANY PARTY ESTIMATED THE MARGINAL COSTS OR THE STAND ALONE COSTS?**

A. No. This evidence has not been presented in this case.

**Q. CAN THE EMBEDDED COST STUDY BE USED AS A PROXY FOR EITHER MARGINAL COST OR STANDALONE COST?**

A. In general no. An embedded cost of service study (ECOSS) is a static engineering study of the accounting costs of providing water service. For major cost items such as overheads or corporate costs such studies rely on the judgment of the analyst and on allocation methods that are both overly general and not particularly useful from an economic perspective. ECOSSs, by themselves, can neither provide proper policy guidance nor provide the proper economic understanding of the system. ECOSSs are useful to provide general guidance on setting rates, and in many cases are used, more or less, directly to set rates. But that is certainly not always the case and to claim that an ECOSS can illustrate exactly what subsidies flow from one class to another or from one area to another is ascribing a level of accuracy to such studies that is simply not warranted. Without judicious interpretation and wise application, relying solely on an ECOSS output can lead to poor policymaking.

Now, it may be that one could get a rough idea of the marginal operating costs from digging into the ECOSS but the marginal investment costs would have to be estimated separately. Furthermore, the standalone costs of providing services alone without any other service provided by the utility for each district are not available from the ECOSS. However, we can surmise with some certainty that such costs would be higher, and in most cases much higher, than the allocated district costs due to the economies of scale that MAWC experiences relative to a smaller, standalone entity. (Though some regulators will use the ECOSS or fully allocated cost as the *minimum* proxy for standalone costs.)

1 **Q. WHY DOES MARGINAL COST, IF IT HAS NOT BEEN PRESENTED,**  
2 **MATTER FOR THE DECISION CONCERNING CTP?**

3 A. Both parties in this case are basing the majority of their opinions on the  
4 concept that CTP as proposed by the Company will create non-cost based  
5 rates setting up subsidies (in economics terms, the parties are claiming that  
6 the new prices under CTP would not be *subsidy-free*). However, without  
7 estimating the marginal costs and the standalone costs such opinions have  
8 no scientific basis. Furthermore, the main conclusion that marginal costs are  
9 different between districts is *solely* related to the assertion that different  
10 production techniques have significantly different marginal (investment) costs  
11 (though the parties do not use that term, that is the only relevant measure of  
12 costs for this discussion).

13

14 **Q. MR. COLLINS MAKES AN ARGUMENT THAT THE EMBEDDED COST**  
15 **STUDY SHOWS DIFFERENCES IN COSTS BETWEEN THE DISTRICTS**  
16 **THAT CTP WOULD OBSCURE. (COLLINS, DIR., 7:1-8:5) HOW DO YOU**  
17 **RESPOND?**

18 A. It is hardly surprising, and not particularly enlightening, that one would find  
19 variation in allocated costs across such a wide service territory. Some districts  
20 have large number of customers; others have a small number. Some districts  
21 have newer investment, others older investment. We would find a similar  
22 variation if the cost study were broken down by neighborhood or by individual  
23 customer. Indeed, it is my belief that allocated costs would vary far more  
24 dramatically between individual customers *in the same district* than Mr.  
25 Collins notes across districts. For example, consider a residential customer  
26 that has just had a new main installed on their street. If the Commission were  
27 to take Mr. Collins approach to its logical conclusion those customers *caused*  
28 the new investment costs and should pay for those costs. Other residential  
29 customers who were lucky enough to have older mains that are still in good  
30 working order in front of their houses would pay the historic, depreciated cost  
31 of their mains. Under Mr. Collins's view of the world, if the Commission did  
32 not price that way there would be a huge subsidy flowing from the "old main"

1 customers to the “new main” customers. The economics, however, does not  
2 support that view. Consider a customer on top of a hill versus one at the  
3 bottom. The cost per customer of the rate base and the operating expenses  
4 to support these two customers could, and almost certainly would, vary  
5 dramatically. Yet no one in this proceeding is calling for individual cost of  
6 service and pricing and neither am I, because the public policy goals of  
7 supporting universal water service would almost certainly be thwarted by such  
8 a pricing structure, not to mention the unreasonably high administrative cost  
9 (and in most causes the economics does not support separate pricing).

10

11 **Q. DR. MARKE CLAIMS THAT WATER IS TOO HEAVY TO TRANSPORT**  
12 **BETWEEN WATER DISTRICTS AND THEREFORE THERE ARE**  
13 **UNLIKELY TO BE CONSOLIDATION ECONOMIES OF SCALE? (MARKE,**  
14 **DIR., 4:19-22)**

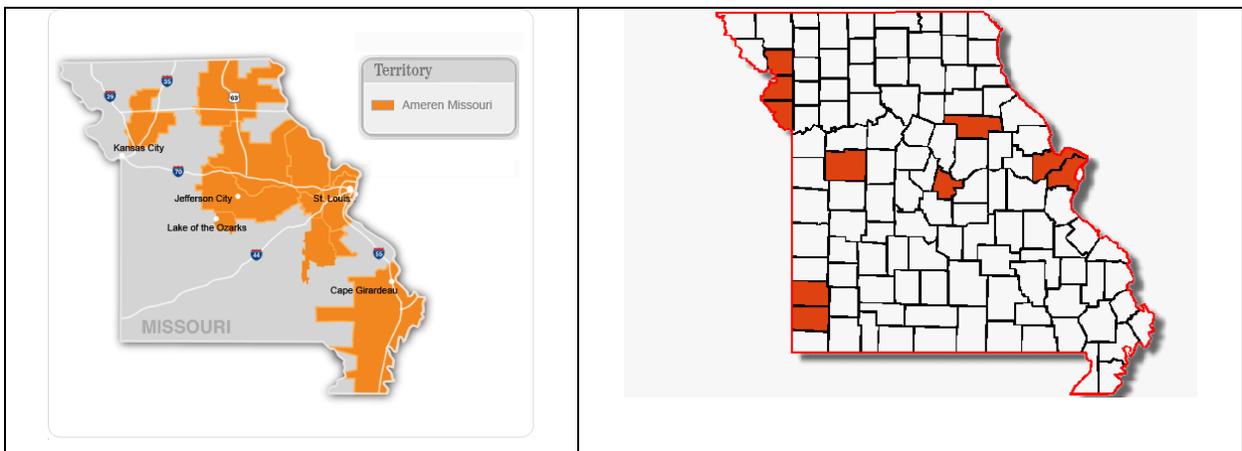
15 A. This may or may not be true depending on circumstances. For example, there  
16 are multiple examples of long-distance water transport. But, more importantly  
17 it is not the issue of “closeness” or “interconnectedness” that drives costs. It is  
18 cost of the technologies (or the application of the technologies). For example,  
19 two completely disconnected and spatial separate utilities could nevertheless  
20 deploy similar technologies that would have similar costs. In the same way a  
21 single utility with disjointed service could also have similar costs across  
22 service territories. Therefore, the issue is not that related to the closeness of  
23 the service territories *per se*. Moreover, whether or not there are economies  
24 of scale in “closeness” may not matter much to overall costs as the  
25 economics of scale are probably more important in procurement (buying  
26 materials, goods, labor, etc.), billing, overhead and corporate services costs.  
27 These costs may up a significant portion of expenses.

28

29 **Q. DR. MARKE SHOWS THAT SOME OF THE SERVICE TERRITORIES ARE**  
30 **HUNDREDS OF MILES APART IMPLYING DIFFERENT COSTS. (ID. 8:2-7)**  
31 **HOW DO YOU RESPOND?**

1 A. This may well be true but it is also true for many gas and electric utilities. For  
2 example, the right side of **Figure 1** reproduces Dr. Marke's Figure 1. Using  
3 this large geography Dr. Marke concludes that "customers (demographics)  
4 and customer densities (# of customers per square mile), economies,  
5 geographies, local water sources, and treatment and distribution systems"  
6 (Marke Dir., 8:3-4) as reasons while geographically disperse parts of a  
7 system create cost differences. The left side of **Figure 1** shows Ameren  
8 Missouri's service territory. Ameren Missouri is nearly as large and  
9 geographically diverse as MAWC large districts. So if it is true that MAWC  
10 faces dramatically different costs it must also be true for Ameren Missouri  
11 since it too would face differences in demographics, customer density,  
12 economies, and geographies in roughly the same areas of Missouri. The only  
13 possible difference between an electric and gas utility and a water utility is the  
14 difference in production techniques, which I conclude below is not all that  
15 different between districts when properly understood. The other factors  
16 should have similar effects on an electric or gas utility as it does on a water  
17 utility.

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21 **Figure 1: Ameren Missouri Service Territory (Source: Ameren web site) and MAWC's 7 Large**  
22 **Districts (Source: Marke Dir., Figure 1)**

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1 **Q. DOES MR. COLLINS MAKE A SIMILAR ARGUMENT?**

2 A. Yes. He claims that the cost of production of water differs among service  
3 territories including the differing costs due to the raw water sources and  
4 geographical factors that might affect the cost of producing drinkable water  
5 such as electric service costs for pumping, chemicals and “other” costs.  
6 (Collins Dir., 4:19-5:3). He also claims that consolidated pricing ignores other  
7 costs such as treatment and supply and labor and delivery as well as the  
8 sunk costs of production facilities. (Id. 5:4-8)

9

10 **Q. WHAT IS YOUR RESPONSE?**

11 A. Similar to Dr. Marke, the only difference in costs that Mr. Collins identifies that  
12 could be different between electric and gas utilities and water utilities is the  
13 cost of production. His other comments would apply equally to large electric  
14 and gas utilities. For example, consider a large electric utility such as Ameren  
15 Missouri. When it installs a new distribution substation in St. Louis that  
16 substation is installed for the benefit of consumers in the local area not the  
17 entire service territory. Further, an electric distribution system may differ  
18 substantially from area to area from a network design to a radial design. This  
19 is also true with gas utilities and perhaps even more so since large  
20 geographically disperse gas utilities may not be interconnected and may well  
21 have gas sources (interstate pipelines) that differ. Moreover, Mr. Collins’s  
22 claim that there is “no common or economic cost structure”, if true across  
23 districts, will also be true within larger districts of the system.

24

25 **Q. YOU SEEM TO BE ARGUING THAT THE MARGINAL PRODUCTION**  
26 **COSTS ARE REALLY THE ONLY COSTS THAT ARE LIKELY**  
27 **CANDIDATES FOR DIFFERENTIATION. HOW SHOULD THE**  
28 **COMMISSION VIEW MARGINAL COSTS IN THIS CASE?**

29 A. As I noted above, the only scientifically valid cost is the marginal cost. Since  
30 marginal cost is the change in costs as some metric of output changes it is  
31 useful to consider how such costs change. For example,

- 1           • **Hook-up costs:** These are the costs associated with hooking customers  
2 up to the system and change as the number of customers changes. This  
3 includes the cost of the meter, the services to bring the water into the  
4 customer's premise, and the associated expenses. It seems unlikely that  
5 hooking up customers to the water system is significantly different  
6 between districts. Indeed, to the extent that the costs include materials,  
7 such as meters, those meters are purchased in bulk for the entire system.  
8 Yet if we look at the ECOSS, due to its reliance not on economic costs but  
9 on historic accounting costs, it appears that the costs are different, but that  
10 is just an artifact of the methodology
- 11          • **Transmission and Distribution (T&D) Costs:** Much like hook-up costs it  
12 is hard to imagine a reason why the costs of a main is different in St. Louis  
13 than in Jefferson City. Indeed, it is not, since these materials are  
14 purchased centrally to obtain the lowest possible price. Moreover, if  
15 anything, the marginal cost of installing mains in an urban area are likely  
16 to be higher due to the, likely, higher cost of digging up and repairing  
17 streets and other complications for infrastructure that are not present in  
18 rural areas.
- 19          • **Production Costs:** Production costs are the costs associated with the  
20 collection and treatment of water and include the capital costs as well as  
21 the operating costs, such as chemicals and electricity. Yet even these  
22 costs, as different as they might sound across districts, are not likely to  
23 vary greatly on a marginal basis. Moreover, the production expenses,  
24 including source of supply O&M, water treatment and pumping expense,  
25 make up less than 30 percent of the total expenses. (Herbert, Dir., Exhibit  
26 No. PRH-1 Sch. B, p. II-3 through II-5).

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Therefore the majority of marginal costs, be they capital or operations costs, are not likely to be different *enough* between districts to warrant the concerns that have been raised about CTP. Indeed, Dr. Marke seems to largely agree that capital costs, over the long-run, are roughly equal across large service

1 territories and across districts and the CTP can actually reduce rate variability  
2 from year to year.

3 ...given a long enough timeframe all water and wastewater systems  
4 will be subject to entropy and need to be replaced. Under a CTP  
5 design in any particular year, the costs of any single large investment  
6 in a particular area would be socialized over a wider body of  
7 ratepayers, reducing the impact on individuals. Over many years, the  
8 total costs would be the same, but the variation from year-to-year  
9 would be reduced. (Marke Dir., 19:6-10)

10

11 **Q. DO YOU NOT ACCEPT THAT THERE ARE ANY DIFFERENCES IN**  
12 **MARGINAL COST ACROSS DISTRICTS?**

13 A. No. I could certainly see where some costs may vary somewhat across  
14 districts including electricity costs and perhaps water treatment and other  
15 production expenses. Yet when we look at the totality of these costs, they are  
16 a relatively small part of the costs (less than 30 percent).

17

18 **Q. ARE THERE NOT OTHER COSTS THAT ARE RECOVERED THROUGH**  
19 **RATES?**

20 A. Yes. One of the major costs recovered through rates and that differs by  
21 district in the ECOSSE are the overhead costs or what are called administrative  
22 and general (A&G) costs. These costs represent nearly 50 percent of total  
23 expenses and are related to management, employee pensions, insurance,  
24 and other overhead costs. (Herbert, Dir., Exhibit No. PRH-1Sch. B, p. II-7).  
25 Since these costs support functions that are jointly used by all customers in  
26 the service territory they cannot be associated easily with a specific district.  
27 Generally such costs are allocated across districts based on good judgment  
28 by attempting to associate the costs with cost drivers. While good judgement  
29 is a useful practice in ratemaking, it is nevertheless not an economic concept.

30

1 **Q. WHAT IS YOUR VIEW OF THE ISSUES RELATED TO PRICING**  
2 **EFFICIENCY THAT BOTH WITNESSES SEEM CONCERNED ABOUT?**  
3 **(SEE E.G., COLLINS DIR., 5:16-23, MARKE DIR., 20:11-21:21)**

4 A. As I noted above, the only proper measure of pricing efficiency is the marginal  
5 cost which neither party has estimated or even referenced. To show why this  
6 is the case assume there are two districts—A and B—and that the short-run  
7 marginal cost across districts is roughly equal at \$10 per unit. (That is, the  
8 marginal opportunity cost associated with changes in the use of variable  
9 resources as another unit of water is used.) Now assume that the other costs  
10 of production, i.e., the capital costs are sunk costs for the purposes of this  
11 rate setting case and vary dramatically with the costs in District A = \$4000 per  
12 customer and District B = \$100 per customer. (Notice these are not “stand  
13 alone” costs, these are the embedded costs of historical investment. “Stand  
14 alone” costs would almost certainly be much higher than the allocated  
15 embedded costs because the overhead costs e.g., billing, finance,  
16 accounting, management, procurement, etc. would have to be duplicated for  
17 each district.) What does economics have to say about the proper pricing in  
18 this case? Economics says that the price should be the same for all  
19 customers and equal to \$10 per unit. That is the efficient price that will cause  
20 customers to use the system efficiently and producers to vary production  
21 efficiently. There is no other scientifically valid price to cause efficient  
22 response. Notice, however, that if the Commission were to set the price at  
23 marginal cost the Company would not recover its sunk costs and would never  
24 invest in the system in the future. Therefore, regulation makes a legal  
25 requirement that all prudently incurred costs, including sunk costs, must be  
26 recovered through rates and the process by which this is done is the ECOSS.  
27 This also suggests that all regulated prices will vary from the efficient price.  
28 The question then becomes which prices vary least from the efficient price.  
29 For this there are multiple ways one could address the issue. For example,  
30 one could take all of the sunk costs and divide that by the number of  
31 customers and charge each customer a fixed fee to recover those costs. This  
32 would cause the usage charges to remain at marginal cost which sends the

1 right price signal to customers about usage. However, it is equally efficient,  
2 from an economic perspective, to take all of the sunk costs and charge those  
3 to the wealthiest customer in the service territory and charge everyone else  
4 the marginal cost (assuming that would not cause that customer to leave the  
5 system). Now I am not suggesting that the Commission implement either of  
6 these pricing approaches, this story illustrates that fighting over who does or  
7 does not pay more of the sunk costs is not an economic efficiency argument  
8 or a subsidy argument, it is an advocacy argument. Any claims to the contrary  
9 are not scientifically supportable. Indeed, Dr. Marke, seems to agree that  
10 such an argument is simply about allocations of sunk costs when he states  
11 that there could be “long-term winners and losers.” (Marke, Dir., 19:12). If  
12 marginal costs do not differ significantly across districts it can only be that the  
13 “winners and losers” are created by the *allocation* of sunk and/or overhead  
14 costs not economic costs. (Moreover, proper pricing does not create “winners  
15 and losers” it allocates society’s scarce resources in an efficient manner.)

16 **Q. ARE YOU SUGGESTING THAT THE COMMISSION NOT ACCEPT THE**  
17 **COMPANY’S ECOSS FOR PURPOSES OF SETTING RATES?**

18 A. No, not at all. I am merely pointing out that the ECOSS, while useful as a  
19 guide to ratemaking, does not answer the questions that the parties opposing  
20 CTP want it to answer. An ECOSS has an important limitation in this context  
21 and the Commission should be made aware of that and should take that into  
22 account when making the decision concerning CTP.

23 **Q. DO YOU AGREE THAT CTP WOULD ALTER THE COMPANY’S**  
24 **APPROACH TO ACQUISITIONS (COLLINS Dir., 6:16-21, MARKE DIR.,**  
25 **19:13-18 and 20:3-9)?**

26 A. No. The concern seems to be that if a system has high marginal costs relative  
27 to the rest of the existing system CTP would cause the Company to ignore  
28 those differences. First, if it is true that the marginal costs (or even embedded  
29 costs) were that much different from the rest of the system then it might be  
30 appropriate for the Commission to reinstitute district pricing or at least  
31 separate pricing for that new district. That, however, is an issue to address in  
32 the future if new acquisitions were brought before this Commission. I do not

1 read the Company's proposal as binding future Commissions to an absolute  
2 CTP for all time. Yet, I do read the testimony of those parties opposing CTP  
3 as attempting to *preclude* future Commissions from approaching the issue  
4 that way.

5  
6 Second, the Company has to take into account that the Commission could  
7 order non-CTP pricing for future acquisitions. That factor alone would cause  
8 the Company to carefully consider new acquisitions. That is, a pricing policy  
9 can be changed over time and any Company that makes decisions assuming  
10 that policy cannot change would be remiss in its duties to shareholders and  
11 open to financial losses, and potentially even legal questions, if it did ignore  
12 those possibilities. I am not suggesting that acquisitions might occur that  
13 would have otherwise not occurred under district pricing but simply that those  
14 acquisitions would occur as a direct result of public policy concerns and not  
15 because of any changed incentive due to CTP.

16  
17 Third, it is possible that the Commission would wish to incorporate new  
18 districts into the CTP even if it would not be strictly economical to do so.  
19 Water is still a public utility service and the goal of regulation is to provide  
20 universal access to safe and adequate water supplies across the state.  
21 Therefore, unlike a purely private competitive business, utilities are still  
22 subject to public policy concerns. Having said all of that, the Commission is  
23 the backstop for all of this speculation. If such a proposal came before the  
24 Commission, I expect these topics to be litigated and the Commission to  
25 make a decision that it finds in the public interest.

26  
27 Last, since the Company must take these considerations into account any  
28 bidding it might undertake for acquisitions in the future would reflect these  
29 facts. Moreover, the recovery of acquisition premiums would be an issue for  
30 a future Commission to determine and, based on my understanding of prior  
31 decisions of this Commission, it is not at all clear that such premiums would

1 be recovered through rates. This fact limits or removes any incentive to over  
2 bid.

3

4 **Q. WHAT DOES DR. MARKE CLAIM CONCERNING A DEPARTURE FROM**  
5 **COST CAUSATION?**

6 A. Dr. Marke makes three main points:

7 1) Cost causation suggests that the cost causer pays the cost it imposed on  
8 the utility system. (Marke Dir., 15:7)

9 2) The emphasis on “costs” in this argument is usually confined to large  
10 capital investment costs that service only the local system and not common  
11 costs such as billing. (Id. 15:12-14)

12 3) The argument for a departure from this principle often rests on two general  
13 points: 1) the need to meet safe and adequate service; and 2) that in the long-  
14 run every service area will need major capital investments and therefore will  
15 be subsidized by another service area. (Id. 15:14-16)

16

17 **Q. HOW DO YOU RESPOND?**

18 A. Dr. Marke appears makes two separate arguments. First, he claims that  
19 departing from cost causation can only be justified if the benefit from an  
20 increasing income equality outweighs the cost of distorting prices. While such  
21 a clear cost-benefit rule would be nice to use, in practice, it would be nearly  
22 impossible to implement. Indeed, even Dr. Marke’s own evidence suggests  
23 that income inequality exists both between urban and rural areas and *within*  
24 urban areas. CTP, by itself, would be a “rough justice” method of addressing  
25 equity at best and so I consider this argument a strawman approach. CTP  
26 does not need to be justified on equity grounds. CTP can be justified on other  
27 grounds. (See *e.g.*, McDermott Dir.)

28

29 Second, he claims that even if it is true that capital is roughly spent in the  
30 same proportion over time in all districts, the short-run differences can cause  
31 problems with capital allocation incenting “too much” consolidation. I  
32 addressed this issue above.

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**Q. DR. MARKE CLAIMS THAT CTP WOULD CAUSE OVERINVESTMENT IN THE SYSTEM. HOW DO YOU RESPOND (MARKE, DIR., 22:3-15)?**

A. Dr. Marke claims that CTP leads to the “A-J” effect or the incentive to overinvest in the system (often called gold-plating). Yet his cite to the A-J effect does not apply in this case. The A-J (or A-J-W) effect results from a regulatory commission setting the allowed return on capital higher than the market return.<sup>2</sup> When this occurs, capital that would have been directed to other uses could be allocated by the market to utilities because the return is higher than the opportunity cost of capital. CTP does nothing to change the cost of capital applied to utility assets. The cost of capital is set by the Commission in each rate proceeding based, typically, on market data and well-known finance and economic models that are designed to obtain a market-based cost of capital. Further, even if a utility did not have CTP, a regulatory Commission could, either purposely or by mistake, set the cost of capital higher than the market return which might induce a utility to invest more than is optimal in the system. Again, that has nothing to do with whether CTP is or is not in place.

**Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

A. Yes, it does.

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<sup>2</sup> H. Averch and L. Johnson, (1962). “The Behavior of the Firm Under Regulatory Constraint,” *American Economic Review*, 52:5, 1052-1069.