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**Transcript Exhibit(s)**

Docket #(s): W-0445A-08-0440

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Exhibit #: Abbott 1 - Abbott 8, A1 - A18

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To: Docket Control

Date: September 25, 2009

Re: Arizona Water Company / Rates  
W-01445A-08-0440  
Volumes I through IX, Concluded  
August 31 through September 11, 2009

### STATUS OF ORIGINAL EXHIBITS

#### *FILED WITH DOCKET CONTROL*

#### Abbott Laboratories (Abbott Exhibits)

1 through 8

#### Arizona Water Company (A Exhibits)

1 through 57

#### IBEW Local 387 (IBEW Exhibits)

1 through 3

Residential Utility Consumer Office (RUCO Exhibits)

1 through 37

Staff (S Exhibits)

1 through 3, 5 through 18, 20 through 28

***EXHIBITS RETURNED TO PARTIES***

Staff (S Exhibits)

4	Not utilized [by design or oversight]
19	Not offered [by design or oversight]

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ARIZONA CORPORATION COMMISSION  
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9 **BEFORE THE ARIZONA CORPORATION COMMISSION**

10 IN THE MATTER OF THE APPLICATION OF  
11 ARIZONA WATER COMPANY, AN ARIZONA  
12 CORPORATION, FOR A DETERMINATION OF  
13 THE FAIR VALUE OF ITS UTILITY PLANT  
14 AND PROPERTY, AND FOR ADJUSTMENTS  
15 TO ITS RATES AND CHARGES FOR UTILITY  
16 SERVICE AND FOR CERTAIN RELATED  
17 APPROVALS BASED THEREON.

Docket No. W-01445A-08-0440

**Notice of Filing**

18 Abbott Laboratories, through its undersigned counsel, hereby provides notice of filing the  
19 Direct Testimony of Stephen V. Chasse in the above-referenced matter.

20 RESPECTFULLY SUBMITTED this 12th day of June 2009.

21 RYLEY CARLOCK & APPLEWHITE

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1 An original and thirteen copies of the  
2 foregoing filed this 12th day of June 2009 with:

3 Docket Control  
4 Arizona Corporation Commission  
5 1200 W. Washington St.  
6 Phoenix, Arizona 85007

7 Copies of the foregoing mailed this 12<sup>th</sup> day  
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By Joye Geseck



**Direct Testimony  
of  
Stephen V. Chasse  
on behalf of Abbott Laboratories  
June 12, 2009**

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## Executive Summary

Stephen V. Chasse is the Manager of Facilities and Utilities for the Abbott Nutrition Division's Casa Grande manufacturing plant. The plant purchases water through a six-inch meter from Arizona Water Company, and uses the water to manufacture a variety of infant formula and adult nutritional products. The plant employs 450 employees and operates 24 hours per day, 365 days per year.

Arizona Water Company withdraws groundwater through a well, adds chlorine, and delivers the water to Abbott through a dedicated, seven-mile pipeline. Arizona Water Company does not provide any other treatment for water delivered to Abbott. Abbott treats the water received from the Arizona Water Company in a reverse osmosis water treatment plant to ensure water used in the plant meets applicable water quality standards. Abbott's treatment process includes arsenic and fluoride removal. The Arizona Department of Environmental Quality monitors compliance with drinking water quality standards at the outflow from Abbott's water treatment plant.

Even though Abbott treats the water provided by Arizona Water Company at Abbott's own expense (at a cost of \$0.74 per thousand gallons in 2008), Abbott currently pays Arizona Water Company a \$0.2147 per 1000 gallon total arsenic surcharge. Arizona Water Company is proposing to incorporate a portion of the current arsenic surcharge (\$0.1558 per 1,000 gallons) in Abbott's new Industrial base rate of \$1.6430 per 1000 gallons. Under both the current and proposed rates, Abbott is required to pay an arsenic treatment cost that is not incurred by Arizona Water Company in providing service to Abbott.

To reduce operational costs and to promote sustainability, Abbott has focused, and continues to focus, significant resources toward conserving water at the Casa Grande plant. Abbott has reduced its water consumption per pound of product significantly in the past five years, with an aggressive corporate goal of achieving 40% water use reduction by 2011, using Abbott's 2004 usage as a baseline, indexed to sales. Abbott has significant financial and environmental incentives to reduce the amount of water it must purchase and use, including the cost of water, water treatment, and wastewater treatment. Arizona Water Company's industrial customers are already paying significantly more for water service than the cost of service, and additional water price increases or incentives for the small number of industrial water users in Arizona Water Company's Casa Grande system are not needed to further promote conservation.

1 **I. Introduction**

2 **Q. Please state your name, business address, and telephone number.**

3 A. My name is Stephen V. Chasse. My business address is 1250 West Maricopa Highway,  
4 Casa Grande, Arizona 85193. My telephone number is (520) 421-6600.

5 **Q. In what capacity and by whom are you employed?**

6 A. I am employed by Abbott as the Manager of Facilities and Utilities for Abbott's Casa  
7 Grande manufacturing plant.

8 **Q. Please describe your primary responsibilities for Abbott.**

9 A. I am responsible for all utilities that come into the plant. I ensure that utilities are  
10 delivered to all operations in a timely and cost efficient manner. My other key  
11 responsibility is to proactively look for methods to reduce overall utility consumption to  
12 reduce costs and environmental impacts.

13 **Q. Please describe your professional experience and education.**

14 A. I have worked for Abbott since June 2004 as the Manager of Facilities and Utilities for  
15 the Casa Grande, Arizona site. Before that, I worked for Ardais Corporation and Dow  
16 Chemical in similar capacities. I hold a Bachelor of Science in Mechanical Engineering,  
17 a Master of Business Administration, and am a Registered Professional Engineer.

18 **Q. Have you previously testified before this Commission?**

19 A. No.  
20

21 **II. Purpose of Testimony**

22 **Q. What is the purpose of your testimony in this case?**

23 A. Upon information and belief, Abbott is the largest, or at least one of the largest, industrial  
24 customers in Arizona Water Company's Casa Grande system. The purpose of my  
25 testimony is to describe the services provided to Abbott by Arizona Water Company, the  
26 facilities used to provide those services, and Abbott's role in treating water prior to use in  
27 its manufacturing facility. I will also describe Abbott's water conservation programs.  
28

1 **III. Water Facilities**

2 **Q. Please briefly describe Abbott's Casa Grande business.**

3 A. The Abbott Nutrition division of Abbott operates a manufacturing plant located on the  
4 west side of Casa Grande, Arizona within Arizona Water Company's Certificate of  
5 Convenience and Necessity in sections 13 and 24, Township 6 South, Range 5 East,  
6 GSRB&M. The plant manufactures a variety of infant formula and adult nutritional  
7 products for distribution mainly in the western United States.

8 **Q. Please describe the water facilities that supply the plant.**

9 A. Abbott receives groundwater from one of three Arizona Water Company-owned wells.  
10 Water is supplied to the plant through a dedicated 7-mile pipeline that was constructed by  
11 Abbott and contributed to Arizona Water Company.

12 **Q. Does Arizona Water Company provide any treatment services to Abbott?**

13 A. I understand that Arizona Water Company chlorinates the water before it is supplied to  
14 Abbott, but I do not believe that Arizona Water Company provides any other treatment.  
15 Because Abbott manufactures products that must meet stringent quality standards, Abbott  
16 treats the water entering the plant in Abbott's own reverse osmosis treatment plant.  
17 Abbott's reverse osmosis treatment plant provides treatment to ensure water used in the  
18 plant meets applicable water quality standards, and includes arsenic and fluoride removal.  
19 The Arizona Department of Environmental Quality considers Abbott's water treatment  
20 plant the "point of entry" into Arizona Water Company's system, and the water is tested  
21 for compliance with water quality standards just after the water has passed through  
22 Abbott's water treatment plant.

23 **Q. Is Abbott currently paying a potable water rate that includes a surcharge for the  
24 cost of arsenic removal?**

25 A. Yes. Abbott currently pays a \$0.2147 per 1000 gallons arsenic surcharge. Under  
26 Arizona Water Company's proposed Industrial six-inch meter commodity rate, a portion  
27 of the arsenic surcharge (\$0.1558 per 1000 gallons) is incorporated in the proposed base  
28

1 potable water rate of \$1.6430 per 1000 gallons. Accordingly, under both the current and  
2 proposed rates, Abbott is required to pay an arsenic treatment cost that is not incurred by  
3 Arizona Water Company in providing service to Abbott. As previously stated, Abbott  
4 receives water at the point of entry and subsequently treats for arsenic and other  
5 constituents at Abbott's own cost.  
6

7 **IV. Water Use**

8 **Q. For what purposes is water used at the plant?**

9 A. Water is used for a variety of purposes. Water becomes part of some finished products,  
10 and is an integral part of some of the manufacturing processes. Water is also used to  
11 clean manufacturing equipment, and for the production of steam and in cooling towers.

12 **Q. How many employees work at the Casa Grande plant?**

13 A. The plant employs approximately 450 employees.

14 **Q. What are the plant's hours of operation?**

15 A. The plant operates 24 hours, 7 days per week, 365 days per year.

16 **Q. Does Arizona Water Company currently provide all of the plant's water supply?**

17 A. Yes.

18 **Q. How much water did the plant purchase from Arizona Water Company in 2006,  
19 2007, and 2008.**

20 A. In 2006, Abbott purchased 403 million gallons of water from Arizona Water Company.  
21 In 2007, Abbott purchased approximately 412 million gallons of water. In 2008, Abbott  
22 purchased 339 million gallons of water.

23 **Q. Under what rate structure is Abbott currently charged?**

24 A. Abbott receives service through a six-inch meter, and under Arizona Water Company's  
25 Casa Grande tariff is currently charged a monthly commodity rate of 1.4869 per 1000  
26 gallons for the first 2,160,000 gallons and \$1.6500 per 1000 gallons for amounts  
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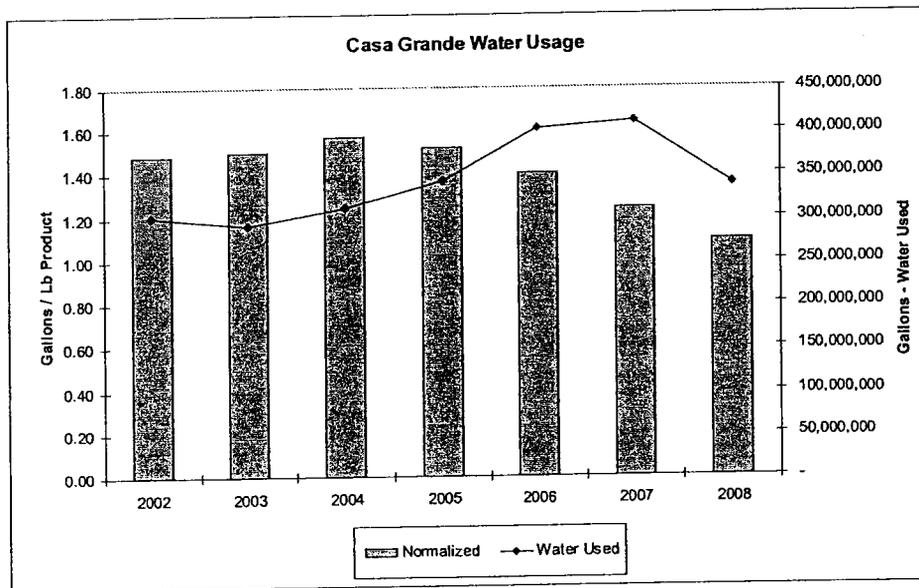
1 exceeding 2,160,000 gallons, in addition to other tariffed fees and charges. These water  
2 rates are a significant operational cost.

3  
4 **V. Water Conservation**

5 **Q. Does Abbott currently have incentives to reduce its water use?**

6 A. Absolutely. Abbott has significant financial and environmental incentives to reduce the  
7 amount of water it purchases and uses. First, because water is a significant product  
8 production cost, Abbott has ongoing cost incentives to reduce the amount of water it must  
9 purchase. In addition, every gallon of water Abbott purchases must be treated, so a  
10 reduction of the volume of water going through the treatment processes will reduce  
11 treatment, operation and maintenance expenses. Reduction of water intake into the plant  
12 also reduces the volume of wastewater that must be treated.

13 Second, Abbott has identified responsible water use as one of its strategic  
14 environmental priorities. Abbott established a corporate goal of 40% water use reduction  
15 by 2011, using Abbott's 2004 usage as a baseline, indexed to sales. Abbott identified the  
16 Casa Grande plant as one of its high priority sites in its global operations based on a  
17 review of water supply stress. Abbott's corporate initiatives have focused and continue  
18 to focus additional resources and efforts toward reductions in water use. These efforts  
19 include Abbott's partnership with the University of Arizona and Project WET to promote  
20 water conservation, not only within Abbott's facility, but within the Community. The  
21 following chart demonstrates that the Casa Grande plant has already achieved significant  
22 water reductions through ongoing water conservation efforts and is already ahead of  
23 aggressive corporate goals.



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13 **Q. How much does Abbott spend on initial water treatment at the plant inlet?**

14 A. The 2008 annual operation and maintenance cost for the Abbott reverse osmosis  
15 treatment system, not including capital costs, was \$0.74 per thousand gallons. This cost  
16 is paid by Abbott in addition to the water rates that Abbott pays to Arizona Water  
17 Company.

18 **Q. Should the Arizona Corporation Commission impose further price incentives in  
19 Arizona Water Company's new rates to reduce industrial water use?**

20 A. No. The small number of significant industrial users in Arizona Water Company's Casa  
21 Grande system already have significant price incentives to reduce water use. Arizona  
22 Water Company's Cost of Service Study indicates industrial users in the Casa Grande  
23 system already pay substantially more than the cost of providing water service to that  
24 class of customers. That extra cost alone encourages water conservation.

25 Additionally, to my knowledge, major industrial users in the system have been  
26 investing in programs and equipment to make their operations more water efficient in  
27 order to reduce water use for all the reasons Abbott has done so. Additional price  
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incentives would simply raise production costs to the detriment of Abbott product consumers.

**Q. Does this conclude your direct testimony in this case?**

**A. Yes.**

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9 **BEFORE THE ARIZONA CORPORATION COMMISSION**

10 IN THE MATTER OF THE APPLICATION OF  
11 ARIZONA WATER COMPANY, AN ARIZONA  
12 CORPORATION, FOR A DETERMINATION OF  
13 THE FAIR VALUE OF ITS UTILITY PLANT  
14 AND PROPERTY, AND FOR ADJUSTMENTS  
15 TO ITS RATES AND CHARGES FOR UTILITY  
16 SERVICE AND FOR CERTAIN RELATED  
17 APPROVALS BASED THEREON.

Docket No. W-01445A-08-0440

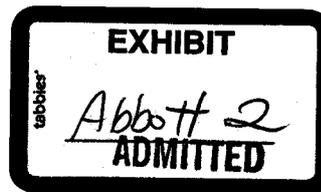
**Notice of Filing Surrebuttal  
Testimony**

18 Abbott Laboratories, through its undersigned counsel, hereby provides notice of filing the  
19 Surrebuttal Testimony of Dan L. Neidlinger in the above-referenced matter.

20 RESPECTFULLY SUBMITTED this 12th day of August 2009.

21 RYLEY CARLOCK & APPLEWHITE

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2 foregoing filed this 12th day of August 2009  
3 with:

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5 Arizona Corporation Commission  
6 1200 W. Washington St.  
7 Phoenix, Arizona 85007

8 Copies of the foregoing mailed this 12<sup>th</sup> day  
9 of August 2009 to:

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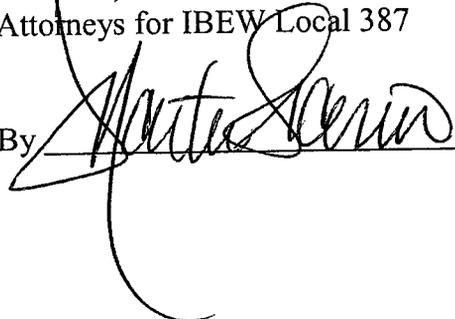
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1 **BEFORE THE ARIZONA CORPORATION COMMISSION**

2 COMMISSIONERS

3 KRISTIN K. MAYES, Chairman  
4 GARY PIERCE  
5 SANDRA KENNEDY  
6 PAUL NEWMAN  
7 BOB STUMP

8 IN THE MATTER OF THE APPLICATION OF  
9 ARIZONA WATER COMPANY, AN ARIZONA  
10 CORPORATION, FOR A DETERMINATION OF  
11 THE FAIR VALUE OF ITS UTILITY PLANT  
12 AND PROPERTY, AND FOR ADJUSTMENTS  
13 TO ITS RATES AND CHARGES FOR UTILITY  
14 SERVICE AND FOR CERTAIN RELATED  
15 APPROVALS BASED THEREON.

Docket No. W-01445A-08-0440

16  
17 **Surrebuttal Testimony**  
18 **of**  
19 **Dan L. Neidlinger**  
20 **August 12, 2009**  
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**Surrebuttal Testimony  
of  
Dan L. Neidlinger  
August 12, 2009**

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1 **I. Introduction**

2 **Q. Please state your name, address, and occupation.**

3 A. My name is Dan L. Neidlinger. My business address is 3020 North 17th Drive, Phoenix,  
4 Arizona. I am President of Neidlinger & Associates, Ltd., a consulting firm specializing  
5 in utility rate economics.

6 **Q. Please describe your professional qualifications and experience.**

7 A. A summary of my professional qualifications and experience is included in the attached  
8 Statement of Qualifications. In addition to providing testimony before the Arizona  
9 Corporation Commission (“ACC” or “Commission”), I have presented expert testimony  
10 before regulatory commissions and agencies in Alaska, California, Colorado, Guam,  
11 Idaho, New Mexico, Nevada, Texas, Utah, Wyoming and the Province of Alberta,  
12 Canada.

13 **Q. On whose behalf are you appearing in this proceeding?**

14 A. I am appearing on behalf of Abbott Laboratories (“Abbott”). Abbott receives water  
15 service from Arizona Water Company’s (“AWC” or “Company”) Casa Grande System  
16 under AWC’s 6” Industrial Rate Schedule. A detailed description of Abbott’s Casa  
17 Grande operations, its water treatment system and its water conservation program is  
18 provided in the direct testimony of Stephen V. Chasse, Manager of Facilities and Utilities  
19 for the Casa Grande plant.

20  
21 **II. Purpose of Testimony**

22 **Q. What is the purpose of your surrebuttal testimony in this case?**

23 A. My surrebuttal testimony addresses the class cost of service study (“COSS”) testimony of  
24 Staff witness Steven Olea and the class revenue and rate design testimony of Staff  
25 witness Jeffery Michlik for the Company’s Casa Grande system. I did not perform an  
26 overall revenue requirements study for the Casa Grande system and accordingly have no  
27 opinion on this issue.

1 **III. Cost of Service Study and Rate Design**

2 **Q. Did you review the COSS and rate design testimony of Company witness Joel**  
3 **Reiker and the rate design testimony of RUCO witness Rodney Moore?**

4 A. Yes. I am in general agreement with the class rate adjustments proposed by Mr. Reiker  
5 since they move rates closer to cost of service in contrast to Staff's proposals that move  
6 rates away from cost of service. Similarly, I concur in general with the rate design  
7 recommendations of Mr. Moore for the Casa Grande system since they are also appear to  
8 move customer class returns closer to cost of service.

9 **Q. Was the Company required, pursuant to ACC Rule R14-2-103, to file a COSS for**  
10 **each of its operating systems?**

11 A. Yes. All large utilities, including AWC, are required to file a COSS supporting their rate  
12 design proposals for each class of customer. When Rule R14-2-103 was adopted in the  
13 1970s, the Commission recognized the need for COSS in setting rates that are fair and  
14 equitable. Although the Rule has been amended from time to time since its initial  
15 adoption, the COSS series of schedules remain today an important component of any rate  
16 filing package for all large utilities, including water utilities.

17 **Q. Why is Cost of Service Important?**

18 A. In a regulated environment, cost of service is the single-most important criterion in the  
19 development of revenues by customer class and the development of rates that will  
20 produce those revenues. If rates are not cost-based, the inevitable results are subsidies  
21 among classes of customer and customers within a class. Although other factors, such as  
22 continuity, simplicity, and stability are valid considerations in the rate design process, the  
23 primary guideline should be cost of service. Rates developed based on cost of service are  
24 equitable because each customer pays its fair share of the utility's total costs.

1 **Q. Did you review the COSS testimony of Staff witness Olea?**

2 A. Yes. Mr. Olea critiqued the Company's Casa Grande COSS and recommended changes  
3 to the percentage factors used to functionalize certain expense and plant accounts. He  
4 also prepared two modified or truncated COSS summaries for the Casa Grande system:  
5 one at present rates and one at Staff's proposed rates. I have prepared a summary of the  
6 results of Mr. Olea's truncated study including Staff's recommended class revenue  
7 increases as shown on the attached Exhibit DLN-1. As indicated in the second column on  
8 Exhibit DLN-1, Staff is recommending revenue increases for the commercial and  
9 industrial classes that exceed 48% or 1.3 times the total system-wide increase of 37%.  
10 The proposed increases for these two classes are in direct contradiction to the results of  
11 Mr. Olea's COSS. As shown in the third column on Exhibit DLN-1, the rate of return at  
12 present rates for the commercial class is already 7.5%, or 3 times the current overall  
13 system-wide return of 2.5%, and the rate of return for the industrial class is already over  
14 52%, or 20 times the overall system-wide return. However, instead of decreasing the  
15 returns for these classes, Staff's new proposed rates substantially increase the returns.  
16 The excessive return currently provided by the industrial class suggests a rate reduction  
17 would be appropriate – and certainly does not support a 48% increase. One can only  
18 conclude from a brief review of Exhibit DLN-1 that Staff ignored the results of its own  
19 COSS.

20 **Q. Did Mr. Olea develop the class revenue targets for the Casa Grande System?**

21 A. No, I don't believe so. Responses to Abbott and Company data requests to the Staff on  
22 this question indicate that Mr. Michlik was responsible for developing class revenue  
23 requirements. Mr. Olea provided some guidance to Mr. Michlik with respect to small  
24 meter rate design.

25 **Q. Did you review the revised COSS presented by Company witness Reiker in  
26 conjunction with his COSS and rate design rebuttal testimony?**  
27  
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1 A. Yes. Mr. Reiker adopted Mr. Olea's recommendations with respect to functionalization  
2 factors and prepared a complete update of the Company's COSS. As part of this update,  
3 he prepared COSS schedules for the Casa Grande system that mirror Mr. Olea's analysis  
4 using Staff's adjusted rate base, operating expenses and recommended class revenues. I  
5 have prepared a summary of Mr. Reiker's update for the Casa Grande system as shown  
6 on Exhibit DLN-2. Although a comparison of class returns between the two studies  
7 indicates that the results are comparable, Mr. Reiker's updated COSS appears to be more  
8 complete than Mr. Olea's truncated COSS and a truer reflection of the effect of Staff's  
9 class revenue proposals. As indicated in the third column on Exhibit DLN-2, the return  
10 on rate base at Staff's proposed rates for the commercial class is increased from 15% to  
11 18% and the return for the industrial class jumps from 73% to 90%. Regardless of the  
12 increase in return percentage one might pick, the proposed increase to the industrial class  
13 is excessive and unsupported by any acceptable ratemaking standard.

14 **Q. How did Mr. Michlik determine class revenue requirements for the Casa Grande**  
15 **system?**

16 A. I don't know. Mr. Michlik's testimony is silent with respect to the approach that he used  
17 in developing class revenue targets and related rates, what he considered in his analysis,  
18 and why his rate recommendations differ so greatly from those of the Company. I found  
19 no substantive foundation for the rates he recommends. The bulk of his testimony  
20 discusses the rate impacts of his proposed rates for only the residential class with no  
21 discussion on the effect of his proposed rates on other customers. In essence, his  
22 testimony consists of "Please see the attached rates." Abbott asked Staff<sup>1</sup> to provide the  
23 basis for developing its class revenue targets. The response from Mr. Michlik was as  
24 follows: "Staff utilized the Cost of Service Study, as a general guideline, but also  
25

---

26 <sup>1</sup> Abbott Data Request 1-5: "Please explain the basis for, and manner in which, class revenue targets, for rate  
27 design purposes, were set for the Casa Grande System."  
28

1 considered other factors. Other factors include, but are not limited to gradualism,  
2 conservation, uniformity and other concepts that do not rely solely on cost of service  
3 information.” As previously stated, I can only conclude from Staff’s class revenue  
4 recommendations that the results of the COSS prepared by Mr. Olea and that of Mr.  
5 Reiker were ignored. It is not logical to assert reliance on COSS as a guideline and then  
6 propose increasing the return on rate base for the industrial class from 50% to 90%. The  
7 industrial class is already providing an excessive return. As is further discussed in my  
8 testimony, I also disagree that Staff has properly considered the factors of gradualism,  
9 conservation or uniformity in determining class revenue targets.

10 **Q. Are Mr. Michlik’s rate recommendations consistent with the concept of**  
11 **gradualism?**

12 A. No. Staff has turned the concept of gradualism on its head. Gradualism is premised on  
13 the desire to move rates toward cost of service while minimizing, if possible, large rate  
14 adjustments. As shown on the previously discussed Exhibits DLN-1 and DLN-2, Mr.  
15 Michlik’s recommends larger-than-average increases for the commercial and industrial  
16 classes that move both of these classes further away from, rather than closer to, cost of  
17 service, which is contrary to the concept of gradualism.

18 **Q. Did Staff provide any explanation as to how it applied the concept of gradualism in**  
19 **this case?**

20 A. No.

21 **Q. How can gradualism be treated in ratemaking proceedings?**

22 A. There are a number of approaches to the implementation of gradualism, most of them  
23 judgment-based. One quantitative guideline that has often been applied by some analysts  
24 and one that Staff might have used is the 50/150 rule whereby percentage increases to  
25 major customer classes that over-earn are capped at 50% of the overall percentage  
26 increase and the under-earning classes are capped at 150% of the overall percentage  
27 increase. This approach was obviously not considered by Staff since its recommended  
28

1 increases to the over-earning commercial and industrial classes that far exceed 18.5%  
2 (50% of the overall increase of 37%).

3 **Q. What about conservation?**

4 A. An inverted tier rate design is admittedly one element of a water conservation program  
5 for a water utility, but it must be applied within the context of cost-based rates.  
6 Conservation is not a valid argument for designing rates, as proposed in this case by Mr.  
7 Michlik, which create large cross-subsidies among classes of customers. It is ironic that  
8 the two industrial customers on AWC's Casa Grande system that have already achieved  
9 significant reductions in water usage through the implementation of water conservation  
10 programs are now asked to bear rate increases greater than other customers on the Casa  
11 Grande system, many of whom, under Staff's proposals, will continue to pay less than  
12 cost for their water service.<sup>2</sup> As Mr. Reiker clearly states in his rebuttal testimony,<sup>3</sup> the  
13 goal of conservation is best achieved by charging customers rates based on cost of  
14 service.

15 **Q. Has Mr. Michlik correctly applied in this case the concept of uniformity in rate  
16 design?**

17 A. No. In response to Abbott's data request, Staff did not explain what it meant by  
18 "uniformity." It appears that Mr. Michlik views uniformity to mean that all commodity  
19 rates should be equal for all customers. This "one size fits all" approach to ratemaking  
20 produces disastrous results for a water system such as Casa Grande that serves many very  
21 small customers and a few extremely large customers. This size variance also produces  
22 large variances in the cost to serve which have not been properly recognized in Mr.  
23 Michlik's proposed rates. This degree of customer diversity is normally not present in  
24

---

25 <sup>2</sup> See the extensive discussion of water conservation in the Direct Testimony of Abbott's Stephen V. Chasse and  
26 Company Rebuttal Testimony of William M. Garfield.

27 <sup>3</sup> See Rebuttal Testimony of Company Witness Joel Reiker, Page 11 at Line 3.

1 most investor-owned water utilities in Arizona. Accordingly, the Casa Grande system is  
2 unique and requires rate adjustment approaches tailored to the heterogeneous nature of its  
3 customer base.

4 **Q. Are there other important rate design attributes not mentioned by Mr. Michlik?**

5 A. Yes. The most important of these, in my view, are revenue stability and predictability.  
6 As discussed in detail in the rebuttal testimonies of Company witnesses Garfield and  
7 Reiker, the continued water conservation programs of large industrial customers will  
8 likely result in a significant revenue shortfall for the Company should Mr. Michlik's  
9 proposed rates for these customers be adopted. He evidently did not consider this  
10 important ratemaking attribute. When setting rates for a utility, it is incumbent on the  
11 rate analyst to recommend, and the regulator to adopt, rates that have a high probability  
12 of achieving the desired level of revenues.

13  
14 **IV. Conclusion**

15 **Q. Please summarize your conclusions and recommendations.**

16 A. The Staff's rate recommendations for the Casa Grande system should be rejected for the  
17 reasons previously discussed. They are arbitrary and exacerbate the existing inequitable  
18 cost/price relationships for commercial and industrial customers. The industrial class is  
19 providing returns (51%) at present rates that far exceed the return on investment that any  
20 utility customer should be required to pay, yet Staff suggests that these returns should be  
21 increased to even greater levels (90%). Accordingly, I urge the Commission to adopt  
22 ratemaking adjustments in this case that parallel the recommendations of the Company  
23 and RUCO since they are based on cost of service.

24 **Q. Does this conclude your surrebuttal testimony?**

25 A. Yes, it does.  
26  
27  
28

EXHIBIT DLN - 1

**ARIZONA WATER COMPANY**  
**Docket No. W-01445A-08-0440**  
**Class Cost of Service - Casa Grande System**

**Staff Proposed Class Revenue Increases and Returns on Rate Base**  
**Staff Witness Steve Olea's Cost of Service Analysis**

CUSTOMER CLASS	WATER REVENUES		PERCENT INCREASE	RETURN ON RATE BASE	
	AT PRESENT RATES (1)	AT PROPOSED RATES (2)		AT PRESENT RATES (3)	AT PROPOSED RATES (2)
Residential	\$6,578,153	\$8,769,566	33.31%	0.24%	4.52%
Commercial	2,217,848	3,302,139	48.89%	7.53%	15.08%
Industrial	1,085,226	1,610,759	48.43%	52.12%	72.52%
Other	450,777	509,059	12.93%	4.55%	6.12%
Direct Private Fire	13,267	26,721	101.41%	-5.89%	-2.21%
Total Casa Grande System	<u>\$10,345,271</u>	<u>\$14,218,244</u>	<u>37.44%</u>	<u>2.54%</u>	<u>7.54%</u>

NOTES:

- (1) Schedule SMO-1, Schedule G-1
- (2) Schedule SMO-2, Schedule G-2
- (3) Calculated from Schedule SMO-1, Schedule G-1

EXHIBIT DLN - 2

ARIZONA WATER COMPANY  
 Docket No. W-01445A-08-0440  
 Class Cost of Service - Casa Grande System

Staff Proposed Class Revenue Increases and Returns on Rate Base  
Company Witness Joel Reiker's Analysis of Staff Position - Rebuttal Testimony

CUSTOMER CLASS	WATER REVENUES		PERCENT INCREASE	RETURN ON RATE BASE	
	AT PRESENT RATES (1)	AT PROPOSED RATES (2)		AT PRESENT RATES (1)	AT PROPOSED RATES (2)
Residential	\$6,578,153	\$8,769,566	33.31%	0.18%	4.67%
Commercial	2,217,848	3,302,139	48.89%	7.63%	18.25%
Industrial	1,085,226	1,610,759	48.43%	50.99%	90.42%
Other	450,343	509,059	13.04%	5.05%	7.29%
Direct Private Fire	13,267	26,721	101.41%	-1.68%	0.31%
Total Casa Grande System	\$10,344,837	\$14,218,244	37.44%	2.52%	8.54%

NOTES:  
 (1) Exhibit JMR-Staff 1, Schedule G-1  
 (2) Exhibit JMR-Staff 1, Schedule G-2

RECEIVED

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2009 SEP -1 A 10: 40

ARIZONA CORP COMMISSION  
DOCKET CONTROL

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8 Attorneys for Abbott Laboratories

9 **BEFORE THE ARIZONA CORPORATION COMMISSION**

10 IN THE MATTER OF THE APPLICATION OF  
11 ARIZONA WATER COMPANY, AN ARIZONA  
12 CORPORATION, FOR A DETERMINATION OF  
13 THE FAIR VALUE OF ITS UTILITY PLANT  
14 AND PROPERTY, AND FOR ADJUSTMENTS  
15 TO ITS RATES AND CHARGES FOR UTILITY  
16 SERVICE AND FOR CERTAIN RELATED  
17 APPROVALS BASED THEREON.

Docket No. W-01445A-08-0440

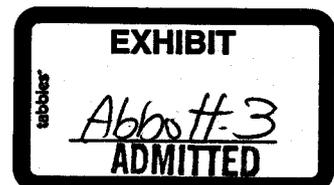
Notice of Errata

18 Abbott Laboratories, through its undersigned counsel, hereby files the Summary  
19 Statement of Qualifications of Dan Neidlinger, which document was inadvertently omitted from  
20 Abbott's August 12, 2009 filing of Abbott Notice of Filing Surrebuttal Testimony (Dan  
21 Neidlinger).

22 RESPECTFULLY SUBMITTED this 1st day of September, 2009.

23 RYLEY CARLOCK & APPLEWHITE

24 By Michele Van Quathem  
25 Michele Van Quathem, Atty. No. 019185  
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1  
2 An original and thirteen copies of the  
3 foregoing filed this 1st day of Setember, 2009  
4 with:

5 Docket Control  
6 Arizona Corporation Commission  
7 1200 W. Washington St.  
8 Phoenix, Arizona 85007

9 Copies of the foregoing mailed this 1st day of  
10 September, 2009 to:

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12 Assist. Chief Administrative Law Judge  
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27  
28 By Jays Stevick

## DAN L. NEIDLINGER

### SUMMARY STATEMENT OF QUALIFICATIONS

#### **I. General:**

Mr. Neidlinger is President of Neidlinger & Associates, Ltd., a Phoenix consulting firm specializing in utility rate economics and financial management. During his consulting career, he has managed and performed numerous assignments related to utility ratemaking and energy management.

#### **II. Education:**

Mr. Neidlinger was graduated from Purdue University with a Bachelor of Science degree in Electrical Engineering. He also holds a Master of Science degree in Industrial Management from Purdue's Krannert Graduate School of Management. He is a licensed Certified Public Accountant in Arizona and Ohio.

#### **III. Consulting Experience:**

Mr. Neidlinger has presented expert testimony on financial, accounting, cost of service and rate design issues in regulatory proceedings throughout the western United States involving companies from every segment of the utility industry. Testimony presented to these regulatory bodies has been on behalf of commission staffs, applicant utilities, industrial intervenors and consumer agencies. He has also testified in a number of civil litigation matters involving utility ratemaking and once served as a Special Master to a Nevada court in a lawsuit involving a Nevada public utility.

Mr. Neidlinger has performed feasibility studies related to energy management including cogeneration, self-generation, peak shaving and load-shifting analyses for clients with large electric loads. In addition, he has consulted with U.S. Army installations on privatization of utility systems and assisted these and other consumer clients in contract negotiations with utility providers of electric, gas and wastewater service.

Mr. Neidlinger has extensive experience in the costing and pricing of utility services. During his consulting career, he has been responsible for the design and implementation of utility rates for numerous electric, gas, water and wastewater utility clients ranging in size from 50 to 30,000 customers.

#### **IV. Professional Affiliations:**

Professional affiliations include the American Institute of Certified Public Accountants.

**EXHIBIT**  
*Admitted*

Line No.	Casa Grande						Direct Private Fire
	(A) Adjusted Total	(B) Residential	(C) Commercial	(D) Industrial	(E) Other	(F)	
1							
2	Operating Revenues						
3	Water Revenues (Sch. H-1)	\$ 10,345,272	\$ 6,578,153	\$ 2,217,848	\$ 1,085,226	\$ 450,777	\$ 13,267
4	Miscellaneous Revenues <sup>1</sup> (Sch. H-1)	589,682	374,956	126,418	61,858	25,684	756
5	Total Operating Revenues	\$ 10,934,954	\$ 6,953,109	\$ 2,344,266	\$ 1,147,084	\$ 476,472	\$ 14,023
6							
7	Operating Expenses						
8	Operations & Maintenance Expense	7,471,653	5,748,026	1,138,842	350,525	234,155	105
9	Depreciation & Amortization Expense	2,329,760	1,827,462	339,003	41,807	84,870	37,619
10	Income Taxes	(549,326)	(963,229)	164,858	243,380	21,306	(15,642)
11	Property Taxes	808,467	512,801	172,893	84,989	35,140	1,034
12	Other Taxes	219,346	168,745	33,433	10,290	6,874	3
13	Total Operating Expenses	\$ 10,277,900	\$ 7,293,806	\$ 1,848,029	\$ 730,602	\$ 382,344	\$ 23,119
14							
15	Taxable Income	(1,423,107)	(2,495,379)	427,089	630,511	55,195	(40,522)
16							
17	Net Operating Income	\$ 657,054	\$ (340,897)	\$ 496,236	\$ 416,483	\$ 94,127	\$ (9,096)
18							
19	Interest Expense	1,530,834	1,191,453	234,006	29,352	60,238	15,785
20							
21							
22	Rate Base	\$ 41,274,515	\$ 32,124,086	\$ 6,309,298	\$ 791,404	\$ 1,624,142	\$ 425,565
23							
24	Rate of Return (Ln. 17 + Ln. 23)	1.59%	-1.06%	7.87%	52.63%	5.80%	-2.14%
25							
26	Required Rate of Return (Sch. A-1, Ln. 12)	9.81%	9.81%	9.81%	9.81%	9.81%	9.81%
27							
28	Required Operating Income (Ln. 23 X Ln. 27)	\$ 4,050,790	\$ 3,152,743	\$ 619,211	\$ 77,670	\$ 159,398	\$ 41,768
29							
30	Operating Income Deficiency (Ln. 29 - Ln. 17)	\$ 3,393,736	\$ 3,493,440	\$ 122,975	\$ (338,812)	\$ 65,270	\$ 50,864
31							
32	Additional Taxes at Proposed Rates						
33	(Sch. G-4, Ln. 45 - Sch. G-4, Ln. 18)	\$ 2,133,458	\$ 1,422,848	\$ 542,282	\$ 17,029	\$ 131,210	\$ 20,089
34							
35	Required Increase in Gross Revenues (Ln. 31 + Ln. 34)	\$ 5,527,194	\$ 4,916,288	\$ 665,256	\$ (321,783)	\$ 196,480	\$ 70,953
36							
37	% Required Increase in Gross Revenues (Ln. 36 + Ln. 5)	50.55%	70.71%	28.38%	-28.05%	41.24%	505.96%
38							
39	Gross Revenue Requirement (Ln. 5 + Ln. 36)	\$ 16,462,148	\$ 11,869,397	\$ 3,009,522	\$ 825,301	\$ 672,951	\$ 84,977
40							
41	Less: Miscellaneous Revenues	\$ (589,682)	\$ (374,956)	\$ (126,418)	\$ (61,858)	\$ (25,684)	\$ (756)
42							
43	Revenue Requirement - Metered Water Revenues	\$ 15,872,466	\$ 11,494,441	\$ 2,883,105	\$ 783,443	\$ 647,257	\$ 84,220
44							
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53							
54	<sup>1</sup> Allocated to customer classes based on						
55	percentage of total water revenues						

Line No.	Casa Grande						[F]		[G]
	[A]	[B]	[C]	[D]	[E]	[F]	Cost of Service	Commodity	
	Commodity	Demand	Customer	Direct Private Fire	Total Cost of Service	Monthly Fixed 5/B	Per M.Gal		
1	M Gal	equiv. meter	bill						
2	4,595,459	29,899	271,668	n/a					
3	3,244,377	8,166,609	4,966,186	84,977	16,462,148				
4	\$	\$	\$	\$	\$				
5	0.71	273.14	18.28	n/a					
6									
7									
8	Residential								
9	Units of Service	22,892	254,004	n/a					
10	Cost of Service	5,870,859	4,245,156	n/a	11,868,397	\$	26.14	\$ 1,7782	
11									
12	Commercial								
13	Units of Service	5,167	16,344	n/a					
14	Cost of Service	1,613,554	534,098	n/a	3,008,522	\$	21.63	\$ 1,5037	
15									
16	Industrial								
17	Units of Service	349	315	n/a					
18	Cost of Service	248,327	111,662	n/a	825,301	\$	56.31	\$ 0.9073	
19									
20	Other								
21	Units of Service	1,491	1,005	n/a					
22	Cost of Service	433,869	75,251	n/a	672,951	\$	16.33	\$ 1.8733	
23									
24	Direct Private Fire								
25	Cost of Service	n/a	n/a	n/a	84,977	\$			
26									
27									
28	Total System Cost of Service	8,166,609	4,966,186	84,977	16,462,148	\$			
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**ARIZONA WATER COMPANY**  
Test Year Ended December 31, 2007  
Cost of Service Summary - Proposed Rates

Line No.	Casa Grande						Direct Private Fire
	(A) Adjusted Total	(B) Residential	(C) Commercial	(D) Industrial	(E) Other	(F)	
1							
2	\$ 15,725,670	\$ 10,224,807	\$ 3,559,853	\$ 1,097,631	\$ 777,854	\$ 66,525	
3	589,682	383,411	133,488	41,159	29,168	2,457	
4	\$ 16,315,353	\$ 10,608,218	\$ 3,693,340	\$ 1,138,790	\$ 807,023	\$ 67,982	
5							
6							
7	7,471,653	5,748,026	1,138,842	350,525	234,155	105	
8	2,329,760	1,827,462	338,003	41,607	84,670	37,619	
9	1,584,132	459,620	707,140	260,410	152,515	4,448	
10	806,467	524,364	182,562	56,290	39,891	3,360	
11	219,346	168,745	33,433	10,290	6,874	3	
12	\$ 12,411,358	\$ 8,726,217	\$ 2,399,980	\$ 719,322	\$ 518,304	\$ 45,535	
13							
14							
15	3,957,292	1,148,167	1,766,494	650,525	380,995	11,111	
16	\$ 3,903,964	\$ 1,880,001	\$ 1,293,360	\$ 419,467	\$ 288,718	\$ 22,447	
17							
18	1,530,834	1,191,453	234,006	29,352	60,238	15,785	
19							
20							
21							
22	\$ 41,274,515	\$ 32,124,086	\$ 6,309,298	\$ 791,404	\$ 1,624,142	\$ 425,585	
23							
24	9.46%	5.85%	20.50%	53.00%	17.78%	5.27%	
25							
26	\$ 5,380,398	\$ 3,655,109	\$ 1,348,074	\$ (8,295)	\$ 330,551	\$ 53,959	
27							
28	48.2%	52.6%	57.5%	-0.7%	69.4%	384.8%	
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<sup>1</sup> Allocated to customer classes based on percentage of total water revenues  
<sup>2</sup> Rate of return at proposed rates includes the effects of proposed rate consolidation

**EXHIBIT**  
*Abst-5*  
 admitted

Line No.	Casa Grande						Direct Private Fire
	(A) Adjusted Total	(B) Residential	(C) Commercial	(D) Industrial	(E) Other	(F)	
1							
2							
3							
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23							

Operating Revenues	\$ 10,345,272	\$ 6,578,153	\$ 2,217,848	\$ 1,085,226	\$ 450,777	\$ 13,267
Water Revenues (Sch. H-1)	589,682	374,956	126,418	61,858	25,694	756
Miscellaneous Revenues (Sch. H-1)	10,834,854	6,853,109	2,344,266	1,147,084	476,472	14,023
Total Operating Revenues						
Operating Expenses	7,168,065	5,234,586	1,244,124	381,444	276,894	28,018
Operations & Maintenance Expense	2,104,025	1,648,097	306,200	38,089	76,982	34,657
Depreciation & Amortization Expense	(260,701)	(594,934)	133,112	217,786	7,585	(24,270)
Income Taxes	675,120	429,283	144,734	70,821	29,417	866
Property Taxes	218,346	160,181	39,071	11,672	6,534	888
Other Taxes	9,905,855	6,877,212	1,866,240	719,822	401,422	41,158
Total Operating Expenses	(735,739)	(1,678,996)	375,662	614,655	21,434	(68,494)
Taxable Income	\$ 1,029,099	\$ 75,897	\$ 478,026	\$ 427,262	\$ 75,048	\$ (27,135)
Net Operating Income	1,504,137	1,159,959	235,475	30,403	61,211	17,089
Interest Expense						
Rate Base	\$ 40,554,693	\$ 31,274,922	\$ 6,348,904	\$ 819,738	\$ 1,650,367	\$ 480,761

Line No.	Case Grande						Direct Private Fire
	[A] Adjusted Total	[B] Residential	[C] Commercial	[D] Industrial	[E] Other	[F]	
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Operating Revenues	\$ 14,216,244	\$ 8,769,566	\$ 3,302,139	\$ 1,610,759	\$ 509,059	\$ 26,721
Water Revenues (Sch. H-1)	569,682	363,706	136,952	66,804	21,113	1,108
Miscellaneous Revenues <sup>1</sup> (Sch. H-1)	14,807,828	9,133,272	3,439,091	1,677,563	530,172	27,629
Total Operating Revenues						
Operating Expenses	7,158,065	5,234,586	1,244,124	381,444	278,894	29,018
Operations & Maintenance Expense	2,104,025	1,648,097	306,200	38,089	76,982	34,657
Depreciation & Amortization Expense	1,594,132	259,568	736,428	575,371	40,387	(27,816)
Income Taxes	675,120	416,403	156,794	76,463	24,171	1,289
Property Taxes	219,346	160,181	38,071	11,672	8,534	888
Other Taxes						
Total Operating Expenses	\$ 11,750,688	\$ 7,718,832	\$ 2,481,615	\$ 1,083,059	\$ 429,169	\$ 38,013
Taxable Income	3,137,233	514,047	1,458,427	1,139,471	80,379	(65,091)
Net Operating Income	\$ 3,057,238	\$ 1,414,440	\$ 957,476	\$ 594,504	\$ 101,003	\$ (10,184)
Interest Expense	1,504,137	1,159,959	235,475	30,403	61,211	17,086
Rate Base	\$ 40,554,693	\$ 31,274,922	\$ 6,348,804	\$ 619,738	\$ 1,650,367	\$ 460,761
Rate of Return	7.54%	4.52%	15.08%	72.52%	6.12%	-2.21%



Line No.	Casa Grande						Direct Private Care
	(A) Adjusted Total	(B) Residential	(C) Commercial	(D) Industrial	(E) Other	(F)	
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<sup>1</sup>Allocated to customer classes based on percentage of total water revenues  
<sup>2</sup>Rate of return at proposed rates includes the effects of proposed rate consolidation

**ARIZONA WATER COMPANY**  
 Test Year Ended December 31, 2007  
 Cost of Service Summary - Proposed Rates

Exhibit JMR-Staff 1  
 Schedule G-2  
 Page 13 of 22  
 Witness: Reiker

Line No.	Casa Grande						Direct Private Fire
	(A) Staff Adjusted	(B) Residential	(C) Commercial	(D) Industrial	(E) Other	(F)	
1							
2	Operating Revenues						
3	Water Revenues (Sch. H-1)	\$ 14,218,243	\$ 8,769,566	\$ 3,302,139	\$ 1,610,759	\$ 509,059	\$ 26,721
4	Miscellaneous Revenues <sup>1</sup> (Sch. H-1)	589,882	363,706	136,952	66,804	21,113	1,108
5	Total Operating Revenues	\$ 14,807,925	\$ 9,133,272	\$ 3,439,090	\$ 1,677,563	\$ 530,171	\$ 27,829
6							
7	Operating Expenses						
8	Operations & Maintenance Expense	7,168,065	5,257,321	1,235,960	407,988	266,712	105
9	Depreciation & Amortization Expense	2,104,025	1,647,726	306,938	38,119	76,943	34,299
10	Income Taxes	1,157,431	178,043	542,467	411,680	34,518	(9,277)
11	Property Taxes	675,120	416,403	156,794	76,483	24,171	1,269
12	Other Taxes	219,346	160,876	37,821	12,484	8,161	3
13	Total Operating Expenses	\$ 11,323,987	\$ 7,660,369	\$ 2,279,980	\$ 946,734	\$ 410,505	\$ 26,399
14							
15	Taxable Income	3,127,858	481,145	1,465,972	1,112,530	93,281	(25,070)
16							
17	Net Operating Income	\$ 3,483,938	\$ 1,472,903	\$ 1,159,110	\$ 730,829	\$ 119,666	\$ 1,430
18							
19	Interest Expense	1,513,511	1,169,801	235,606	29,979	60,903	17,223
20							
21							
22	Rate Base	\$ 40,807,431	\$ 31,540,287	\$ 6,352,421	\$ 808,299	\$ 1,642,063	\$ 464,360
23							
24	Rate of Return <sup>2</sup> (Ln. 17 + Ln. 22)	8.54%	4.67%	18.25%	90.42%	7.29%	0.31%
25							
26	Increase in Gross Revenues	\$ 3,873,405	\$ 2,180,147	\$ 1,094,819	\$ 530,476	\$ 54,157	\$ 13,805
27							
28	% Increase in Gross Revenues	35.4%	31.4%	46.7%	46.2%	11.4%	98.4%
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<sup>1</sup>Allocated to customer classes based on percentage of total water revenues  
<sup>2</sup>Rate of return at proposed rates includes the effects of proposed rate consolidation

Supporting Schedules:  
 RB H-1, RB G-3, RB G-4

Corporation Commission – Fixed Utilities

**TITLE 14. PUBLIC SERVICE CORPORATIONS; CORPORATIONS AND ASSOCIATIONS; SECURITIES REGULATION**  
**CHAPTER 2. CORPORATION COMMISSION**  
**FIXED UTILITIES**

Authority: Article XV, § 3, Constitution of Arizona and A.R.S. § 40-202 et seq.

*Editor's Note: The Office of the Secretary of State publishes all Code Chapters on white paper (Supp. 02-1).*

*The Corporation Commission has determined that rules in this Chapter are exempt from the Attorney General certification provisions of the Arizona Administrative Procedure Act (A.R.S. § 41-1041) by a court order (State ex. rel. Corbin v. Arizona Corporation Commission, 174 Ariz. 216 848 P.2d 301 (App. 1992)). This exemption means that the rule was not certified by the Attorney General. Because this Chapter was filed under a rulemaking exemption, as determined by the Corporation Commission, other than a statutory exemption, the Chapter is printed on green paper.*

*Chapter 2, consisting of Sections R14-2-104, R14-2-105, R14-2-201 through R14-2-213, R14-2-301 through R14-2-313, R14-2-401 through R14-2-411, R14-2-501 through R14-2-510, and R14-2-601 through R14-2-610, adopted effective March 2, 1982.*

**ARTICLE 1. GENERAL PROVISIONS**

*Former Sections R14-2-103, R14-2-127, and R14-2-128, renumbered as Sections R14-2-101 through R14-2-103 respectively and former Section R14-2-135 renumbered as Section R14-2-314 effective March 2, 1982.*

*Former Sections R14-2-101, R14-2-102, R14-2-104, R14-2-106 through R14-2-126, R14-2-129, R14-2-130, R14-2-132 through R14-2-134 repealed effective March 2, 1982.*

- Section
- R14-2-101. Accident reports
- R14-2-102. Treatment of depreciation
- R14-2-103. Defining Filing Requirements in Support of a Request by a Public Service Corporation Doing Business in Arizona for a Determination of the Value of Property of the Corporation and of the Rate of Return Thereon, or in Support of Proposed Increased Rates or Charges
- R14-2-104. Inspection of annual reports
- R14-2-105. Notice of rate hearings
- R14-2-106. Commission Color Code to Identify Location of Underground Facilities

**ARTICLE 2. ELECTRIC UTILITIES**

- Section
- R14-2-201. Definitions
- R14-2-202. Certificate of Convenience and Necessity for Electric Utilities
- R14-2-203. Establishment of Service
- R14-2-204. Minimum Customer Information Requirements
- R14-2-205. Master Metering
- R14-2-206. Service Lines and Establishments
- R14-2-207. Line Extensions
- R14-2-208. Provision of Service
- R14-2-209. Meter Reading
- R14-2-210. Billing and Collection
- R14-2-211. Termination of Service
- R14-2-212. Administrative and Hearing Requirements
- R14-2-213. Conservation

**ARTICLE 3. GAS UTILITIES**

- Section
- R14-2-301. Definitions
- R14-2-302. Certificate of Convenience and Necessity for gas utilities; additions/extensions; abandonments
- R14-2-303. Establishment of service
- R14-2-304. Minimum customer information requirements
- R14-2-305. Master metering
- R14-2-306. Service lines and establishments
- R14-2-307. Main extensions

- R14-2-308. Provision of service
- R14-2-309. Meter reading
- R14-2-310. Billing and collection
- R14-2-311. Termination of service
- R14-2-312. Administrative and Hearing Requirements
- R14-2-313. Conservation
- R14-2-314. Intermittent gas ignition

**ARTICLE 4. WATER UTILITIES**

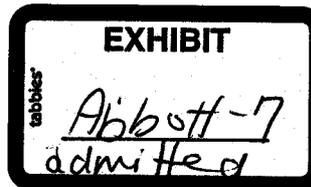
- Section
- R14-2-401. Definitions
- R14-2-402. Certificate of Convenience and Necessity for water utilities; abandonments
- R14-2-403. Establishment of service
- R14-2-404. Minimum customer information requirements
- R14-2-405. Service connections and establishments
- R14-2-406. Main extension agreements
- R14-2-407. Provision of service
- R14-2-408. Meter reading
- R14-2-409. Billing and collection
- R14-2-410. Termination of service
- R14-2-411. Administration and Hearing Requirements

**ARTICLE 5. TELEPHONE UTILITIES**

- Section
- R14-2-501. Definitions
- R14-2-502. Certificate of Convenience and Necessity for telephone utilities; additions/extensions; abandonments
- R14-2-503. Establishment of service
- R14-2-504. Minimum customer information requirements
- R14-2-505. Service connections and establishments
- R14-2-506. Construction Agreement
- R14-2-507. Provision of Service
- R14-2-508. Billing and collection
- R14-2-509. Termination of service
- R14-2-510. Administrative and Hearing Requirements

**ARTICLE 6. SEWER UTILITIES**

- Section
- R14-2-601. Definitions
- R14-2-602. Certificate of Convenience and Necessity for sewer utilities; additions/extensions; abandonments
- R14-2-603. Establishment of service
- R14-2-604. Minimum customer information requirements
- R14-2-605. Service connections
- R14-2-606. Collection main extension agreements
- R14-2-607. Provision of service
- R14-2-608. Billing and collection
- R14-2-609. Termination of service
- R14-2-610. Administrative and Hearing Requirements



- R14-2-2006. Unauthorized Charges
- R14-2-2007. Notice of Subscriber Rights
- R14-2-2008. Informal Complaint Process
- R14-2-2009. Compliance and Enforcement
- R14-2-2010. Severability
- R14-2-2011. Script Submission

#### ARTICLE 21. CUSTOMER PROPRIETARY NETWORK INFORMATION

*Article 21, consisting of Sections R14-2-2101 through R14-2-2112, made by final rulemaking at 12 A.A.R. 1547, effective June 19, 2006 (Supp. 06-2).*

##### Section

- R14-2-2101. Application
- R14-2-2102. Definitions
- R14-2-2103. Obtaining Customer Approval to Use, Disclose, or Permit Access to CPNI to Affiliates, Joint Venture Partners and Independent Contractors Providing Communications-Related Services
- R14-2-2104. Obtaining Customer Approval to Use, Disclose, or Permit Access to CPNI to Third Parties and Affiliates that Do Not Provide Communications-Related Services
- R14-2-2105. Information Requirements for Customer CPNI Opt-In Notice
- R14-2-2106. Additional Informational Requirements for Customer Opt-Out Notice
- R14-2-2107. Notification Requirements for Obtaining Customer Approval for Limited One-Time Use of CPNI for Inbound and Outbound Customer Telephone Contact
- R14-2-2108. Verification of Customer Opt-Out Approval to Use CPNI
- R14-2-2109. Confirming a Customer's Opt-In Approval
- R14-2-2110. Reminders to Customers of Their Current CPNI Release Election
- R14-2-2111. Duration of Customer Approval or Disapproval to Disseminate the Customer's CPNI
- R14-2-2112. Severability

#### ARTICLE 1. GENERAL PROVISIONS

##### R14-2-101. Accident reports

- A. Where not otherwise specifically prescribed by rule with respect to particular classes of public service corporations, all public service corporations shall report in writing by the end of the next working day to the Commission all accidents in which such public service corporations are involved, which result in death, personal injury to any person necessitating off-site medical attention, or property damage exceeding \$5,000.00. For purposes of this rule, off-site medical attention includes any medical treatment provided by medical professionals which requires transportation of the patient by ambulance, or treatment of the patient in an emergency room, or in-patient hospitalization. For those accidents in which it is not readily determinable if the property damage exceeds \$5,000.00, the public service corporation will have an additional two working days in which to submit its report. Any associated personal injuries requiring off-site medical attention would still have to be reported within the initial business day.
- B. This report shall state, as accurately as possible, the dollar amount of the damage. If this amount is not known immediately, or if investigation discloses a 15% or greater variation from the amount in this report, a follow-up report shall be submitted.

- C. If such accidents result in death or injury likely to result in death, a report shall also be made within 24 hours by telegraph or telephone stating the essential facts.

##### Historical Note

Former Section R14-2-101 repealed, former Section R14-2-103 renumbered as Section R14-2-101 without change effective March 2, 1982 (Supp. 82-2). Amended effective February 3, 1989 (Supp. 89-1).

##### R14-2-102. Treatment of depreciation

- A. The following definitions shall apply in this Section unless the context otherwise requires:
  1. "Accumulated depreciation" means the summation of the annual provision for depreciation from the time that the asset is first devoted to public service.
  2. "Cost of removal" means the cost of demolishing, dismantling, removing, tearing down, or abandoning of physical assets, including the cost of transportation and handling incidental thereto.
  3. "Depreciation" means an accounting process which will permit the recovery of the original cost of an asset less its net salvage over the service life.
  4. "Depreciation rate" means the percentage rate applied to the original cost of an asset to yield the annual provision for depreciation.
  5. "Net salvage" means the salvage value of property retired less the cost of removal.
  6. "Original cost" means the cost of property at the time it was first devoted to public service.
  7. "Property retired" means assets which have been removed, sold, abandoned, destroyed, or which for any cause have been withdrawn from service and books of account.
  8. "Salvage value" means the amount received for assets retired, less any expenses incurred in selling or preparing the assets for sale; or if retained, the amount at which the material recoverable is chargeable to materials and supplies, or other appropriate accounts.
  9. "Service life" means the period between the date an asset is first devoted to public service and the date of its retirement from service.
- B. All public service corporations shall maintain adequate accounts and records related to depreciation practices, subject to the following:
  1. Annual depreciation accruals shall be recorded.
  2. A separate reserve for each account or functional account shall be maintained.
  3. The cost of depreciable plant adjusted for net salvage shall be distributed in a rational and systemic manner over the estimated service life of such plant.
  4. Public service corporations having less than \$250,000 in annual revenue shall not be required to maintain depreciation records by separate accounts but shall make annual composite accruals to accumulated depreciation for total depreciable plant.
- C. Requests for depreciation rate changes and methods for estimating depreciation rates shall be as follows:
  1. If a public service corporation seeks a change in its depreciation rates, it shall submit a request for such as part of a rate application in accordance with the requirements of R14-2-103.
  2. A public service corporation may propose any reasonable method for estimating service lives, salvage values, and cost of removal. The method shall be fully described in a request to change depreciation rates.

## Corporation Commission – Fixed Utilities

3. Data and analyses supporting the change shall be submitted, including engineering data and assessment of the impact and appropriateness of the change for ratemaking purposes.
  4. Changed depreciation rates shall not become effective until the Commission authorizes such changes.
- D. Upon the motion of any party or upon its own motion, the Commission may determine that good cause exists for granting a waiver from one or more of the requirements of this Section.

**Historical Note**

Former Section R14-2-102 repealed, former Section R14-2-127 renumbered as Section R14-2-102 without change effective March 2, 1982 (Supp. 82-2). Forward to the rule corrected as filed April 13, 1973 (Supp. 89-1). Section R14-2-102 repealed, new Section adopted effective April 9, 1992 (Supp. 92-2).

**R14-2-103. Defining Filing Requirements in Support of a Request by a Public Service Corporation Doing Business in Arizona for a Determination of the Value of Property of the Corporation and of the Rate of Return Thereon, or in Support of Proposed Increased Rates or Charges**

**A. Purpose and definitions**

1. Purpose: The purpose of this General Order is to define the specific financial and statistical information required to be filed with a request by a public service corporation doing business in Arizona for a determination of the value of the property of the corporation and of the rate of return to be earned thereon, with regard to proposed increased rates or charges. This General Order does not apply to the implementation of previously approved adjustment or escalation clauses.
2. Applicability of rules: These rules shall apply to all electric, gas, telephone, telegraph, water and private fire protection public service corporations under the jurisdiction of the Commission. These rules are applicable both to all filings made after the effective date of this General Order and to any rate proceeding pending on the effective date of this General Order in which the Commission has issued no final decision. These rules are not intended to prohibit utilities from filing additional schedules, exhibits and other documents in which the Commission has issued no final decision. These rules are not intended to prohibit utilities from filing additional schedules, exhibits and other documents which may be material to the rate proceeding, nor are they intended to prohibit the Commission from considering such schedules, exhibits or other documents in making its determination. In pending proceedings, to the extent that the information required by this General Order is not included in the public service corporation's exhibits or is not otherwise in the record, such information shall be supplied as soon as possible unless a waiver is requested and granted pursuant to subsection (B)(5).
3. Definitions: Terminology used in this General Order is defined as follows:
  - a. "Accounting method" -- the accounting method prescribed or recognized by the Commission.
  - b. "Commission" -- The Arizona Corporation Commission.
  - c. "Cost of service" -- The total cost of providing service to a defined segment of customers, as determined by the application of logical and generally accepted cost analysis and allocation techniques.
  - d. "Department" -- A responsibility center within a combination utility where revenues and costs are accumulated by commodity or service rendered.
  - e. "Depreciated original cost" -- The cost of property to the person first devoting it to public service, less the depreciation reserve, which shall include accrued depreciation and amortization calculated in accordance with General Order R14-2-102. Depreciated original cost shall not include any goodwill or going concern value, nor shall it include certificate value in excess of payment made or costs incurred in the initial acquisition thereof.
  - f. "Exhibit" -- One or more schedules which support a rate filing or testimony in a rate proceeding.
  - g. "Filing" -- An application and required schedules, exhibits or other documents filed by a public service corporation to initiate any proceeding enumerated in subsection (A)(1). For all Class A and B utilities and for Class C electric and gas utilities, the filing shall include direct testimony in support of the application. For Class C water, sewer, and telephone utilities and for all Class D and E utilities, the filing shall include a written description of the components of the application. Nothing in this Section shall be construed to prohibit a public service corporation, prior to making a filing, from giving the Commission informal pre-filing notice of its intent to make a filing. Such pre-filing notice would permit the Commission, on a tentative basis, to assign a hearing date and would permit agreement on an appropriate test year.
  - h. "Original cost rate base" -- An amount consisting of the depreciated original cost, prudently invested, of the property (exclusive of contributions and/or advances in aid of construction) at the end of the test year, used or useful, plus a proper allowance for working capital and including all applicable pro forma adjustments.
  - i. "Pro forma adjustments" -- Adjustments to actual test year results and balances to obtain a normal or more realistic relationship between revenues, expenses and rate base.
  - j. "Projected year" -- The year immediately following the test year.
  - k. "Projections" -- Estimate of future results of operations based upon known facts or logical assumptions concerning future events.
  - l. "Prudently invested" -- Investments which under ordinary circumstances would be deemed reasonable and not dishonest or obviously wasteful. All investments shall be presumed to have been prudently made, and such presumptions may be set aside only by clear and convincing evidence that such investments were imprudent, when viewed in the light of all relevant conditions known or which in the exercise of reasonable judgment should have been known, at the time such investments were made.
  - m. "Rate schedule" -- A schedule of rates and conditions for a specific classification of customer or for other specific services.
  - n. "Reconstructed Cost New (RCND) Rate Base" -- An amount consisting of the depreciated reconstruction cost new of the property (exclusive of contributions and/or advances in aid of construction) at the end of the test year, used and useful, plus a proper allowance for working capital and including all applicable

Corporation Commission – Fixed Utilities

- pro forma adjustments. Contributions and advances in aid of construction, if recorded in the accounts of the public service corporation, shall be increased to a reconstruction new basis.
- o. "Staff" -- The staff of the Commission or its designated representatives.
- p. "Test year" -- The one-year historical period used in determining rate base, operating income and rate of

- return. The end of the test year shall be the most recent practical date available prior to the filing.
- q. "Utilities" -- For purposes of the Section, utilities are electric, gas, telephone, water, sewer or any other that may be supplying service and/or commodities which in the future may be adjudged a public service corporation and under the jurisdiction of this Commission, are classified as follows:

	Annual Operating Revenue				
	Class A	B	C	D	E
Electric & Gas	Exceeding \$5,000,000	\$1,000,000 to \$5,000,000	\$250,000 to \$999,000	\$50,000 to \$249,999	Less than \$50,000
Water & Sewer	Exceeding \$5,000,000	\$1,000,000 to \$5,000,000	\$250,000 to \$999,000	\$50,000 to \$249,999	Less than \$50,000
Telephone	Exceeding \$1,000,000	\$250,000 to \$1,000,000	\$100,000 to \$249,000	\$25,000 to \$99,999	Less than \$25,000

Annual operating revenues are those gross utility operating revenues derived from jurisdictional operations, including the requested rate relief. A combination utility is a utility which provides more than one of the commodities or services enumerated in this subsection. For combination utilities, the annual operating revenue, including the requested rate relief, for the specific subsidiary, department, or operating division requesting the rate change shall be used for classification purposes.

- r. "Working capital" -- A proper allowance for cash, materials and supplies and prepayments.

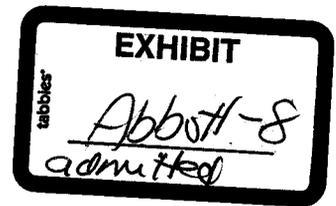
**B. Filing requirements:**

1. Information required from Class A, B, C and D utilities except for electric distribution cooperatives whose filing requirements are detailed in subsection (B)(3): The information required to be prepared and submitted by Class A, B, C and D Utilities in conjunction with a filing is presented below. Corresponding schedule formats are con-

tained in the Appendix of this General Order and denoted. These formats are not applicable to Class E utilities. The Appendix schedule formats A-1 through A-5 are a part of this General Order, and the Applicant's schedules should conform to these formats. All other Appendix schedule formats and descriptions are illustrative and the applicant's specific formats may vary from that suggested in the Appendix. The substantive information requested, both on the Appendix schedule and in the body of this General Order, however, must be contained on the applicant's schedules together with the titles and schedule numbers provided in the Appendix. Specific information items requested on the Appendix schedules may be omitted without formal waiver, from the filing where it is evident that said items are not applicable to the applicant's business. The instructions and notes contained on the Appendix schedules shall be followed where applicable. Reconstruction Cost New Depreciated information not filed by the applicant shall be deemed waived.

	Information	Filing Required by	Appendix Schedule Reference(s)
A.	Summary Information:		
1.	A summary of the increase in revenue requirements and the spread of the revenue increase by customer classification.	All classes	A-1
2.	A summary of the results of operations for the test year and for the test year and the 2 fiscal years ended prior to the end of the test year, compared with the projected year.	All classes	A-2
3.	A summary of the capital structure for the test year and the 2 fiscal years ended prior to the end of the test year, compared with the projected year.	Classes A & B	A-3
4.	Construction expenditures and gross utility plant in service for the test year and the 2 fiscal years ended prior to the end of the test year, compared with the projected year.	All classes	A-4
5.	A summary of changes in financial position for the test year and the 2 fiscal years ended prior to the end of the test year, compared with the projected year.	Classes A & B	A-5
B.	Rate Base Information:		
1.	A schedule showing the elements of original cost and RCND rate bases.	All classes	B-1
2.	A schedule listing pro forma adjustments to gross plant in service and accumulated depreciation for the original cost rate base.	All classes	B-2
3.	A schedule showing pro forma adjustments to gross plant in service and accumulated depreciation for the RCND rate base.	All classes	B-3
4.	A schedule demonstrating the determination of reproduction cost new less depreciation at the end of the test period.	All classes	B-4
5.	A schedule showing the computation of working capital allowance.	All classes	B-5
C.	Test Year Income Statements:		
1.	A test year income statement, with pro form adjustments.	All classes	C-1
2.	A schedule showing the detail of all pro forma adjustments.	All classes	C-2
3.	A schedule showing the incremental taxes and other expenses on gross revenues and the computation of an incremental gross revenue conversion factor.	All classes	C-3

**ARIZONA WATER COMPANY**  
**DOCKET NO. W-01445A-08-0440**  
**CASA GRANDE SYSTEM - CONSOLIDATED**  
**6" Water Rate Comparisons - Abbott Laboratories**



DESCRIPTION	RATE	UNITS	AMOUNT
<b>PRESENT RATES:</b>			
Basic Service Charge - Per Month	\$367	12	\$4,404
Commodity Charges - Per 1,000 Gallons:			
First Tier (2,160 K Gallons)	\$1.4869	25,920	\$38,540
Second Tier	\$1.6500	384,324	634,135
ACRM - Step I	\$0.1558	410,244	63,916
<b>Total Annual Bill</b>			<b>\$740,995</b>
<b>STAFF PROPOSED RATES - AS FILED:</b>			
Basic Service Charge - Per Month	\$700	12	\$8,400
Commodity Charges - Per 1,000 Gallons:			
First Tier (950 K Gallons)	\$1.9600	11,400	\$22,344
Second Tier	\$2.4320	398,844	969,989
ACRM - Step I	\$0.0000	410,244	0
<b>Total Annual Bill</b>			<b>\$1,000,733</b>
<b>Increase Over Present Rates</b>			<b>\$259,738</b>
<b>Percent Increase</b>			<b>35.05%</b>
<b>STAFF PROPOSED ALTERNATIVE RATES:</b>			
Basic Service Charge - Per Month	\$700	12	\$8,400
Commodity Charges - Per 1,000 Gallons:			
First Tier (32,000 K Gallons)	\$1.8000	374,216	\$673,589
Second Tier	\$2.7490	36,028	99,041
ACRM - Step I	\$0.0000	410,244	0
<b>Total Annual Bill</b>			<b>\$781,030</b>
<b>Increase Over Present Rates</b>			<b>\$40,035</b>
<b>Percent Increase</b>			<b>5.40%</b>
<b>COMPANY PROPOSED RATES:</b>			
Basic Service Charge - Per Month	\$524	12	\$6,288
Commodity Charges - Per 1,000 Gallons:			
First Tier (32,000 K Gallons)	\$1.6430	374,216	\$614,837
Second Tier	\$1.6430	36,028	59,194
ACRM - Step I	\$0.0000	410,244	0
<b>Total Annual Bill</b>			<b>\$680,319</b>
<b>Increase (Decrease) Over Present Rates</b>			<b>-\$60,676</b>
<b>Percent Increase (Decrease)</b>			<b>-8.19%</b>

**ARIZONA WATER COMPANY**



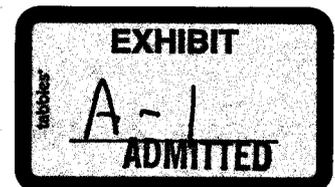
Docket No. W-01445A-08-\_\_\_\_\_

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**2008 RATE HEARING**  
**For Test Year Ending 12/31/07**

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**PREPARED**  
**DIRECT TESTIMONY & EXHIBITS**  
**OF**  
**William M. Garfield**



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1 **ARIZONA WATER COMPANY**

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2  
3 **Direct Testimony of**  
4 **William M. Garfield**

5  
6 **I. Introduction and Qualifications**

7 **Q. PLEASE STATE YOUR NAME, EMPLOYER AND OCCUPATION?**

8 A. My name is William M. Garfield. I am employed by Arizona Water Company (the  
9 "Company") as President.

10 **Q. PLEASE DESCRIBE YOUR WORK EXPERIENCE, EDUCATIONAL**  
11 **BACKGROUND AND PROFESSIONAL AFFILIATIONS.**

12 A. Since my initial employment with the Company in February 1984, I have held the  
13 positions of Engineer, Senior Engineer, Operations Manager, Vice President of  
14 Operations and currently hold the position of President, which I have held since  
15 July 18, 2003.

16 I completed my undergraduate work at Southern Illinois University at  
17 Carbondale and received a Bachelor of Science degree with honors in Thermal  
18 and Environmental Engineering. I have taken post-graduate coursework at  
19 Arizona State University in Civil Engineering, including coursework in hydrology,  
20 water and wastewater treatment and statistics. I am a member of Tau Beta Pi, a  
21 national honorary engineering society.

22 I am a member of the American Water Works Association, the Arizona  
23 Water and Pollution Control Association and serve on the American Water Works  
24 Association's Water Meter Standards Committee. I have been active in numerous  
25 water industry stakeholder groups with the Arizona Department of Environmental  
26 Quality ("ADEQ"), the Arizona Department of Water Resources and the Central  
27 Arizona Groundwater Replenishment District and am an ADEQ certified water  
28 distribution system and water treatment plant operator. I serve on the Company's

1 Board of Directors, the Board of Directors of the Water Infrastructure Finance  
2 Authority of Arizona and the Board of Directors of the Water Utilities Association of  
3 Arizona as well as serving as WUAA's Vice President and Treasurer. I also serve  
4 as Chairman of the Water Management Subcommittee of the Pinal Active  
5 Management Area Groundwater User Advisory Council. In addition, I am a  
6 member of the Statewide Water Advisory Group and serve on the Arizona Water  
7 Institute's External Advisory Board.

8 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY FOR THE COMPANY IN**  
9 **ANY OF ITS RATE APPLICATIONS AT THE COMMISSION?**

10 A. Yes, I have testified in the Company's last three rate application proceedings  
11 which were for the Company's Northern, Eastern and Western Groups. (See  
12 Docket Nos. W-01445A-00-0962, W-01445A-02-0619 and W-01445A-04-0650)

13 **Q. WHAT IS THE PURPOSE AND EXTENT OF YOUR TESTIMONY?**

14 A. The purpose of my testimony is to discuss and describe the (1) Company's  
15 general basis, need and justification for its application for rate adjustments; (2)  
16 factors affecting the Company's ability to earn a reasonable return on its invested  
17 capital, including the inherent flaws in current Commission rate procedures; (3)  
18 historical perspective of, and benefits achieved by, adjuster mechanisms and the  
19 Company's proposal to adopt one or more adjuster mechanisms; (4) risks faced  
20 by the Company in conducting its business; (5) purpose and benefits of  
21 consolidating several of the Company's water systems; (6) Company's existing  
22 and planned uses of Central Arizona Project ("CAP") water and its compliance with  
23 Decision No. 68302 (November 15, 2005) concerning a CAP Water Use Plan; and  
24 (7) status of the Company's contract with the City of Mesa concerning the  
25 treatment and transportation of CAP water in the Company's Superstition System.

26 **II. Summary Of Testimony and General Background on Application**

27 **Q. PLEASE SUMMARIZE THE COMPANY'S RATE APPLICATION.**

1 A. The Company's rate application requests an increase in utility revenues of  
2 \$15,441,290 over 2007 Test Year revenues, to provide the Company with  
3 sufficient revenues to pay its operating and maintenance expenses, interest on  
4 debt obligations and have enough operating income left over to provide the  
5 Company's shareholders with a reasonable return on their investment. This  
6 increase in revenues is required due to the effects of increased costs of utility  
7 service, increases in utility plant investment and increases in the overall cost of  
8 capital and debt since the Company's last rate decisions.

9           Recent rate decisions have eliminated purchased power and purchased  
10 water adjuster mechanisms ("PPAM" and "PWAM") in the Company's Eastern and  
11 Western Groups (See Decision Nos. 66849 and 68302). The Company requests  
12 the restoration of PPAMs in its Eastern and Western groups and the continuance  
13 of the PPAM in the Northern group water systems, and the restoration of PWAMs  
14 in its Superstition, Ajo and San Manuel systems and the institution of a PWAM in  
15 the White Tank water system. The Company also requests approval of a  
16 Purchased Fuel Adjuster Mechanism ("PFAM") for all of the Company's water  
17 systems. Approval of these adjuster mechanisms is necessary to ensure that the  
18 Company realizes sufficient revenue from water sales to recover its operating  
19 expenses and actually have an opportunity to earn a reasonable rate of return on  
20 rate base.

21           In the alternative, the Company requests approval of an Attrition Adjuster  
22 Mechanism ("AAM") for all of the Company's water systems. Without approval of  
23 much needed adjuster mechanisms, the Company's return on invested capital will  
24 continue to plummet and the Company will not be able to attract capital on  
25 reasonable terms to construct necessary utility plant. As a result, the Company's  
26 ability to provide the quality reliable service it has historically provided to its  
27 customers would be far less certain.

1           The Company's plans and commitments to use its full CAP water  
2 allocations in its Superstition, Coolidge, Casa Grande and White Tank water  
3 systems remain firm, and the Company has complied with Decision No. 68302 by  
4 submitting a CAP Water Use Plan. Commission Staff has concluded that the  
5 Company (in a Staff report dated August 6, 2007 – (See attached Exhibit WMG-1)  
6 adequately addressed the issues listed in the CAP Water Use Plan Requirements  
7 in such decision.

8           Lastly, the Company proposes to consolidate the following groups of water  
9 systems based on compelling public policy, public interest, and public benefit  
10 factors.

- 11           1.    Overgaard and Lakeside
- 12           2.    Casa Grande, Coolidge and Stanfield ("Pinal Valley Water  
13           System") (partially consolidated)
- 14           3.    Pinewood, Rimrock and Sedona (partially consolidated)
- 15           4.    Superstition (Apache Junction and Superior) and Miami
- 16           5.    Sierra Vista and Bisbee (partially consolidated)

17 **Q.   WHAT ARE THE COMPANY'S BASIS, GENERAL NEED AND JUSTIFICATION**  
18 **FOR THIS RATE APPLICATION?**

19 **A.**   The Company has made significant investment in plant additions for the total  
20 Company including its Northern, Eastern and Western Group water systems since  
21 its last rate applications, which were based on 1999, 2001 and 2003 Test Years,  
22 respectively. Since those Test Years, the Company has increased its investment  
23 in utility plant by more than \$25 million in the Company's Northern Group, \$41  
24 million in the Company's Eastern Group, and \$34 million in the Company's  
25 Western Group. In addition, the Company's operating and maintenance expenses  
26 have increased significantly during this time. Because of these two factors alone,  
27 the Company's current revenues are insufficient to cover its operating and  
28 maintenance expenses and provide a reasonable return on its invested capital.

1 In addition, since the Company's last rate applications were heard and  
2 decided by the Commission, the Company has experienced a significant increase  
3 in risk, justifying a return on equity that is higher than previously authorized to the  
4 Company in its three water system Groups. Also, since these last rate  
5 applications the Company's overall rate base has increased 33.9% - 30.3%,  
6 42.7%, and 28.01% for the Company's Northern, Eastern and Western Groups,  
7 respectively. Notwithstanding the Commission's requirements for the Company to  
8 file this rate application as a condition for approval of the Company's Arsenic Cost  
9 Recovery Mechanisms ("ACRMs"), the Company would still have found it  
10 necessary to file this application because the Company's operating income has  
11 degraded to the point that additional revenue is required to cover its rising cost of  
12 service and to provide a reasonable return on its invested capital. Achieving and  
13 sustaining such a return in order to attract capital for future investments in utility  
14 plant is another matter however.

15 **III. Factors Affecting the Company's Ability to Earn a Reasonable Return on Its**  
16 **Invested Capital**

17 **Q. HAS THE COMPANY BEEN ABLE TO EARN A REASONABLE RETURN ON**  
18 **ITS INVESTED CAPITAL SINCE ITS LAST RATE DECISIONS?**

19 A. No, the Company has not been able to earn a reasonable return since its last rate  
20 decisions for a number of reasons. Increased inflationary pressure is not the only  
21 reason. While the annual Consumer Price Index ("CPI") changes since the  
22 Company's Northern, Eastern and Western Group rate applications were filed  
23 (based on a 1999, 2001 and 2003 Test Years, respectively) have risen steadily, a  
24 major factor affecting the Company's return is the increased level of investment in  
25 utility plant by the Company to assure safe and reliable water service to its  
26 customers, including building and operating extensive arsenic treatment facilities.

27 The Commission's actions have also played a role in the Company's  
28 inability to realize reasonable returns. The Commission has recently approved

1 rates of return for the Company that are much lower than returns authorized in  
2 other regulatory jurisdictions, rejecting the Company's arguments that earnings of  
3 regulated water utilities in all regulatory jurisdictions should be comparable. (See  
4 Thomas M. Zepp's Direct Testimony) This is true despite the fact that the risks  
5 associated with the water utility industry have increased (and continue to increase)  
6 at the same time interest rates have increased. As a result, following the past  
7 three rate decisions, the Company has not been able to achieve or maintain the  
8 authorized rate of return. Whatever methods the Commission uses to set rates or  
9 establish adjuster mechanisms, the process itself can be judged by the results  
10 achieved. As a sign of the failings of the rate setting process, several regulated  
11 utilities filed back-to-back or pancaked rate applications even before a decision  
12 was issued in their pending rate application or have filed for interim rates. (See  
13 Docket No. E-01345A-08-0172 (Arizona Public Service), Docket No. W-01303A-  
14 08-0227 (Arizona-American Water Company) and Docket No. W-02113A-07-0551  
15 (Chaparral City Water Company))

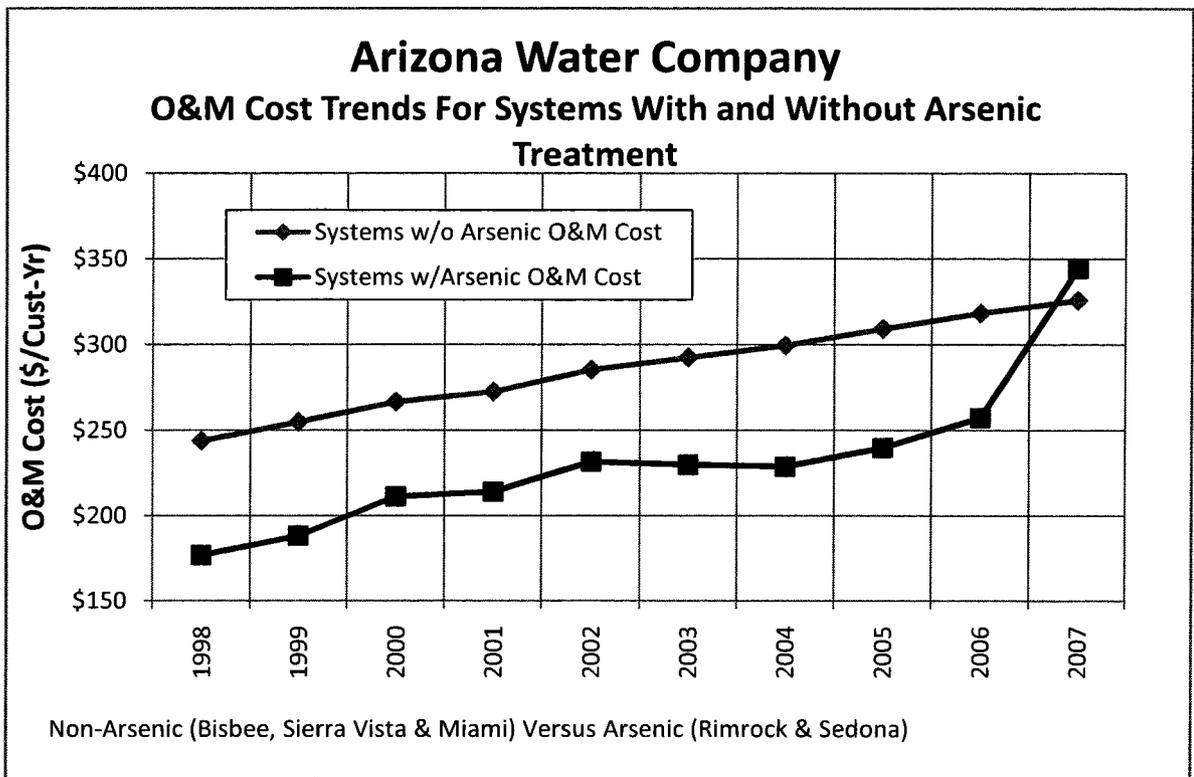
16 **Q. DIDN'T THE ACRMS APPROVED BY THE COMMISSION MITIGATE THE**  
17 **EFFECTS OF INCREASED INVESTMENT AND EXPENSES ASSOCIATED**  
18 **WITH THE COMPANY'S ARSENIC TREATMENT PLANTS?**

19 **A.** No. The ACRMs only addressed certain aspects of constructing and operating  
20 arsenic treatment plants, but did not allow the Company to recover certain  
21 significant operating and maintenance expenses. For example, after completing  
22 the Company's arsenic treatment plants, of which there are more than twenty  
23 ranging in capacity from 36,000 gallons per day to 8.35 million gallons per day,  
24 and with an overall arsenic treatment capacity of 44 million gallons per day, the  
25 daily operation of these treatment plants required the Company to employ  
26 eighteen treatment operators. These treatment plants are operated seven days  
27 per week and require an ADEQ certified treatment plant operator go to each  
28 treatment plant at least once daily, check on the operation to ensure each plant's

1 operational status, gather water samples, make adjustments as necessary, and  
2 oversee chemical deliveries and waste disposal. None of these costs has been  
3 recovered through the ACRMs. Instead, the Company has borne such labor costs  
4 and will continue to do so until such ongoing costs are ultimately recovered  
5 following this proceeding. Power and other non-ACRM expenses are also being  
6 borne by the Company as these costs are also unrecoverable under the ACRM.  
7 Past costs paid by the Company will not be recovered, however, and the Company  
8 will have unfairly borne these costs in the interim.

9 **Q. HOW IS THIS DIFFERENT THAN ANY OTHER PREVIOUS RATE**  
10 **PROCEEDING?**

11 A. Sadly, that is the point – the Commission’s rate making process is fundamentally  
12 flawed. Labor, power and transportation expenses associated with arsenic  
13 treatment plants were anticipated in the Company’s three previous group rate  
14 filings, however, Staff and RUCO objected and argued against the recovery of  
15 such costs until after the next general rate case. Since the ACRM was meant to  
16 be an abbreviated proceeding with expedited approvals for cost recovery, labor,  
17 power, and transportation costs, as well as other costs, were excluded from the  
18 ACRM cost recovery process. Second, these costs are not related or proportional  
19 to customer growth and are not offset in any way by customer growth. These  
20 costs were incurred to ensure compliance with the newly adopted Safe Drinking  
21 Water Standards for arsenic and were significantly higher than normal operating  
22 and maintenance expenses. This differential cost can clearly be seen in systems  
23 where arsenic treatment has occurred. See the graph below.



13 Q. **IN LIGHT OF THE COMPANY'S CURRENT FINANCIAL CONDITION, WHY**  
14 **DIDN'T THE COMPANY FILE A RATE CASE SOONER?**

15 A. For a number of reasons. The Company was required to file a rate case for each  
16 of its groups in order to true up the actual cost of arsenic treatment as a condition  
17 of the ACRM. The arsenic treatment plants were originally scheduled to be  
18 completed in three phases beginning with 2004 and ending in 2006. Construction  
19 was delayed for reasons beyond the Company's control, including the heightened  
20 demand for construction materials at the peak of the State's housing boom. Plants  
21 that were scheduled for completion in 2004 were actually completed in 2006.  
22 Plants that were scheduled for completion in 2005 were actually completed in  
23 early 2007 and plants that were scheduled for completion in 2006 were actually  
24 completed in late 2007 or early 2008. The arsenic treatment plants represent a  
25 significant investment and moving forward with a premature rate case for only a  
26 few of the plants, would have forced the Company to forego ACRM recovery for  
27 the remaining plants and would have put the Company in an even worse financial  
28

1 condition. The Company had no choice but to complete the plants as soon as  
2 possible and file its rate case as the Commission directed.

3 **Q. ARE ACRM PROCEDURES ADMINISTRATIVELY EFFICIENT AND CAN THEY**  
4 **BE IMPROVED?**

5 A. ACRMs should have been expedited and approved within 30-60 days, however,  
6 several of the ACRM filings have taken four to six months to be approved.  
7 Obviously, any delays in approving ACRMs delays much needed cost recovery  
8 and negatively impacts the Company's financial position. ACRM procedures can  
9 be improved if Staff meets with the Company immediately after each ACRM filing  
10 to review the pertinent information. At that meeting, Staff and Company engineers  
11 can coordinate site visits and identify any additional information needed. This  
12 should also benefit Staff and help them with their review of the Company's ACRM  
13 filings. In addition, the ACRM itself can be improved by providing for fuller cost  
14 recovery, such as including labor, power, and transportation expenses.

15 **Q. WHAT CAN THE COMMISSION DO TO PROVIDE A REASONABLE**  
16 **OPPORTUNITY FOR THE COMPANY TO EARN ITS AUTHORIZED RATE OF**  
17 **RETURN?**

18 A. Approve the Company's request to establish company-wide PPAM, PWAM, and  
19 PFAM (or in the alternative an AAM) for all Company water systems and establish  
20 a surcharge mechanism, similar to the ACRM, for increased investments in utility  
21 plant that are necessary to assure safe and reliable water service to the  
22 Company's existing customers.

23 **Q. WHAT IS YOUR CONCLUSION CONCERNING THE COMPANY'S**  
24 **OPPORTUNITY TO EARN ITS AUTHORIZED RATE OF RETURN?**

25 A. Ratemaking in Arizona falls short of providing utilities, like the Company, a  
26 reasonable opportunity to earn their authorized rate of return. As long as costs  
27 keep increasing, and as long as there is a need to attract capital to build new or  
28 replacement infrastructure, situations that will likely continue, it is imperative for

1 the Commission to approve cost adjusters and increase revenues to support  
2 needed utility plant additions. Otherwise, needed utility plant additions will have to  
3 be deferred.

4 **Q. WHY ARE REASONABLE COST RECOVERY MECHANISMS AND A**  
5 **REASONABLE RETURN IMPORTANT IN THIS PROCEEDING?**

6 A. Not only has the Company invested significant dollars in new utility plant since its  
7 last rate applications were approved, it must continue to invest in new utility plant  
8 at substantial levels for the next few years. If the Commission continues to set  
9 rates of returns below market rates and ignores the need for justifiable cost  
10 adjusters, the Company will never escape financial distress.

11 **Q. ASSUMING THE COMPANY'S RATE APPLICATION IS APPROVED TIMELY,**  
12 **HOW LONG AFTER THE TEST YEAR WOULD YOU EXPECT TO SEE THE**  
13 **FULL EFFECT OF NEW RATES?**

14 A. Not before 2010, three full years after the end of the 2007 Test Year for the  
15 Company to see the full effect of new rates. This is significant, because during  
16 that time, costs will have increased by 10% or greater above Test Year expenses,  
17 and the Company's return on invested capital will have dropped correspondingly.

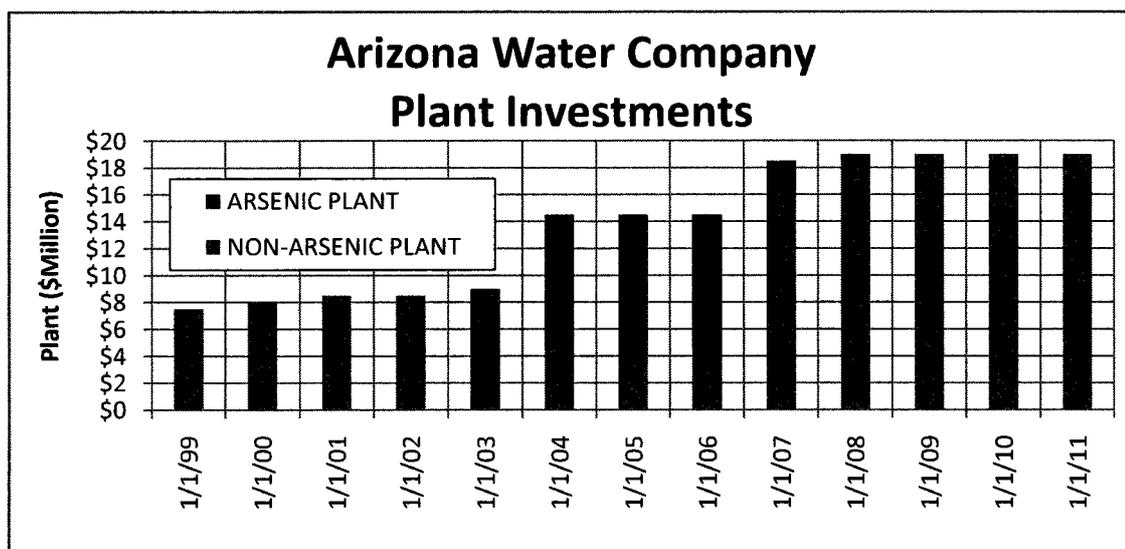
18 **Q. WHY DOES THE COMPANY EXPECT TO INCREASE ITS CONSTRUCTION**  
19 **BUDGET WHEN SO MUCH HAS ALREADY BEEN INVESTED IN ARSENIC**  
20 **TREATMENT?**

21 A. The Company's construction budget was increased primarily to construct arsenic  
22 treatment plants for the 2004-2006 budget years. However, there are still major  
23 factors that have caused the Company to increase its construction budget for the  
24 2007-2008 budget years and these same factors have caused projected capital  
25 needs to increase in its 2009-2011 budget years – delayed construction projects.  
26 During the 2004-2006 time period, the Company was forced to reduce its other  
27 utility plant construction activities in order to devote two-thirds of its construction  
28 budget to build arsenic treatment plants. The essential projects the Company was

1 forced to delay included replacement water mains; new water storage tanks;  
2 upgraded booster pump stations; transmission mains; replacement water services;  
3 and upgraded production capacity. The need for these projects did not vanish  
4 because the Company was in a budget and resources crunch; they must be  
5 constructed now and in the immediate future to maintain adequate and reliable  
6 water service.

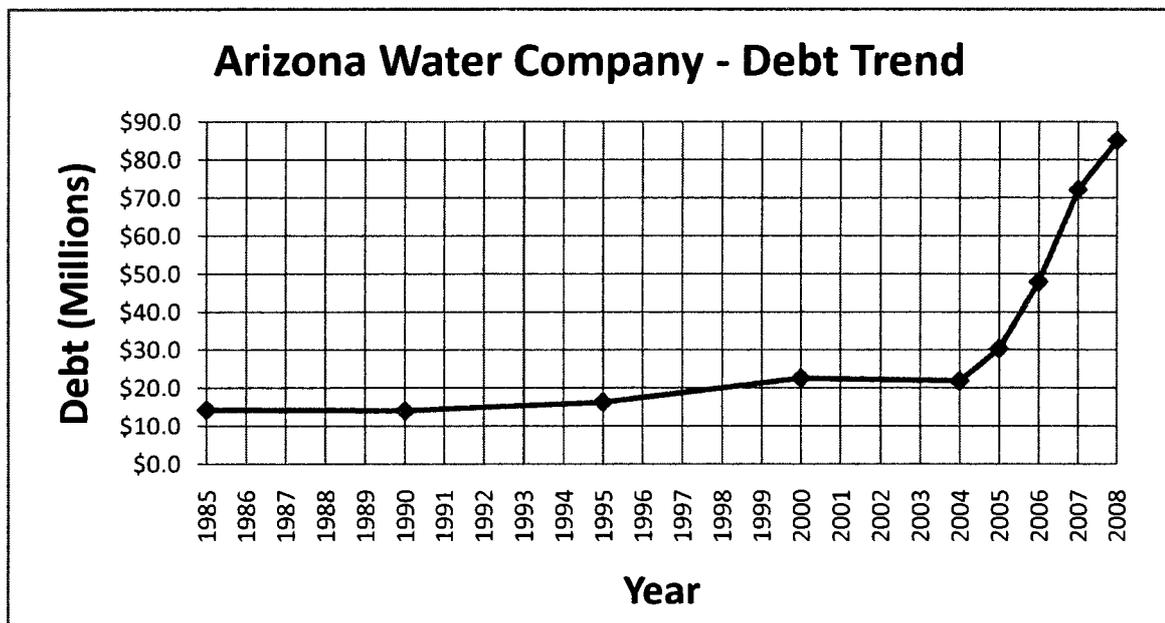
7 **Q. CAN YOU ESTIMATE HOW MUCH THE COMPANY WILL NEED TO INVEST**  
8 **OVER THE NEXT FIVE YEARS?**

9 A. The Company budgeted \$18.9 million for 2008 and estimates that its capital  
10 investment needs will be about the same amount for at least the next three years.  
11 During the period from 2004-2006, the normal annual construction budget should  
12 have been \$10 million or more for non-arsenic related utility plant. In fact, less  
13 than \$5 million was allocated for such utility plant. As a result, at least \$15 million  
14 of plant needs to be constructed as a catch-up, along with \$14 million each year  
15 for other utility plant. This all adds up to significant capital investment needs over  
16 the next four to five years, as the following graph illustrates. Actual capital  
17 expenditures and capital budgets can only be approved if revenue increases  
18 adopted in this rate case can support such investments and provide a reasonable  
19 return on the Company's invested capital.



1 Q. WILL THIS RATE APPLICATION AFFECT THE COMPANY'S ABILITY TO  
2 CONSTRUCT THE AFOREMENTIONED PLANT?

3 A. Yes, most certainly. The Company will not be able to build this needed utility plant  
4 unless it has rates to support a return on its existing plant investment and can  
5 attract additional capital. The Company funded most of its recent plant additions  
6 through debt financing, as illustrated by the following graph. Disproportionately  
7 increasing debt will increase risk to the Company, increase its cost of capital, and  
8 increase rates.



19 **IV. Adjuster Mechanisms – Historical Perspective and Resulting Benefits**

20 Q. PLEASE PROVIDE A HISTORICAL PERSPECTIVE ON THE COMPANY'S  
21 PPAM.

22 A. The original application for the Company's PPAM was part of the Company's  
23 company-wide rate application filed in 1982 (Docket U-1445-82-034), the subject  
24 of Commission Decision No. 53537. In that rate application, the Company  
25 requested the establishment of a PPAM to reduce attrition to its operating income.  
26 (See Decision No. 53537, p.17, lines 17-18). In Decision 53537, the Commission  
27 expressly found that "The proposed PPAM will reduce attrition to AWC's operating  
28 income" (See Finding of Fact No. 26, p.24, line 14, Decision 53537). More

1 importantly, however, was that the Commission concluded, as a matter of law, that  
2 the "Institution of a PPAM ... is just and reasonable." (See Conclusion of Law No.  
3 5, p. 25, lines 6-7, Decision No. 53537)

4 **Q. DID THE COMMISSION EXPRESS ANY CONCERN ABOUT AUTHORIZING A**  
5 **PPAM?**

6 A. Yes. The Commission expressed its concerns about PPAMs, since it had only  
7 recently approved a PPAM for Southwest Water Company in Decision No. 53449  
8 and was uncertain how the PPAM would work, whether it would provide any  
9 advantages or problems and that the Commission would need to gain some  
10 practical experience with this new type of adjuster mechanism. (See p.17, lines  
11 20-24, Decision No. 53537) The Company filed its form of PPAM with the  
12 Commission shortly after Decision No. 53537 was approved and over the next  
13 twenty or more years, routinely filed for PPAM adjustments based on the change  
14 in cost of purchased power.

15 **Q. WHAT WAS THE COMPANY'S AND THE COMMISSION'S RESULTING**  
16 **EXPERIENCE WITH THE PPAM?**

17 A. During the latter part of the 1980s and throughout the 1990s, the Company filed  
18 many PPAM adjustments, often reflecting decreases in power cost. These PPAM  
19 adjustments were administratively efficient and placed the primary burden of  
20 proving the need for the adjustment on the Company. The results produced  
21 increases or decreases in revenues needed to reflect changes in the cost of  
22 purchased power associated with the provision of water service. The addition of  
23 the PPAM was just and reasonable as Decision No. 53537 concluded it would be.  
24 There were no undesirable results; in fact, the Company's ratepayers paid only  
25 those costs attributable to test year power usage.

26 **Q. ARE YOU SAYING THAT THE PPAMS ADJUST ONLY FOR CHANGES IN**  
27 **PRICE NOT USAGE?**

1 A. Yes, even with the PPAM, the Company absorbed the increases in the cost of  
2 power due to increased demand between test years.

3 **Q. HOW HAS THE COMMISSION HANDLED THE COMPANY'S REQUESTS TO**  
4 **CONTINUE THE PPAMS IN ITS MOST RECENT RATE APPLICATIONS?**

5 A. The Commission authorized their continuance in the Company's most recent  
6 Northern Group rate application, but ordered their discontinuance in the  
7 Company's most recent Eastern and Western Group rate applications.

8 **Q. HOW DID THE COMMISSION JUSTIFY THE ELIMINATION OF THE**  
9 **COMPANY'S PPAM AND PWAM ADJUSTER MECHANISMS?**

10 A. The Commission eliminated the PPAM and PWAM on the basis that these  
11 adjuster mechanisms: 1) do not amount to a significant impact on the Company's  
12 expenses as they are not the single largest expense, such as purchased power or  
13 purchased gas for electric utilities, 2) purchased power and purchased water costs  
14 are not volatile, 3) adjustment mechanisms provide utilities with a disincentive to  
15 obtain the lowest possible cost commodity, 4) the PPAMs and PWAMs do not  
16 contain complex safeguards designed to limit volatility to ratepayers, 5) adjusters  
17 do not provide for any requirement to seek cost-reducing alternatives, 6) adjuster  
18 mechanisms have the potential to result in piecemeal regulation with purchased  
19 power or purchased water costs increasing while other costs may be decreasing,  
20 and 7) the adjuster mechanisms are not administratively efficient and the cost of  
21 tracking PPAMs and PWAMs outweighs their benefits. (See Decision Nos. 64282,  
22 66849 & 68302 and Ludders Direct in Dockets relating to these Decisions)

23 **Q. DID THE ELIMINATION OF PPAMS AND PWAMS ADVERSELY AFFECT THE**  
24 **COMPANY?**

25 A. Yes, significantly, and I believe the decisions to eliminate them were arbitrary, as  
26 there was no evidence introduced in the Eastern or Western Group rate cases  
27 showing imprudent or unnecessary O&M costs, nor was there any evidence that  
28 management decisions showed any abuse of discretion. It seems very simple to

1 me. These adjusters provide an effective and fair means for the Company to  
2 recover increases in cost of very narrowly defined operating costs which the  
3 Company cannot control, namely purchased power and purchased water. Without  
4 a way to recover the Company's increasing costs of public utility water service in a  
5 timely and cost-efficient manner, rates would not be sufficient to yield a reasonable  
6 return on the value of the Company's property used to render such service. This  
7 probable result, which is very predictable based on historic increases in O&M  
8 costs, would cause operating income to degrade to a point where returns are  
9 unreasonably low, and rates would become unjust, unreasonable and  
10 confiscatory. Besides, PPAMs and PWAMs work both ways and benefit ratepayers  
11 too as the Company's history with these adjusters shows.

12 **Q. DID THE COMMISSION'S DECISIONS JUSTIFY DISCONTINUING PPAMS IN**  
13 **THE EASTERN AND WESTERN GROUP RATE CASES WHILE CONTINUING**  
14 **THE PPAM IN THE COMPANY'S NORTHERN GROUP?**

15 A. There was no adequate justification for the inconsistency. Staff had argued that  
16 the impacts of changes in power costs were small in relation to the Company's  
17 overall revenue requirements and that the cost of electricity was not very volatile.  
18 In hindsight, it is readily apparent how wrong Staff was. In any event, Staff did not  
19 acknowledge the original purpose for establishing the PPAM, nor did they  
20 understand the overall impact on the Company's operating income. There was no  
21 objection by Staff to the PPAMs when they were passing savings on to ratepayers  
22 when rates dropped in the late 1980s and in the 1990s. RUCO also apparently  
23 lost sight of the need for PPAMs, as it has also changed its position from one rate  
24 case to the next.

25 **Q. HAVE ANY OF THE ORIGINAL REASONS CHANGED CONCERNING THE**  
26 **NEED FOR A PPAM?**

27 A. No, in fact the need for a PPAM is even greater today than it was ten years ago  
28 when the cost of power was on a slight decline. No one can dispute that power

1 costs have increased significantly in recent years, or that they are expecting them  
2 to continue to increase for the foreseeable future. The Commission's recent  
3 requirement to have the state's electric utilities move to 15% renewable energy  
4 within the next twenty years alone will cause power costs to increase even more  
5 than normal.

6 **Q. WHY HAS THE COMPANY REQUESTED THAT THE COMMISSION APPROVE**  
7 **A PFAM IN THIS PROCEEDING?**

8 A. Because fuel costs have become very volatile in the last few years and have  
9 measurably and significantly increased the Company's operating expenses.  
10 Future costs remain volatile and approval of cost adjusters to reflect such volatility  
11 is just and reasonable. These increases in costs have not been recovered from  
12 the ratepayers.

13 **Q. ARE YOU AWARE OF ANY LAW, RULE, REGULATION OR DECISION**  
14 **SAYING WHY PURCHASED POWER, PURCHASED WATER, PURCHASED**  
15 **FUEL OR ATTRITION ADJUSTERS CANNOT BE APPROVED FOR THE**  
16 **COMPANY?**

17 A. No. I have read Scates and it seems clear to me that adjusters are lawful when  
18 established in conjunction with a "finding of fair value" and consideration of all  
19 other costs and ratemaking components, as with a general rate application. This  
20 proceeding is precisely where PPAMs, PWAMs, PFAMs, (or AAMs) and other  
21 adjusters can and should be established. There is no reason why such adjusters  
22 cannot be restored, continued or established in this proceeding, and in fact, there  
23 are compelling reasons why they should be restored, continued or established at  
24 this time.

25 **Q. DON'T ADJUSTER MECHANISMS TAKE AWAY ALL OF THE INCENTIVES**  
26 **FOR A UTILITY TO CONTROL ITS COSTS?**

27 A. No, far from that. Purchased Power and Purchased Water Adjusters are narrowly  
28 applied aspects of costs subject to adjustment through an adjuster mechanism.

1 Although power costs typically represent 18% of the Company's operating  
2 expenses, 82% of the Company's operating expenses were not subject to  
3 adjustment under this adjuster mechanism. The cost of power is outside a utility's  
4 ability to control; rates are either set by the Commission or another governmental  
5 entity. Likewise, for those water systems with a PWAM, rates are subject to  
6 Commission or other governmental control, and are not within the Company's  
7 control.

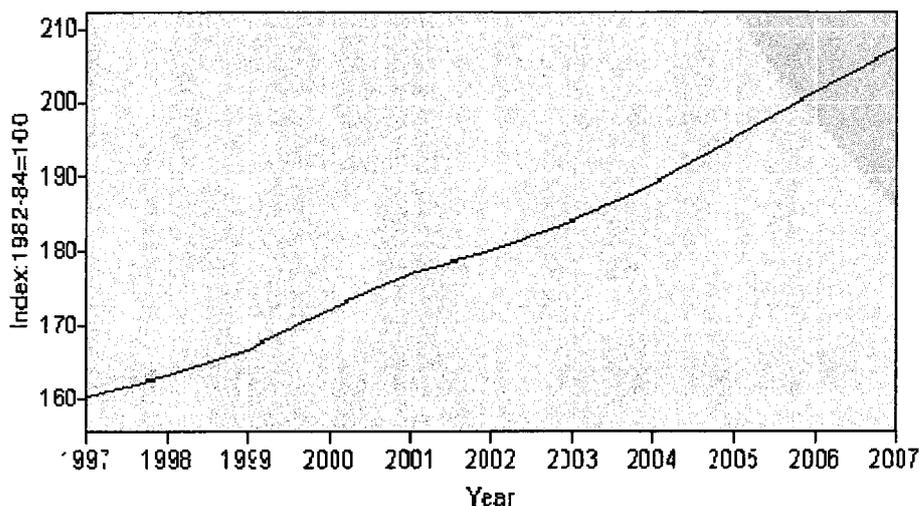
8 Contrary to what Staff has argued in the past, after rates are established,  
9 the Company has every incentive to control costs as they directly and negatively  
10 affect the Company's earnings. With respect to power specifically, as I testified,  
11 the Company still has incentives to reduce usage because PPAMs, PWAMs, and  
12 PFAMs do not adjust for usage. But, no utility possesses the power or authority to  
13 hold back the effects of inflation. Adjuster mechanisms help maintain the cost of  
14 service where it should be placed – on the ratepayers. Under the current  
15 framework, increased costs of service have been borne by the Company, unfairly  
16 and improperly shifting the cost of service from the ratepayers to the Company.

17 **Q. CAN YOU COMPARE THE ECONOMIC IMPACT OF THE PPAM TO OTHER**  
18 **ADJUSTER MECHANISMS THE COMPANY HAS IN PLACE?**

19 **A.** Yes. The Company also has a MAP Surcharge Mechanism in place for all of its  
20 systems with a population of less than 10,000 people. This is a mandatory  
21 program established by ADEQ which has been in place for many years and the  
22 MAP surcharge filings have been administratively efficient and streamlined to  
23 reflect changes in MAP costs. The effects of PPAMs, PWAMs, and PFAMs (or  
24 AAMS) are, or would be, much greater on the Company than the MAP costs, and  
25 all of these costs are properly recoverable from the Company's ratepayers.

26 **Q. IF THE COMPANY'S OPERATING AND MAINTENANCE EXPENSES KEEP**  
27 **INCREASING, HOW IS THE COMPANY GOING TO BE ABLE TO PASS THOSE**  
28 **COSTS ON TO ITS RATEPAYERS?**

1 A. The Company will not be able to do so, at least not without the Commission  
2 approving some form of adjuster mechanism. The Company's operating and  
3 maintenance expenses have been increasing across the board for nearly all  
4 categories of cost and for all of its water systems. The following graph illustrates  
5 the steady, predictable and measurable increase in CPI over the past ten years,  
6 representing a steady increase in costs.



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15 Source: U.S. Department of Labor, Bureau of Labor Statistics

16 Without the adjuster mechanisms in all but the Company's Northern Group,  
17 the Company has no other way of passing any of the increased costs on to its  
18 ratepayers, except through far more frequent formal rate applications.

19 The Company must preserve and maintain its financial integrity by filing  
20 rate applications, but the cost of filing and presenting rate applications has steadily  
21 increased over time. Ultimately, when the Commission allows the Company to  
22 recoup the costs, the ratepayers pay a higher water bill. The rate case costs are  
23 in addition to other increases in the cost of service. By only allowing utilities to  
24 recover increased costs through formal rate applications, in effect forcing utilities  
25 to incur the full cost of preparing and presenting a rate case and delaying the  
26 recovery of increased costs, this archaic process itself creates additional and  
27 unnecessary cost for ratepayers and increases the financial burden on the utility.  
28

1 This can be avoided, however, if the Commission simply approves adjusters like  
2 the ones the Company has proposed.

3 **Q. IS THERE AN APPROACH THAT WOULD LESSEN ATTRITION?**

4 A. Yes. Although the Company firmly believes that PPAMs, PWAMs, and PFAMs are  
5 in the public interest and are effective, there is another approach that may address  
6 the issue of attrition to operating income. The alternative approach would be to  
7 adopt a company-wide AAM, first mentioned on page 4 of my testimony, to take  
8 the place of all other adjuster mechanisms. The AAM would involve an annual  
9 company-wide filing tied to the U.S. Department of Labor Bureau of Labor  
10 Statistics CPI. This index is updated monthly and covers all aspects of inflationary  
11 cost pressures affecting the Company and the rest of the nation. There are  
12 several forms of CPI indices produced by the DOL BLS, which are nationally  
13 recognized indices, accepted by many jurisdictions including the U.S. Social  
14 Security Administration and can be used as an effective cross-reference to the  
15 Company's increases in operating and maintenance expenses.

16 **Q. IF THE COMMISSION APPROVED THE COMPANY'S REQUEST FOR AN AAM,  
17 WHAT METHODS COULD BE USED TO PROTECT THE INTERESTS OF THE  
18 RATEPAYERS?**

19 A. The AAM would incorporate an earnings test for each system, such as in the  
20 Company's ACRM filings, which would address the following concerns:

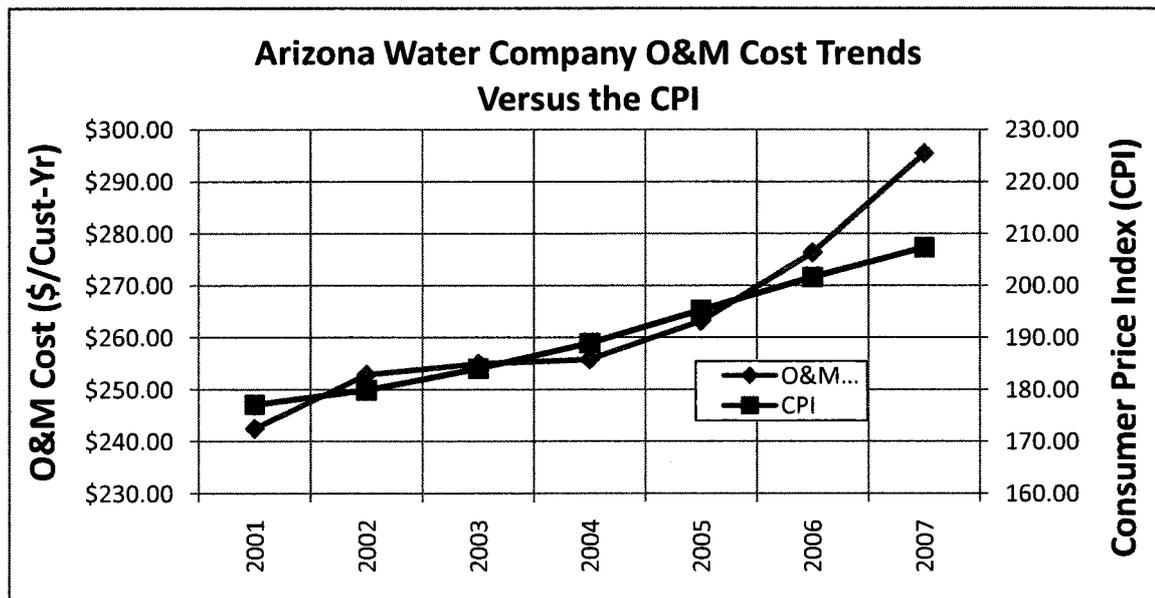
- 21 1. The AAM will represent a broad base of O&M costs eliminating any  
22 concerns over piecemeal ratemaking.
- 23 2. The AAM will represent one annual company-wide filing, resulting in  
24 three AAM filings in total over three years - much less than the  
25 number of adjuster filings made by the Company from 1990 through  
26 2007, and would track only one cost index, resulting in administrative  
27 efficiency.

1 3. Since the Company will not be recovering all of its increasing O&M  
2 costs, it has ongoing incentives to manage O&M costs to further help  
3 reduce attrition to its operating income.

4 The resulting rates will be "just and reasonable" rates for both the  
5 ratepayers and the Company. Neither the Company nor any other enterprise with  
6 similar risks can be expected to fully mitigate attrition to operating income solely  
7 through cost reduction strategies. Our AAM approach would appropriately  
8 balance the interest of the Company and the ratepayers, but the Company would  
9 no longer unfairly shoulder the full burden of cost increases related to its cost of  
10 service to its customers. Mr. Reiker provides an example of a typical AAM  
11 surcharge in Exhibit JMR-6, attached to his direct testimony.

12 **Q. CAN YOU ILLUSTRATE THESE COST INCREASES YOU HAVE TESTIFIED TO**  
13 **THROUGHOUT THIS TESTIMONY?**

14 **A.** Yes. The following graph illustrates the long-term increases in operating and  
15 maintenance expenses ("O&M"), excluding depreciation expenses, experienced by  
16 the Company's water systems expressed on a per customer per year basis  
17 compared to the CPI. Except for the sharp increase in arsenic treatment  
18 expenses in 2006-2007, O&M cost increases closely track increases in the CPI.



1 Q. CAN YOU QUANTIFY THE IMPACTS OF RELATED CATEGORIES OF  
2 EXPENSES?

3 A. Yes. The impacts of purchased power can be seen by looking at the Company's  
4 Eastern Group, which last used the 2001 calendar year as its Test Year. This  
5 group has experienced increases in purchased power of approximately \$225,000,  
6 based on the same amount of power purchased in 2001. With all our expenses  
7 increasing, this is simply lost operating income, lost return. Based on 2007 power  
8 usage, the unrecoverable power costs would be even higher.

9 Q. WHAT ABOUT FUEL COSTS?

10 A. The impact of fuel costs on the provision of service to the Company's customers,  
11 with the Company's fleet of service vehicles numbering more than 140 is  
12 substantial. The cost of fuel, both gasoline and diesel, has increased dramatically  
13 since the midpoint of the Company's three operating groups last test years. Since  
14 2001, the average per gallon gasoline price has increased from approximately  
15 \$1.30 per gallon to its recent peak price of \$4.15 per gallon. Based on 2007  
16 quantities of gasoline usage, which was approximately 205,000 gallons, the  
17 increase in fuel cost for passenger vehicles and light-duty service vehicles alone is  
18 over \$580,000. Diesel prices have increased even more than gasoline prices and  
19 this fuel type is typically used in all equipment except light-duty service vehicles  
20 and passenger vehicles. The increases in fuel costs have not been recovered  
21 from the Company's ratepayers, and instead have been borne by the Company.  
22 The following three graphs illustrate the increases in purchased fuel (gasoline and  
23 diesel) and purchased power on a national level, respectively.

24

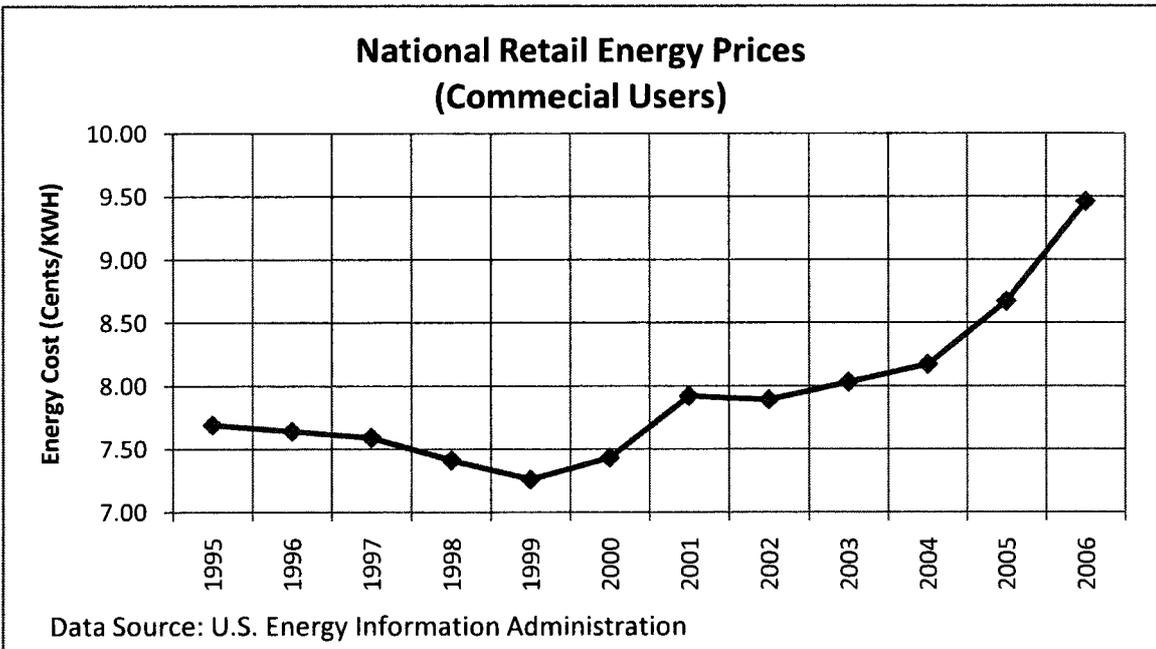
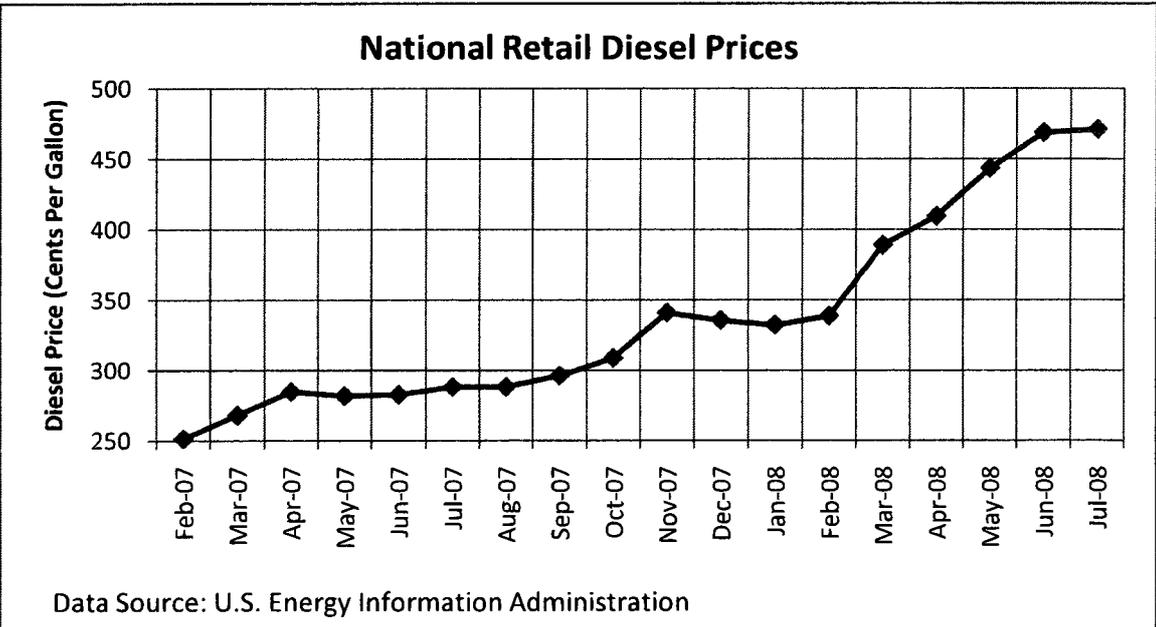
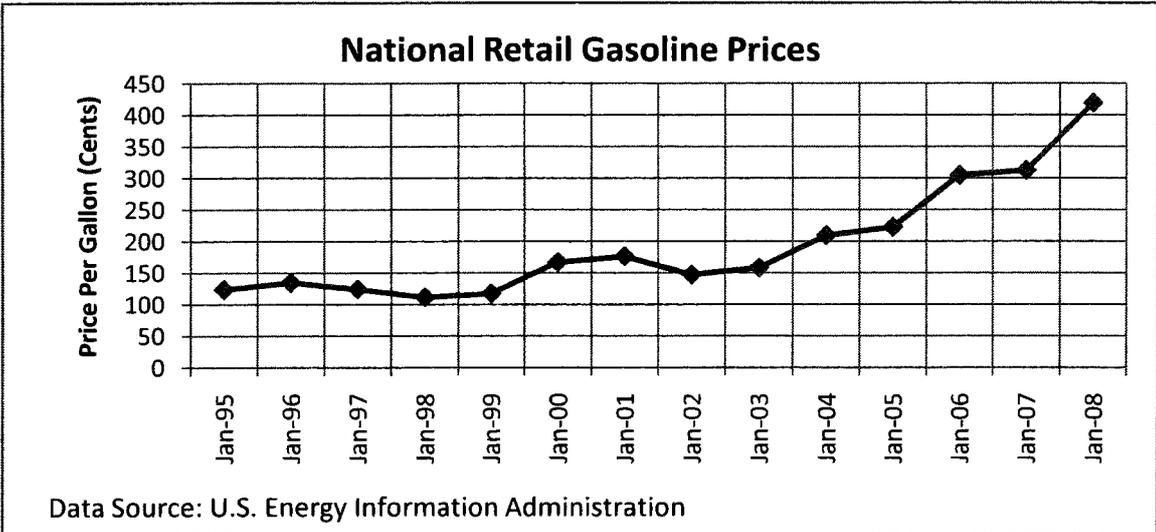
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1 The dramatic increase, volatility and significance of the Company's fuel  
2 expenses have led the Company to also request the establishment of a PFAM for  
3 all of its systems, unless in the alternative the Commission approves a company-  
4 wide AAM in place of all other adjuster mechanisms.

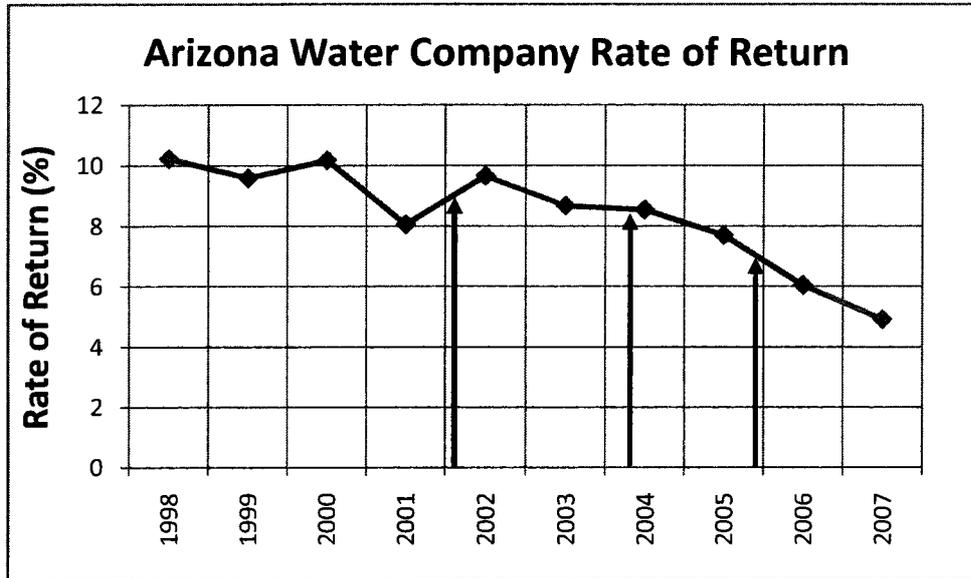
5 **Q. PLEASE SUMMARIZE HOW THE COMMISSION CAN ACTUALLY**  
6 **PROVIDE AN OPPORTUNITY FOR THE COMPANY TO ACTUALLY EARN**  
7 **A REASONABLE RATE OF RETURN?**

8 A. Ideally, the Commission would allow utilities to file for annual adjustments to reflect  
9 increases in known costs or increased investment in utility plant. Absent that, it  
10 can and must authorize certain adjuster mechanisms, such as PWAMs, PPAMs,  
11 PFAMs, or the AAM. Another measure that could be implemented is to stage in  
12 higher rates over time, yielding a phased increase in revenues that would produce  
13 more revenues commensurate with higher operating expenses. A built-in  
14 protection for any system would be to have an earnings test. For example, if the  
15 Commission determined that a 10% rate of return is justified and authorized a rate  
16 of return at 10% for the first year, it could then increase revenues such that the  
17 targeted rate of return is achieved, but with a 10% earnings cap test. This will help  
18 to ensure that the Company is able to attract capital for building needed utility  
19 infrastructure.

20 **Q. CAN'T THE COMPANY FILE MORE RATE APPLICATIONS?**

21 A. Yes, but even filing back-to-back rate cases would not make the Company whole.  
22 For example, as I testified earlier, the regulatory lag extends over a period of about  
23 three years. During that time, O&M costs have typically risen ten percent or more.  
24 Based on the average Company water system (and apart from increased capital  
25 investment costs) this degradation or attrition to the Company's operating income  
26 results in a significant drop in overall rate of return each and every year thereafter.  
27 When coupled with increased capital investment in utility plant, the effects are  
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1 even greater. The following graph illustrates the historic and harmful effects on  
2 the Company's rate of return.



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13 The above graph reflects the Commission's approval of new rates for the  
14 Company's Northern, Eastern and Western Groups effective on January 1, 2002,  
15 March 10, 2004 and December 1, 2005, respectively, which are also indicated  
16 along a timeline by red arrows on the above graph. Unfortunately, this shows that  
17 even with new rates, the Company's rate of return dropped precipitously  
18 throughout the period from January 2002 forward, reflecting the effects of  
19 increasing O&M costs and increased capital investment and the Commission's  
20 ineffective rate setting process in ensuring the Company's opportunity to earn a  
21 reasonable return on invested capital.

22 A second factor limiting the use of back-to-back rate cases to address  
23 attrition to operating income is the high cost of preparing and presenting a rate  
24 case which can range from \$350,000 to \$600,000 (based on cost increases  
25 projected over the next three years). This cost, which is appropriately passed on  
26 to ratepayers as a necessary expense, increases the cost of service to each  
27 ratepayer. This cost and effort can be reduced and rate cases deferred if cost  
28 adjuster mechanisms are used as they have shown themselves to be effective in

1 reducing attrition to a utility's operating income. Adjuster mechanisms simply need  
2 to be approved. This approach is reasonable and the results are just, both to the  
3 Company and the ratepayers.

4 **Q. WHAT BENEFIT MIGHT THE COMMISSION DERIVE FROM SUCH**  
5 **ADJUSTERS?**

6 A Rate case filings are extremely complex, costly, and demand considerable time  
7 from the Company's staff, the Commission and its Staff and RUCO and intervening  
8 parties. In light of the State's budget woes and staffing shortages, it does not  
9 make sense to expand the need for filing rate cases for all regulated utilities when  
10 other more efficient methods are available. All of these factors increase risk to the  
11 utility, more risk than exists in other states and for utilities in the water utilities  
12 sample.

13 **Q. IS THERE A PRACTICAL LIMIT TO THE NUMBER OR TYPE OF ADJUSTERS**  
14 **THAT THE COMMISSION SHOULD APPROVE?**

15 A. Yes. The Company has historically limited its request to establish adjusters to  
16 purchased power and purchased water. These costs are very well defined, easily  
17 tracked and accounted for, are outside of the Company's control and do have a  
18 measurable negative effect on the Company's operating income. Other costs,  
19 such as fuel for vehicles and other powered equipment, were more variable in their  
20 occurrence. Over the last few years, however, gasoline prices increased from  
21 \$1.30 per gallon in 2002 to \$4.15 per gallon in June of 2008, making recovery of  
22 purchased fuel costs through an adjuster mechanism necessary. In the  
23 alternative, the Company's proposed AAM would reduce the number of adjusters  
24 to only one, further improving the administrative efficiencies achieved by such  
25 adjusters. In the absence of an overall attrition adjuster mechanism, the adjusters  
26 sought herein are both fair and reasonable and urgently needed.

27 **V. Risks Faced By The Company in its Business**  
28

1 **Q. YOU HAVE TALKED A LOT ABOUT RISK. WHAT TYPES OF RISK DOES THE**  
2 **COMPANY FACE IN ITS BUSINESS?**

3 A. The Company, in its business, faces risk from a number of different sources  
4 related to: 1) the small size of most of its water systems, 2) changing regulations  
5 and unfunded mandates adopting new enforceable drinking water standards, 3)  
6 increasing operating and maintenance costs without the ability to pass such costs  
7 through to the ratepayer in an efficient and timely manner as I discussed in detail  
8 above, 4) delays in setting new rates to reflect increases in the cost of service,  
9 rising utility plant investments, and higher cost of capital, 5) increasingly  
10 adversarial, overly complex, and more costly rate proceedings, 6) regulatory  
11 treatment of the Company as a Class A utility versus the many smaller operating  
12 units causing the cost of adjusting rates to increase beyond those experienced by  
13 stand-alone utilities of similar individual system size, 7) increased need to perform  
14 advanced resource planning, and the need to design, fund and install added utility  
15 infrastructure in rapidly growing areas, 8) increased push by utility regulators and  
16 consumer advocate entities to shift short-term impacts of cost increases related to  
17 the cost of service from ratepayers to the Company, and 9) reduced ability to gain  
18 favorable authorized rate of return from the Commission and earn reasonable rate  
19 of return based on rates set during rate proceedings. I will discuss these risks in  
20 further detail below.

21 **Q. CAN YOU PLEASE ELABORATE ON THE PARTICULAR RISK DUE TO THE**  
22 **SIZE OF WATER SYSTEMS THAT MAKE-UP THE COMPANY'S TOTAL**  
23 **CUSTOMER BASE?**

24 A. Yes. As indicated in the table below, except for the two largest water systems, the  
25 average Company water system averages less than 2,700 customers and is  
26 barely considered a Class B water system. If the classifications of water  
27 systems were adjusted to reflect the revenue increases attributable to inflationary  
28 costs incurred since the system classifications were established by Commission

1 Rules, the average Company water system would be considered a Class C water  
 2 system. By comparison, the California Public Utilities Commission (the "CPUC")  
 3 categorizes water systems by the number of customer connections. Those  
 4 classifications are 1-500 (Class D), 501-2,000 (Class C), 2,001-10,000 (Class B),  
 5 and 10,001 and greater (Class A). Based on the CPUC's classifications, two of the  
 6 Company's systems would be classified as Class D, five systems would be  
 7 classified as Class C, eight systems would be classified as Class B, with only two  
 8 classified as Class A. This indicates that most of the Company's water systems  
 9 would be considered small-to-medium sized.

Water System	Number of Customers	2007 Annual Revenues (\$)	Commission System Classification
Winkelman	169	\$107,119	D
Stanfield	213	\$139,583	D
Ajo	687	\$495,157	C
Rimrock	1,261	\$606,508	C
San Manuel	1,563	\$872,767	C
Pinewood	2,895	\$1,122,680	B
Oracle	1,552	\$1,195,389	B
White Tank	1,694	\$1,313,517	B
Sierra Vista	2,920	\$1,552,601	B
Overgaard	4,218	\$1,771,171	B
Bisbee	3,457	\$1,906,919	B
Miami	3,104	\$2,002,116	B
Coolidge	4,751	\$2,415,029	B
Lakeside	4,991	\$2,732,543	B
Sedona	6,437	\$4,007,822	B
Casa Grande	22,884	\$11,710,590	A
Superstition	21,013	\$12,874,992	A
Total	83,809	\$46,826,503	A
Average*	2,661	\$1,482,728	B

\*After removing the two largest water systems

21 **Q. WHY IS THIS IMPORTANT TO THIS PROCEEDING?**

22 A. Small water systems are exposed to much greater risk and typically have greater  
 23 capital investment per customer than larger systems. For example, a small water  
 24 system such as Oracle does not have the benefit of increased reliability and  
 25 redundancy inherent in larger systems. Even a medium-sized water system, such  
 26 as the Casa Grande water system, receives its water supplies from over twenty  
 27 wells where even the loss of the largest producing well during peak demands  
 28 poses much less risk of failing to meet customer demands or running out of water

1 than in a water system with only one or two sources of supply. This fact has  
2 caused the Company to add redundant sources of supply to its small water  
3 systems to ensure system reliability and adequacy. This has come at the cost of  
4 increased capital or plant investments on a per customer basis. The same  
5 approach has been applied to other plant items, such as water storage, booster  
6 pumping facilities, control systems, and treatment facilities.

7 Another example of such risk resulting from changing regulations and  
8 unfunded mandates adopting new enforceable drinking water standards occurred  
9 in Stanfield, where arsenic treatment was needed to meet the new arsenic drinking  
10 water standard. From the time that the Company prepared bids and awarded a  
11 contract, approximately twenty-four months was needed to complete the treatment  
12 facility. Even with the availability of an ACRM, there was still a considerable time  
13 lag from the time that the Company began the process of bidding, entering into  
14 contracts for design and construction and began its investment in this treatment  
15 plant. The Company's experience has shown that it has taken four to six months  
16 to receive Commission approval of an ACRM application before the Company  
17 could even begin collecting increased revenues from the associated surcharges  
18 and there is no chance that the Company will actually recover the full amount.

19 **Q. PLEASE CONTINUE YOUR DISCUSSION OF RISK FACED BY OPERATING A**  
20 **NUMBER OF SMALL SYSTEMS.**

21 **A.** Certainly. A small system with only two wells, like the Stanfield system, has a  
22 greater risk of water system outages when a well goes down due to well or pump  
23 failure than a large system with twenty wells. The loss of a well in the small  
24 system represents a loss of 50% of supply, as compared to a loss of 5% of supply  
25 for the large system. Obviously, a water system is able to more readily cope with  
26 a 5% loss of supply than a 50% loss of supply. As a consequence, the Company  
27 must make additional investment or incur much greater operating expenses in  
28

1 smaller systems due to these types of factors that are not present or are less  
2 significant in larger systems.

3 The Company serves more than 83,000 customers throughout Arizona, but  
4 its water systems are generally small and geographically isolated. The result is  
5 the Company cannot achieve the same levels of operational economies of scale  
6 that a single, large water system of 83,000 customers would otherwise realize.  
7 Again, by way of example, small systems tend to have personnel that are multi-  
8 disciplined and able to perform a variety of tasks. Large systems have personnel  
9 that are more specialized. The result is that large systems have personnel that  
10 focus on a small range of tasks and are more efficient at such tasks.

11 In contrast, small systems have personnel that must be able to complete a  
12 wide range of tasks, such as, operating wells, chlorination and treatment  
13 equipment, install water services and meters, repair leaks, read meters, collect  
14 water samples, turn services on and off, etc. Multi-disciplined employees that can  
15 perform many different tasks generally cannot operate as efficiently at any one  
16 task as employees of a larger system could since they perform the same or a  
17 similar task over and over.

18 **Q. HOW HAS THE COMMISSION'S REGULATORY TREATMENT OF THE**  
19 **COMPANY AS A CLASS A UTILITY CAUSED ADDITIONAL RISK TO THE**  
20 **COMPANY?**

21 **A.** While the Commission considers the Company a Class A utility and is subject to  
22 all of the extended requirements that are associated with Class A utilities, it is in  
23 fact, made up of much smaller operating units or water systems. By regulating the  
24 entire Company as a Class A utility, the Company is precluded from filing a less  
25 complicated rate application typically required of smaller utilities. For example, if  
26 the Company chose to file a rate application for its Winkelman system, a system of  
27 less than 200 connections, the Commission would require the same extensive  
28 filing requirements, evidentiary proceedings and cost of capital testimony as a

1 company the size of Arizona American Water Company. This filing burden  
2 translates to the Company receiving a lower rate of return for certain systems until  
3 after the entire group rate application is ultimately approved. The cost of filing a  
4 "Winkelman only" rate application would be cost prohibitive, and any cost burden  
5 on the Winkelman customers in such case would be tremendous and produce  
6 significant rate impacts.

7 **Q. HOW DOES THE FACT THAT THE COMPANY PROVIDES UTILITY SERVICE**  
8 **IN RAPIDLY GROWING AREAS CREATE ADDITIONAL RISK FOR THE**  
9 **COMPANY?**

10 A. The Company's Pinal Valley Service Area, the area that includes Casa Grande,  
11 Coolidge, Stanfield, Tierra Grande and Arizona City, has experienced significant  
12 and rapid growth from 2003 through 2006. Then the housing market slowed down  
13 beginning in early 2006 and has slowed even more each year since then. Even  
14 so, during the high growth period, the Company had to implement on an  
15 accelerated basis new water supply, distribution and pumping capacities to meet  
16 the new water system demands. In order to provide capacities needed to render  
17 adequate and reliable service, the Company must gauge when to proceed with  
18 needed construction to meet increased demands before they occur. The same  
19 level of risk is not present in areas with more predictable or slow growth.

20 **Q. SO, IN SUMMARY, IT SOUNDS LIKE YOU BELIEVE THAT THE COMPANY**  
21 **WILL NOT BE ABLE TO EARN THE AUTHORIZED RATE OF RETURN.**

22 A. No, the Company will not be able to earn the authorized rate of return. Based on  
23 the previous three rate applications, one for each of the Company's three Groups,  
24 the Company could not, and did not, earn the authorized rate of return. Returns  
25 were further eroded by increased plant investments and operation expenses going  
26 forward, further and further denying the Company an opportunity to earn a  
27 reasonable return. This phenomenon is directly attributable to time delays in filing  
28 and processing complex applications, utilizing historical rather than future test

1 years, lack of necessary adjuster mechanisms, lack of abilities to increase  
2 revenues to match increased utility plant investments and the protracted rate  
3 proceedings experienced by the Company and other regulated water utilities.

4 If the rate setting process fails again and again to yield the desired  
5 financial results, i.e., rates of return commensurate with returns from similar  
6 enterprises with corresponding levels of risk, then I would conclude that such a  
7 rate setting process is deficient and the Company will not be permitted a  
8 reasonable opportunity to earn a reasonable rate of return on its investment,  
9 unless something changes in this case, of course.

10 **Q. HOW DOES REGULATION IN ARIZONA COMPARE WITH REGULATION IN**  
11 **OTHER JURISDICTIONS?**

12 A. The CPUC, for example, takes about the same time to process rate applications;  
13 however, the CPUC allows prospective or forward looking (instead of recorded)  
14 test years and provides, for example, for purchased power and water expense  
15 balancing accounts, adjuster mechanisms for added plant to treat water, and, for  
16 the smaller companies, annual CPI adjusters. This forward looking, proactive  
17 regulation allows water utilities to have an opportunity to earn their authorized rate  
18 of return without expensive, back-to-back, time consuming rate cases, as is the  
19 case in Arizona. These measures also help to incrementally or gradually increase  
20 rates to reflect the rising costs of service in a predictable and planned way and  
21 help to avoid less frequent but more dramatic rate changes for water customers.

22 At the same time, these examples of simple, proactive approaches to utility  
23 rate adjustments lessen the risks that water utilities must face. This proactive  
24 approach does not currently exist in Arizona, and, as a result, Arizona utilities face  
25 greater risk of not fully recovering the costs of providing water service when  
26 compared with water utilities in California and other states. At the very least, this  
27 risk should be compensated by higher authorized rates of return for Arizona  
28

1 utilities. Yet, Arizona utilities see some of the lowest authorized rates or return in  
2 the nation. (See Thomas M. Zepp's Direct Testimony)

3 **VI. The Purpose and Benefits of Rate Consolidation for Five Groupings of the**  
4 **Company's Water Systems**

5 **Q. WHAT WATER SYSTEMS IS THE COMPANY PROPOSING TO CONSOLIDATE**  
6 **IN THIS RATE PROCEEDING?**

7 A. The Company is proposing to consolidate the following groups of water systems in  
8 this rate proceeding: 1) Superstition and Miami, 2) Casa Grande, Coolidge and  
9 Stanfield, 3) Rimrock, Pinewood and Sedona, 4) Lakeside and Overgaard, and 5)  
10 Bisbee and Sierra Vista.

11 **Q. WHAT IS THE PURPOSE FOR, AND BENEFITS ACHIEVED BY,**  
12 **CONSOLIDATING THESE GROUPS OF WATER SYSTEMS?**

13 A. The purpose for, and benefits achieved by, consolidating these water systems  
14 include: 1) increased efficiency and reduced cost and complexity of rate filings, 2)  
15 reduced paperwork and accounting costs for tracking these systems' separate  
16 financial records, 3) consistent conservation message with a common tiered rate  
17 designed to promote more efficient water use, 4) improvements in rate stability  
18 through cost sharing among a larger customer base, 5) increased operational and  
19 regulatory efficiencies, 6) increased economies of scale, 7) increased financial  
20 viability of small stand-alone water systems, 8) improved affordability to water  
21 customers, 9) improved and simplified billing procedures, reductions in the number  
22 of system-specific rate tariffs, and 10) more gradual and less dramatic changes in  
23 rates for customers.

24 **Q. WOULDN'T CONSOLIDATION ADVERSELY AFFECT THE COMPANY'S**  
25 **ABILITY TO FILE FOR EACH SYSTEM INDIVIDUALLY?**

26 A. No, because within the current regulatory framework, the Company is viewed as a  
27 group or as an entire company. Consolidating within each group will simplify the  
28 filing and minimize the impacts to any consolidated system within the group.

1 Q. WHAT FACTORS WERE CONSIDERED WHEN THE COMPANY DETERMINED  
2 WHICH SYSTEMS WERE SUITABLE FOR RATE CONSOLIDATION?

3 A. There were several factors considered, including: 1) systems functionally related in  
4 terms of their management, operating personnel, customer service, operations,  
5 and administration, 2) systems that shared the same regional source of water, 3)  
6 systems that exhibited similar operational characteristics, 4) systems that were  
7 physically interconnected or were planned to be interconnected, and 5) systems  
8 that had relatively similar rates.

9 Q. WERE THERE ANY BASIC GUIDELINES THAT THE COMPANY FOLLOWED  
10 IN CONSIDERING WHETHER TO SEEK RATE CONSOLIDATION?

11 A. Yes. In addition to the factors listed above, the rate consolidation has to make  
12 sense from a practical perspective and that rates resulting from any rate  
13 consolidation would not change appreciably the rates prior to consolidation.

14 Q. HAS THE COMPANY CONSOLIDATED RATES FOR ANY OF ITS WATER  
15 SYSTEMS IN THE PAST?

16 A. Yes, the Company previously consolidated the following water systems: 1) Sedona  
17 and Valley Vista; 2) Casa Grande, Tierra Grande and Arizona City; 3) Lakeside  
18 and Pinetop Lakes; 4) Bisbee and Sulger; and 5) Apache Junction and Superior.  
19 There have been other water systems consolidated as well.

20 Q. HAVE OTHER UTILITY COMMISSIONS APPROVED RATE CONSOLIDATIONS  
21 SIMILAR TO WHAT THE COMPANY IS PROPOSING?

22 A. Yes. Several other jurisdictions approved rate consolidation along the lines that  
23 the Company is proposing in this proceeding and include: 1) the Florida Public  
24 Service Commission, 2) the West Virginia Public Service Commission, 3) the  
25 Pennsylvania Public Utility Commission, 4) the Indiana Utility Commission, and 5)  
26 the CPUC.

27 VII. The Company's Existing And Planned Uses of Central Arizona Project Water  
28

1 Q. PLEASE IDENTIFY THOSE WATER SYSTEMS WITH SUBCONTRACTS FOR  
2 CAP WATER AND IN WHAT QUANTITIES.

3 A. The Company holds CAP subcontracts with the Central Arizona Water  
4 Conservation District for allocations of CAP water for Superstition (Apache  
5 Junction), 6,000 acre feet per year; White Tank, 968 acre feet per year; Coolidge,  
6 2,000 acre feet per year; and Casa Grande, 8,884 acre feet per year.

7 Q. WHAT ARE THE CURRENT USES OF CAP WATER IN THESE FOUR  
8 SYSTEMS?

9 A. Currently, the Company receives approximately 2,538 acre feet of treated CAP  
10 water from the City of Mesa's Brown Road CAP Water Treatment Plant for delivery  
11 in the Company's Superstition system and delivers approximately 2,926 acre feet  
12 per year of untreated CAP water to customers in that system. In addition, the  
13 Company delivered approximately 2,249 acre feet per year of untreated CAP  
14 water in the Casa Grande system. In order for the Company to treat CAP water, it  
15 has begun engineering plans for a treatment plant for its Pinal Valley Water  
16 System and is working with Arizona-American Water Company and the Maricopa  
17 Water District on the terms of an agreement to participate in a water treatment  
18 plant to treat and deliver White Tank's CAP allocation. Mr. Schneider discusses  
19 this matter further in his testimony. (See Schneider Direct pp. 20-23)

20 The Company expects to fully utilize its Superstition (Apache Junction)  
21 CAP allocation (6,000 acre feet per year) by the end of 2008, its full Casa Grande  
22 (8,884 acre feet per year), Coolidge (2,000 acre feet per year) and White Tank  
23 (968) allocations by 2012.

24 Q. DID THE COMMISSION REQUIRE THE COMPANY TO FILE A CAP WATER  
25 USE PLAN FOR ITS WESTERN GROUP WATER SYSTEMS IN DECISION NO.  
26 68302?

27 A. Yes. The Company filed its CAP Water Use Plan with the Commission on  
28 December 31, 2006. The Commission Staff reviewed the Company's CAP Water

1 Use Plan and issued a Staff Report attesting to the fact that the Company's CAP  
2 Water Use Plan adequately addressed the items required in Decision No. 68302.  
3 In the Company's CAP Water Use Plan, the Company included its Pinal Valley  
4 Water System Master Plan and Planning Area. Since then, the boundaries of the  
5 Company's Pinal Valley Water System Planning Area have changed (See  
6 attached Pinal Valley Water System Planning Area map Exhibit WMG-2).

7 **VIII. Status of the Company's Contract With the City of Mesa Concerning the**  
8 **Treatment and Transportation of CAP Water in the Company's Superstition**  
9 **System**

10 **Q. WHAT IS THE STATUS OF THE COMPANY'S AGREEMENT WITH THE CITY**  
11 **OF MESA CONCERNING THE TREATMENT AND TRANSPORTATION OF THE**  
12 **COMPANY'S CAP WATER FOR ITS SUPERSTITION SYSTEM?**

13 A. The Treatment and Delivery Agreement ("Agreement") commenced April 4, 1987  
14 and the initial term was for twenty years. The basic concept of the Agreement was  
15 for the Company to acquire water treatment capacity and for both the City of Mesa  
16 and the Company to share in the cost of constructing and operating the City's CAP  
17 water treatment plant. The Agreement has worked well over the past twenty plus  
18 years. The Agreement automatically renewed although either party could give  
19 proper and timely notice of its desire to renegotiate aspects of the Agreement.  
20 The City gave such notice on March 30, 2006, however, negotiations with the City  
21 continue as of the date of this filing. In the event that cost information changes,  
22 the Company may file a supplement in this proceeding updating the corresponding  
23 cost. The City is continuing to treat the Company's CAP water during this process.

24 **Q. WHAT ARE THE COMPANY'S PLANS FOR RECLAIMED WATER AND IN**  
25 **WHICH WATER SYSTEMS IS THE COMPANY TAKING AN ACTIVE ROLE IN**  
26 **PROVING RECLAIMED WATER?**

27 A. The Company plans to provide reclaimed water primarily in those areas where the  
28 Company has an opportunity to provide reclaimed water through agreements with

1 the regional wastewater treatment entity. The Company has provided reclaimed  
2 water in its Superstition System for many years and serves reclaimed water and  
3 untreated CAP water to the golf courses in the Gold Canyon area. In its  
4 Superstition System, reclaimed water is fully utilized for delivery to these uses.

5 In the Pinal Valley Water System, the Company is working with others to  
6 develop a regional plan of reclaimed water delivery and recharge through  
7 cooperation with Global Water's Palo Verde Utilities Company, the City of Casa  
8 Grande and others. The Company will submit this plan to the Commission as part  
9 of its reclaimed water tariff filing within the next six months. In all other areas  
10 where the Company is the water provider, the established wastewater entity has  
11 assumed the role of providing reclaimed water planning or, in areas where there is  
12 no established wastewater entity, reclaimed water is not available.

13 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY IN THIS MATTER?**

14 **A. Yes.**

**ORIGINAL****MEMORANDUM**  
**RECEIVED**

305m

TO: Docket Control  
Arizona Corporation Commission <sup>7097</sup> AUG -6 A 11: 58FROM: Ernest G. Johnson  
Director  
Utilities DivisionAZ CORP COMMISSION  
DOCKET CONTROLArizona Corporation Commission  
**DOCKETED**

AUG - 6 2007

DATE: August 6, 2007

RE: ARIZONA WATER COMPANY  
CERTIFICATE OF FILING CAP WATER USE PLAN  
DOCKET NO. W-01445A-04-0650

DOCKETED BY	ne
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In Decision No. 68302, dated November 14, 2005, the Arizona Corporation Commission ("Commission") approved an increase in revenues and adjusted rates for Arizona Water Company ("Arizona Water" or "Company") and its Western Group systems.<sup>1</sup> As part of Decision No. 68302, the Commission approved Central Arizona Project Hook-Up Fee tariffs. The Commission approved the use of these tariffs to allow Arizona Water to begin to recover prudently incurred costs associated with the Company's Central Arizona Project ("CAP") water allocations. The Commission's approval of the Central Arizona Project Hook-Up fee tariffs was conditioned upon the following:

**CONDITIONS FOR APPROVAL OF CAP HOOK-UP FEE**

1. Arizona Water must submit by December 31, 2006, or six months prior to submission if its next rate case application, whichever comes first, a detailed Central Arizona Project Water Use Plan ("CAPWUP") for its Western Group water systems.
2. Arizona Water must make best faith efforts to include the cities of Casa Grande and Coolidge in the development of the CAPWUP.
3. The CAPWUP must address all the issues outlined below.
4. The CAPWUP must be approved by Staff prior to Arizona Water's next rate case application being declared sufficient under A.A.C. R14-2-103.
5. The CAPWUP shall be approved, disapproved, or modified in Arizona Water's next rate case by the Commission. If the CAPWUP is disapproved, the CAP Hook-up Fee shall be terminated and Arizona Water shall refund all CAP Hook-up Fee monies collected to that point along with six percent (6%) interest. The refund method shall be determined by the Commission.

<sup>1</sup> The Company's Western Group includes five of Arizona Water's systems: Casa Grande, Coolidge, White Tank, Ajo Heights and Stanfield.

6. The approval by Staff or the Commission of the CAPWUP shall mean only that the CAPWUP has adequately addressed all the issues outlined below. CAPWUP approval by Staff or the Commission shall **not** be interpreted as a used and useful determination nor as pre-approval of reimbursement of any future expenditures in completing the plan.
7. In Arizona Water's next rate case the Commission shall reevaluate this CAP Hook-up Fee to determine if it should be continued, eliminated or modified based on the CAPWUP and any other evidence that may be introduced by parties to that case.
8. If in Arizona Water's next rate case the Commission orders continuation of the CAP hook-up fee or any other recovery mechanism designed to recover CAP deferrals, the Commission Staff shall audit the CAP deferral accounts of Arizona Water's systems holding CAP allocations and shall make any necessary adjustments, true-ups, and recalculations to determine the proper values to carry forward.
9. Staff will utilize Arizona Water's annual cost of debt to determine the rate for allowance of funds used during construction included in the CAP deferrals.

#### **CAPWUP REQUIREMENTS**

The Commission required that the CAPWUP filed by Arizona Water address the following issues:

1. Existing water supplies and demand patterns for the last two years (such information as required on the Water Use Data Sheet).
2. Future water supplies and demand patterns demonstrating how and when CAP water will be used through the year 2025. All future water sources that the Company plans to use other than CAP should be discussed. All assumptions used to make projections should be clearly explained.
3. All major infrastructure components required to use CAP water through the year 2025 should be listed and described in as much detail as possible. These would include such items as, but not be limited to, treatment plants, transmission mains, storage tanks, pumping stations, etc.
4. Projected capital and Operation and Maintenance costs for all future water supplies (including CAP water) through the year 2025 should be listed in as much detail as possible. All assumptions used to make these projections should be clearly explained.
5. How CAP water will be used to address the arsenic issue (if it will be).

Arizona Water Company  
Docket No. W-01445A-04-0650

**STAFF'S REVIEW OF THE CAPWUP FILED BY ARIZONA WATER**

Decision No. 68302 did not specifically require Staff to review the CAPWUP filed by Arizona Water at this time. Staff is submitting this memorandum to confirm that the CAPWUP filed by Arizona Water has addressed the issues listed above under CAPWUP REQUIREMENTS.

On December 29, 2006, Arizona Water filed its CAPWUP. The CAPWUP addressed all the issues listed above, at varying levels of detail. The Company reported in its filing that further study of some of the issues was needed and that specific details would be submitted at a later date.

The CAPWUP addresses how Arizona Water will use its CAP water allocations to serve the Casa Grande, Coolidge, Stanfield and White Tank service areas.<sup>2</sup> The scope of the CAPWUP (or "Plan") submitted covers each of the issues listed above under CAPWUP REQUIREMENTS. The Plan includes Water Use Data Sheet information for the service areas listed above for 2004 and 2005. The Plan provides an overview of the assumptions used to make projections related to future water supply planning, preliminary estimates are included for capital, operation and maintenance costs. For example, the preliminary engineering design for the first phase of the Pinal Valley CAP Water Treatment Plant, which will treat the Company's Casa Grande and Coolidge CAP Water allocations, is planned to occur this year, therefore, the information contained in the Plan submitted was based on best estimates available at the time the Plan was prepared (however, a detailed schedule of activities related to plant design and construction is provided). For its White Tank service area Arizona Water intends to enter into a long-term agreement with either Arizona-American Water Company ("Arizona-American") or Maricopa Water District ("MWD")<sup>3</sup> that would provide treatment capacity for the Company's White Tank service area CAP water allocation (both Arizona-American and MWD have plans to build CAP water treatment plants, Arizona Water's decision on which water treatment plant to participate in will be made depending on the progress of each entity in moving toward plant construction). The Plan discusses the availability and estimated costs of future water supplies which have the potential to become available such as, additional CAP water allocations and treatment facilities, Gila River surface water available through the San Carlos Irrigation and Drainage District, reclaimed water available from wastewater treatment facilities operated by the cities of Casa Grande and Coolidge and additional groundwater production facilities. The Plan discusses how CAP Water (which available test data shows has a lower arsenic concentration than some existing groundwater supplies used by the Company) could be blended with the groundwater at some storage tanks and wells during lower demand months which could reduce overall arsenic treatment and water production costs. A detailed analysis of blending potential at each site is planned prior to treated CAP water becoming available.

Approval of the CAP Hook-Up Fee was conditioned upon Arizona Water including the cities of Casa Grande and Coolidge in the development of its CAPWUP. Arizona Water was to keep the cities informed and make sure the cities were involved so that the cities were not caught off guard by something the Company is going to do with regard to its water system. In the Plan

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<sup>2</sup> The Ajo Water System is not included in the Plan submitted since it lies outside the CAP service territory and does not have a CAP water allocation.

<sup>3</sup> Maricopa County Municipal Water Conservation District Number One is an agricultural water district and municipal entity.

Arizona Water Company  
Docket No. W-01445A-04-0650

submitted the Company states, "Pursuant to Decision No. 68302, the Company also met and conferred with and had input from the cities of Casa Grande and Coolidge in the development of this Water Use Plan." Staff verified that the City Managers of both Casa Grande and Coolidge had discussions with an Arizona Water representative and were generally aware of the Plan.

**CONCLUSIONS**

Staff concludes that the CAPWUP filed by Arizona Water adequately addresses the issues listed above under CAPWUP REQUIREMENTS as required in Decision No. 68302. However, Staff recommends that Arizona Water submit updates to its CAPWUP each December and June until further order of the Commission.

Originator: Del Smith

Arizona Water Company  
Docket No. W-01445A-04-0650

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DOCKET NO. W-01445A-04-0650

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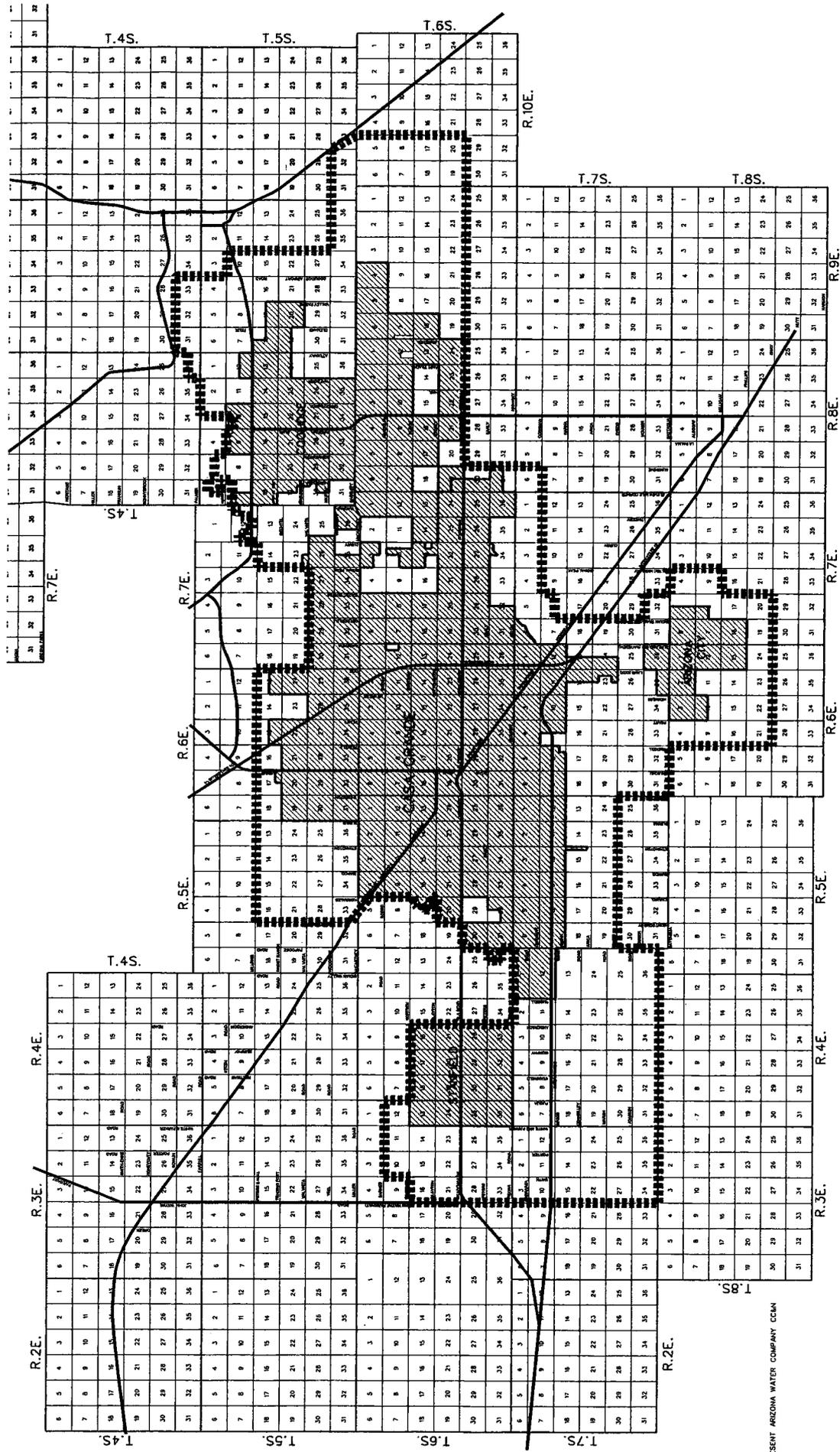
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Docket No. W-01445A-04-0650

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PRESENT ARIZONA WATER COMPANY C&M



ARIZONA WATER COMPANY

**ARIZONA WATER COMPANY**



**Docket No. W-01445A-08-0440**

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**2008 RATE HEARING**  
**For Test Year Ending 12/31/07**

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**PREPARED**  
**REBUTTAL TESTIMONY & EXHIBITS**  
**OF**  
**William M. Garfield**

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1 **ARIZONA WATER COMPANY**

2  
3 **Rebuttal Testimony of**  
4 **William M. Garfield**

5  
6 **I. Introduction and Purpose of Testimony**

7 **Q. PLEASE STATE YOUR NAME, EMPLOYER AND OCCUPATION?**

8 A. My name is William M. Garfield. I am employed by Arizona Water Company (the  
9 "Company") as President.

10 **Q. ARE YOU THE SAME WILLIAM M. GARFIELD THAT PREVIOUSLY**  
11 **PROVIDED DIRECT TESTIMONY IN THIS MATTER?**

12 A. Yes.

13 **Q. HAVE YOU REVIEWED THE DIRECT TESTIMONY FILED BY THE OTHER**  
14 **PARTIES TO THIS PROCEEDING?**

15 A. Yes, I have generally reviewed the testimony of each of the witnesses of the  
16 Commission's ("Commission") Utilities Division Staff ("Staff"), the Residential  
17 Utility Consumer Office ("RUCO"), Abbott Laboratories, Inc. ("Abbott"), and the  
18 International Brotherhood of Electrical Workers Local No. 387 ("IBEW").

19 **Q. WHAT IS THE PURPOSE AND EXTENT OF YOUR TESTIMONY?**

20 A. The purpose of my rebuttal testimony is to (1) rebut the testimony by Staff and  
21 RUCO witnesses on the Company's request for various adjuster mechanisms;  
22 (2) respond to the Staff and RUCO recommendations that create additional  
23 regulatory risk to the Company; (3) rebut the direct testimony of the IBEW  
24 witness.

25 **II. Staff Rebuttal**

26 **Q. DO YOU AGREE WITH STAFF THAT THE COMPANY PROVIDED NO**  
27 **JUSTIFICATION TO DEVIATE FROM THE COMMISSION'S FINDINGS**

1           **CONCERNING ADJUSTOR MECHANISMS IN ITS MOST RECENT RATE**  
2           **CASES?**

3    A.    No, I do not. The Company provided specific reasons and justifications for the  
4           continuation, reinstatement or implementation of certain adjuster mechanisms.  
5           (See Garfield Direct Testimony, pp. 13-26)

6    **Q.    DO YOU AGREE WITH STAFF THAT THE COMPANY FAILED TO**  
7           **DEMONSTRATE ANY EXTRAORDINARY CAUSE, INCLUDING VOLATILITY**  
8           **AND MAGNITUDE OF PURCHASED WATER, PURCHASED POWER OR**  
9           **FUEL COST, IN JUSTIFYING ITS REQUESTED ADJUSTOR MECHANISMS**  
10          **OR ATTRITION (ADJUSTMENT) MECHANISM?**

11   A.    No, I do not. First, I do not agree that adjusters can only be considered when  
12          extraordinary causes exist or where there is volatility in costs of a significant  
13          magnitude for purchased water, fuel or power, or for any other category of cost.  
14          Nevertheless, the Company demonstrated that the cost of fuel for the Company's  
15          vehicles alone increased approximately \$600,000 per year over previous fuel  
16          costs based on fuel costs experienced in 2008. Based on the Company's year-  
17          end net income for 2008, the change in this one cost category alone would equal  
18          over twenty percent (20%) of the Company's net income.

19   **Q.    ARE THE RECENT COMMISSION DECISIONS REFERRED TO BY STAFF**  
20          **CONCERNING ADJUSTOR MECHANISMS CONSISTENT WITH OTHER**  
21          **UTILITY COMMISSIONS OR THE NATIONAL ASSOCIATION OF**  
22          **REGULATORY UTILITY COMMISSIONERS ("NARUC")?**

23   A.    No, they are not. For example, the National Regulatory Research Institute  
24          ("NRRRI"), an effective research arm of NARUC, has recommended that  
25          adjustment clauses to recover a single category of cost should be employed as a  
26          ratemaking procedure to help mitigate the expenses of infrastructure  
27          replacement. (See copy of NRRRI publication attached as Exhibit WMG-RB1). In  
28          addition, NARUC's Board of Directors passed a resolution adopting certain best

1 practices, which include pass-through adjustments, i.e. adjuster mechanisms  
2 such as those proposed by the Company in this matter. (See NARUC  
3 Committee on Water Sponsored Best Practices approved by the NARUC Board  
4 of Directors on July 27, 2005 attached as Exhibit WMG-RB2).

5 **Q. IF THE COMPANY'S REQUEST TO CONTINUE PPAMs AND PWAMs WAS**  
6 **REJECTED BY THE COMMISSION IN RECENT COMPANY RATE CASES, AS**  
7 **STAFF SUGGESTS, WHY DO YOU BELIEVE THE COMMISSION SHOULD**  
8 **DECIDE DIFFERENTLY IN THE PRESENT CASE?**

9 A. Staff is correct that the Commission did not approve the continuation of the  
10 PPAMs and PWAMs in the Company's most recent rate cases for its Eastern and  
11 Western Groups. However, the Commission did agree to continue them in the  
12 Company's most recent rate case for its Northern Group. I will also point out,  
13 that over the past twenty years, while the PPAMs and PWAMs were in effect,  
14 neither Staff nor RUCO presented any evidence that the PPAMs and PWAMs  
15 resulted in the Company earning more than its authorized rate of return.

16 Circumstances have changed, however, since the Commission's most  
17 recent decision involving the Company's Western Group. Fuel prices have  
18 increased dramatically, and, more importantly, the State of Arizona and the  
19 nation have suffered from the effects of a deep and long-lasting recession. As a  
20 result, significant budget cuts have been proposed and adopted by the Arizona  
21 Legislature that will severely limit the ability of the Commission to process utility  
22 applications in a timely manner. Staff requested a 90-day delay in this  
23 proceeding based on a lack of Staff resources, which Administrative Law Judge  
24 Nodes considered and ultimately granted a 60-day delay. With more budget cuts  
25 for the State of Arizona imminent, it is clear that this predicament will only worsen  
26 in the next year or two to come.

1 Q. WHY ARE THE MATTERS ADDRESSED IN YOUR PREVIOUS ANSWER  
2 IMPORTANT IN THIS PROCEEDING?

3 A. Because the costs associated with the provision of public utility water service  
4 have continued to increase over the years, effectively shifting the cost of service  
5 from the Company's ratepayers to the Company's investors. Lacking an effective  
6 means to recover these increased costs of providing such public utility service,  
7 which is the case with the regulatory framework that currently exists in Arizona,  
8 the Company's shareholders are left bearing the burden, and it is more burden  
9 that we are compensated for in our equity returns. The effects of this shift in  
10 cost-bearing to the Company will continue to discourage investment in needed  
11 infrastructure. If there was ever a time to consider addressing in an effective way  
12 how to adequately address such increasing costs of service, now is the time.

13 Q. DID THE COMPANY PROPOSE AN ALTERNATIVE TO PPAMs, PPAMs AND  
14 THE PFAM?

15 A. Yes. The Company believed that the Commission's familiarity with these sorts of  
16 adjusters, should provide some assurance to Staff and the Commission that  
17 these mechanisms can and have worked very well in the past and should be  
18 approved. Nevertheless, the Company believes that the Attrition Adjustment  
19 Mechanism ("AAM") provides the best solution to the problem at hand. As I  
20 discussed in my direct testimony, the AAM addresses the concerns the  
21 Commission raised in its most recent disapproval of cost-specific adjuster  
22 mechanisms (see Garfield Direct Testimony page 15, lines 10-22). More  
23 importantly, however, the AAM provides a solution to the lack of staff resources  
24 that confronts the Commission and Staff.

25 Q. DOES STAFF RECOGNIZE THAT ITS RESOURCES ARE LIMITED DUE TO  
26 STATE BUDGET CUTS?

27 A. Although Staff does not specifically mention it in its direct testimony, in a  
28 presentation by Steve Olea, Assistant Director of the Utilities Division as part of a

1 NARUC Conference on May 7, 2009, he addressed and identified the Staff  
2 resource shortfall and the backlog of cases currently pending before the  
3 Commission. See Exhibit WMG-RB3. Mr. Olea's presentation was before  
4 additional budget cuts became effective, a worsening predicament, making the  
5 importance of, and the need for, such adjusters more critical than ever before.

6 **Q. HOW IS THE AAM RESPONSIVE TO STAFF'S CONCERNS ABOUT ITS**  
7 **LACK OF AVAILABLE RESOURCES?**

8 A. First, of course, such an adjuster should reduce the number of rate cases.  
9 Second, the AAM can be applied as part of a single annual filing, submitted for  
10 the total Company. The cost index would be based on a wide variety of costs,  
11 using information provided by the federal government on a monthly basis, and it  
12 has been used by a number of states to effectively address rising costs of  
13 service. From an administrative perspective, a single Company-wide annual  
14 filing is preferred to individual system filings, such as in the case of PPAMs and  
15 PWAMs, and presumably PFAMs. At a time when Staff resources are severely  
16 limited, the AAM provides a very effective means of addressing cost increases or  
17 decreases.

18 **Q. ARE THERE OTHER ASPECTS OF THE AAM THAT WOULD BE**  
19 **RESPONSIVE TO STAFF'S CONCERNS?**

20 A. Yes, there are. The AAM can be coupled with an earnings test, similar to the  
21 ACRM surcharge. Systems that earn at or above the earnings test would not  
22 qualify for an AAM revenue increase. In addition, a broad-based cost index  
23 would consider many costs, not one specific cost, and would dampen out single  
24 item cost adjustments. Like the ACRM, the AAM can include a requirement to  
25 file a rate case within three years of the AAM's adoption. A wide based cost,  
26 such as is inherent with an AAM, has an overall effect on earnings much greater  
27 than a single item of cost, such as the MAP surcharge, for example. Taken in  
28 perspective, the AAM will provide cost recovery on a scale that could affect the

1 Company's net income by a full one percent if its operating costs increase by as  
2 little as three percent.

3 **Q. DO YOU AGREE WITH MR. PARCELL THAT IT IS NOT NECESSARY FOR**  
4 **THE COMMISSION TO APPROVE THE AAM SINCE THE COMPANY CAN**  
5 **ATTRACT CAPITAL ON REASONABLE TERMS WITHOUT THE AAM?**

6 **A.** This is financial theory versus financial reality. This is illustrated by the fact that  
7 Mr. Parcell's statement is not supported by any evidence and conflicts with  
8 conclusions of Wall Street investment and research firms that evaluate the  
9 regulatory climates of the nation's utility commissions. For example, in an article  
10 appearing in the November-December 1983 edition of the Financial Analysts  
11 Journal, Peter Navarro concludes that regulatory climate unfavorable to  
12 investments in utilities reduces the availability of capital to the industry as well as  
13 raising its cost. See Exhibit WMG-RB4. In Mr. Navarro's article, which reflects  
14 his review of bulletins and books published by investment and research firms and  
15 based on his discussions with individuals who rank utility commissions, he  
16 identifies eight factors that dominate such utility commission rankings. The eight  
17 factors are (1) return on common equity; (2) average regulatory lag; (3) whether  
18 interim rates may be put into effect before a final rate decision is entered; (4)  
19 whether a historical, current, or future test year is used; (5) whether construction  
20 work in progress ("CWIP") is allowed in the rate base; (6) whether tax benefits  
21 from accelerated depreciation and tax credits are normalized to enhance short-  
22 run cash flow for the utility or are flowed through to the ratepayer; and (7)  
23 whether any adjustment clauses are in effect; and (8) whether an "original cost"  
24 or "fair value" rate base is used. When you consider the overall regulatory  
25 climate in Arizona, the lack of adjusters is only one of many factors that do not  
26 favor investments in utilities such as the Company, but in fact do discourage  
27 investment in utilities.

1 **III. RUCO Rebuttal**

2 **Q. DOES RUCO HOLD A SIMILAR OPINION AND MAKE SIMILAR**  
3 **RECOMMENDATIONS CONCERNING ADJUSTERS?**

4 A. Yes, and they are likewise incorrect about the need for and benefits of such  
5 adjusters. As its comments concern the Company's proposed AAM, they are  
6 flat-out wrong about the effects of such an adjuster, the broad-based protections  
7 that inherently result from such an adjuster, and their conclusions are not  
8 supported by any evidence.

9 **Q. DOES STAFF OR RUCO EXPLAIN HOW, IN LIGHT OF THE SIGNIFICANT**  
10 **BUDGET CUTS FACING STATE AGENCIES, THEY WILL BE ABLE TO**  
11 **PROCESS RATE APPLICATIONS ON A MORE FREQUENT BASIS IF THE**  
12 **COMPANY IS UNSUCCESSFUL IN ACHIEVING A RETURN RESULTING**  
13 **FROM THIS PROCEEDING?**

14 A. No, they do not. Their lack of any analysis of the impact such delays will have on  
15 utilities like the Company shows the regulatory disconnect from the reality of  
16 such archaic methods. In addition, I would add that the positions of Staff and  
17 RUCO are inconsistent with the NARUC and the NRRRI, which have concluded  
18 that there are certain best practices that address infrastructure needs of water  
19 utilities, i.e. the need to attract capital and utility infrastructure investments.  
20 Annual rate applications will only further exacerbate and slow down the  
21 regulatory wheels, leading to further delays in applications of all types at the  
22 Commission.

23 **IV. IBEW Rebuttal**

24 **Q. ON PAGE 5 OF HIS TESTIMONY, MR. JUNAS TESTIFIES THAT THE**  
25 **COMPANY'S CUSTOMER BASE IS IN A SITUATION OF "TREMENDOUS**  
26 **GROWTH." IS THIS A CORRECT STATEMENT?**

27 A. No, it is not. The Company's customer growth slowed tremendously in 2007,  
28 with customer growth actually registering a slight decline in customer base by the

1 end of 2008. In addition, additional losses in customers have occurred in 2009.  
2 At best, I would describe the Company's customer growth in 2008 and 2009 as  
3 flat or slightly declining, a reality of stark contrast to the statement of "tremendous  
4 growth" referred to in Mr. Junas' direct testimony.

5 **Q. AT PAGE 8, LINES 3-10, MR. JUNAS TESTIFIES THAT THE COMPANY**  
6 **ANNOUNCED THE 2009 LAYOFF OF EMPLOYEES WITHOUT DISCUSSING**  
7 **IT WITH THE IBEW AND WITHOUT INVOLVING IT. IS THAT WHAT**  
8 **ACTUALLY OCCURRED?**

9 A. No, it is not. In December 2008, the Company informed all of its employees and  
10 the IBEW that it was experiencing a severe financial situation, and that employee  
11 layoffs may be necessary. More importantly, the Company discussed the  
12 possibility of layoffs with the IBEW in the course of its negotiations in late 2008  
13 concerning the renewal of the collective bargaining agreement ("CBA") for 2009.  
14 When the Company proceeded with the layoffs in February 2009, it followed the  
15 requirements of the CBA which contains specific procedures for layoffs. Thus,  
16 the Company informed the IBEW that layoffs might be needed; it never retreated  
17 from that message; and it followed the process required by the CBA in  
18 implementing them. The Company provided the IBEW with the layoff list and  
19 schedule in advance of the Company's layoffs, and in my discussions with Mr.  
20 Junas subsequent to the layoffs, every indication was that the Company  
21 adequately and correctly followed the procedures established by agreement in  
22 the CBA.

23 **Q. AT PAGE 8, LINES 17-21 OF HIS TESTIMONY, MR. JUNAS TESTIFIES**  
24 **ABOUT "HEFTY INCREASES" IN THE EMPLOYEE PORTION OF THE**  
25 **COMPANY'S GROUP MEDICAL INSURANCE PROGRAM. DOES THE**  
26 **COMPANY PAY FOR ANY PORTION OF THE INCREASE?**

27 A. Yes. As explained in Exhibit C to Mr. Junas' testimony, which is a copy of my  
28 June 8, 2009 memorandum to all employees concerning premiums for group

1 medical and dental insurance, the Company pays 100% of the premiums for  
2 employees under its group insurance plan and 60% of the cost of premiums for  
3 dependant coverage. These insurance premium cost sharing amounts are part of  
4 the CBA, which the Company and the IBEW agreed to in the course of  
5 negotiations. Thus, instead of paying a "hefty" increase, Company employees,  
6 including those in the bargaining unit, do not pay anything for their own personal  
7 medical or dental coverage, and only pay 40% percent of the increase in  
8 premiums for dependent coverage. The Company picked up 60% of the  
9 increase in premiums for dependent coverage.

10 **Q. DOES THAT CONCLUDE YOUR REBUTTAL TESTIMONY?**

11 **A. Yes.**

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## **National Regulatory Research Institute**

### **Water and Wastewater Research Agenda**

Revised: May 28, 2008

#### **Introduction**

This document outlines research needs for water and wastewater issues. This is a dynamic document, continually subject to modification and addition of new projects and proposals. Provide comments and suggestions to the Water Section Chief, David Denig-Chakroff at [ddenig-chakroff@nrri.org](mailto:ddenig-chakroff@nrri.org) or (608) 630-4426.

### **Infrastructure Replacement and Asset Management: What Can Regulatory Commissions Do?**

#### **Background**

Surveys conducted by the U.S. Environmental Protection Agency (U.S. EPA) suggest that the need for water and wastewater infrastructure improvement and replacement (both privately and publicly owned) over the next 20 years is between \$500 billion and \$1 trillion. This dollar level reflects a growing need across the Nation to replace water and sewer pipes and other water and wastewater facilities as they approach the end of their useful lives.

The reason for this surge in infrastructure needs stems from the population boom and economic growth at the end of World War II. During those post-war years, there was unprecedented industrial, business, commercial and residential development, along with the water and wastewater infrastructure to support it. That infrastructure is now reaching the age when it is beginning to wear out and needs to be upgraded or replaced. Water and wastewater utilities need to manage those assets actively or risk adverse economic consequences, such as unplanned system failures, increased maintenance costs, and unbudgeted repair and replacement costs. Depending on the length of useful life of various components, the need to replace this infrastructure will continue over the next several decades.

Existing reports and guidance manuals detail how utilities can assess the remaining useful life of their facilities and how they can develop effective asset management plans.<sup>1</sup> These plans generally consist of a complete assessment of utility facilities and assets, including a determination of the condition and remaining useful life of each component of the system, right down to each segment of buried pipe. Components of the system are also rated in terms of criticality for operation of the system. A model is often developed based on asset condition, criticality and other relevant factors to prioritize the infrastructure replacement and improvement needs over time. Costs are then applied to determine reinvestment needs over time.

The goal of these plans is to determine a reinvestment timeline that will allow continued operation of critical infrastructure throughout its useful life, but will ensure replacement before it fails and before maintenance costs increase dramatically. Planners then can prepare infrastructure replacement schedules and budgets that will spread out the costs of improvements over a pre-established planning horizon. This scheduling and budgeting will avoid unplanned maintenance and capital costs to the utility while maintaining efficient operation of the system.

This situation poses several challenges for utilities and regulatory commissions. One challenge is how to finance the necessary infrastructure replacements such that (a) rates increase gradually (as opposed to sudden spikes in rates), while (b) maintaining the utilities' financial stability. A second challenge is ensuring that the large expenditures are made prudently, so as to win and sustain customer trust and political credibility. Adding to the challenge is the absence, for most utilities, of a designated fund available to replace aging infrastructure—an absence attributable to ratemaking practices which have kept depreciation rates low and have disallowed or discouraged rate recovery of contributions in aid of construction.

#### **Research Needs**

The current research need is to determine optional and optimal roles for state regulatory commissions with regard to water and wastewater infrastructure replacement and asset management. Such research should answer the following questions:

1. How should commissions establish clear expectations for utilities' prudent conduct and implementation of infrastructure replacement and asset management plans? What should those expectations be?

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<sup>1</sup> Examples include: (1) U.S. EPA, *Environmental Management Systems and Asset Management: Tools to Reduce Costs, Manage Risk, Improve Performance*, undated publication; (2) U.S. EPA, *Asset Management: A Handbook for Small Water Systems*, Sept. 2003; (3) Matichich, Mike, et al., *Asset Management Planning and Reporting Options for Water Utilities*, AwwaRF project 2848, Winter 2005-2006; (4) Cromwell, John, et. al., *Financial and Economic Optimization of Water Main Replacement Programs*, AwwaRF project 462, Spring 2001.

2. Recognizing the need for both investor-owned and publicly-owned utilities to raise the funds necessary for the increased investment in infrastructure, what financial resources are available to utilities? It does not appear that utilities can rely on federal grants. Some government supported low-interest loan programs (such as the Drinking Water State Revolving Loan Fund program) are an option for some (but not all) utilities. Traditional bond financing is one viable option. Another alternative is revenue-backed financing (RBF).
3. What rate-design options are available? Rate-design options include, without limitation, distribution system investment charges, surcharges for non-revenue producing investment, and single tariff pricing. Research is necessary to assess alternatives in terms of economic efficiency, business practicality, consumer acceptability and other factors.
4. What ratemaking procedures should be employed to help mitigate the expenses of infrastructure replacement? Some examples that should be considered include:
  - a. Increased allowable returns on equity.
  - b. Prospective-looking rate cases.
  - c. Construction work in progress (CWIP)<sup>2</sup> in rate base.
  - d. Single-cost rate case for passthrough of a single category of costs.
  - e. Adjustment clauses to recover a single category of cost specifically stated on the customer's bill.
  - f. Streamlined rate cases.
5. What advance commitments, if any, should regulators or legislators make concerning cost recovery so that investors and bond holders can reduce their risks (thus lowering finance costs), without weakening the accountability necessary to ensure that expenditures are prudent.

#### **Deliverables**

1. A guide for regulators on the facts and principles underlying effective asset management, including both utility practices and regulatory policy, with specific descriptions of successful programs. The guide will also include a recommended reading list for regulators, including an annotated bibliography of relevant reports, studies and research on the subject.

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<sup>2</sup> CWIP allows certain construction costs for plant not yet in service to be included in rate base. Allowance for Funds Used During Construction (AFUDC) does not provide cash flow to fund a project.

***Resolution Supporting Consideration of Regulatory Policies Deemed as "Best Practices"***

**WHEREAS,** A number of innovative regulatory policies and mechanisms have been implemented by public utility commissions throughout the United States which have contributed to the ability of the water industry to effectively meet water quality and infrastructure challenges; *and*

**WHEREAS,** The capacity of such policies and mechanism to facilitate resolution of these challenges in appropriate circumstances supports identification of such policies and mechanisms as "best practices"; *and*

**WHEREAS,** During a recent educational dialogue, the "2005 NAWC Water Policy Forum," held among representatives from the water industry, State economic regulators, and State and federal drinking water program administrators, participants discussed (consensus was not sought nor determined) and identified over 30 innovative policies and mechanisms that have been summarized in a report of the Forum to be available on the website of the Committee on Water at [www.naruc.org](http://www.naruc.org); *and*

**WHEREAS,** As public utility commissions continue to grapple with finding solutions to meet the myriad water and wastewater industry challenges, the Committee on Water hereby acknowledges the Forum's *Summary Report* as a starting point in a commission's review of available and proven regulatory mechanisms whenever additional regulatory policies and mechanisms are being considered; *and*

**WHEREAS,** To meet the challenges of the water and wastewater industry which may face a combined capital investment requirement nearing one trillion dollars over a 20-year period, the following policies and mechanisms were identified to help ensure sustainable practices in promoting needed capital investment and cost-effective rates: a) the use of prospectively relevant test years; b) the distribution system improvement charge; c) construction work in progress; d) pass-through adjustments; e) staff-assisted rate cases; f) consolidation to achieve economies of scale; g) acquisition adjustment policies to promote consolidation and elimination of non-viable systems; h) a streamlined rate case process; i) mediation and settlement procedures; j) defined timeframes for rate cases; k) integrated water resource management; l) a fair return on capital investment; *and* m) improved communications with ratepayers and stakeholders; *and*

**WHEREAS,** Due to the massive capital investment required to meet current and future water quality and infrastructure requirements, adequately adjusting allowed equity returns to recognize industry risk in order to provide a fair return on invested capital was recognized as crucial; *and*

**WHEREAS,** In light of the possibility that rate increases necessary to remediate aging infrastructure to comply with increasing water quality standards could adversely affect the affordability of water service to some customers, the following were identified as best practices to address these concerns: a) rate case phase-ins; b) innovative payment arrangements; c) allowing the consolidation of rates ("Single Tariff Pricing") of a multi-divisional water utility to spread capital costs over a larger base of customers; *and* d) targeted customer assistance programs; *and*

**WHEREAS,** Small water company viability issues continue to be a challenge for regulators, drinking water program administrators and the water industry; best practices identified by Forum participants include: a) stakeholder collaboration; b) a memoranda of understanding among relevant

State agencies and health departments; c) condemnation and receivership authority; and d) capacity development planning; *and*

**WHEREAS**, The U.S. Environmental Protection Agency's "Four-Pillar Approach" was discussed as yet another best practice essential for water and wastewater systems to sustain a robust and sustainable infrastructure to comprehensively ensure safe drinking water and clean wastewater, including: a) better management at the local or facility level; b) full-cost pricing; c) water efficiency or water conservation; *and* d) adopting the watershed approach, all of which economic regulators can help promote; *and*

**WHEREAS**, State drinking water program administrators emphasized the following mechanisms which Forum participants identified as best practices: a) active and effective security programs; b) interagency coordination to assist with new water quality regulation development and implementation, such as a memorandum of understanding; c) expanded technical assistance for small water systems; d) data system modernization to improve data reliability; e) effective administration and oversight of the Drinking Water State Revolving Fund to maximize infrastructure remediation, along with permitting investor owned water companies access in all States; f) the move from source water assessment to actual protection; *and* g) providing State drinking water programs with adequate resources to carry out their mandates; *now therefore be it*

**RESOLVED**, That the National Association of Regulatory Utility Commissioners (NARUC), convened in its July 2005 Summer Meetings in Austin, Texas, conceptually supports review and consideration of the innovative regulatory policies and practices identified herein as "best practices;" *and be it further*

**RESOLVED**, That NARUC recommends that economic regulators consider and adopt as many as appropriate of the regulatory mechanisms identified herein as best practices; *and be it further*

**RESOLVED**, That the Committee on Water stands ready to assist economic regulators with implementation of any of the best practices set forth within this Resolution.

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*Sponsored by the Committee on Water*

*Adopted by the NARUC Board of Directors July 27, 2005*

WMG-RB3

# Arizona Corporation Commission

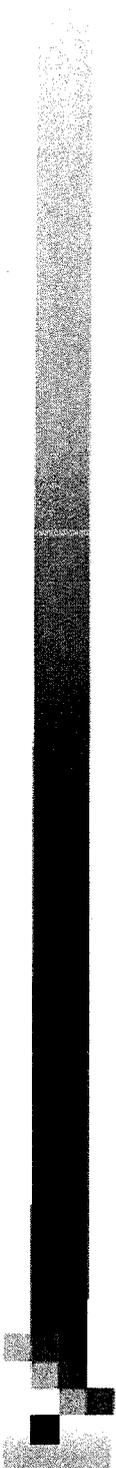
## Hot Topics

presentation to NARUC  
Committee on Accounting and Finance  
May 7, 2009



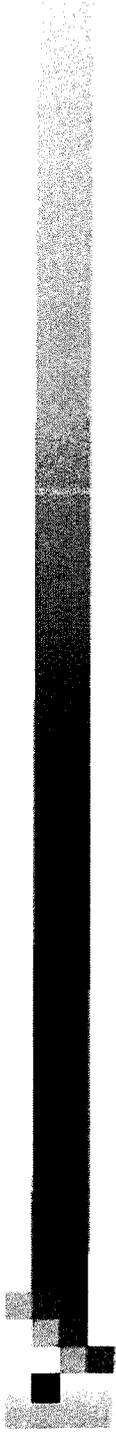
## Topic Areas

- Agency
- Cases / Issues
- Conservation
- Siting



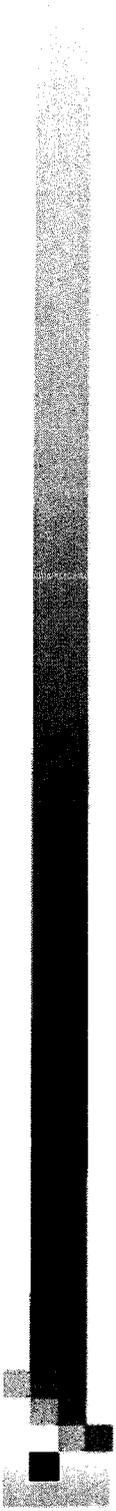
# Overview

- **Established by Constitution**
  - Article 15 of the Arizona Constitution
- **5 Statewide Elected Commissioners**
  - Beginning 2003
- **8 Divisions**
  - Administration
  - Hearing
  - Corporations
  - Securities
  - Railroad / Pipeline Safety
  - Legal
  - Information Technology
  - Utilities



# Jurisdiction

- Investor-owned electric, gas, water and sewer utilities (Public Service Corporations)
- Rural Electric Cooperatives
- Water Associations
- Intrastate Natural Gas Pipelines
- Municipal gas utilities
- Telephone (Local Exchange and Resold Long Distance)



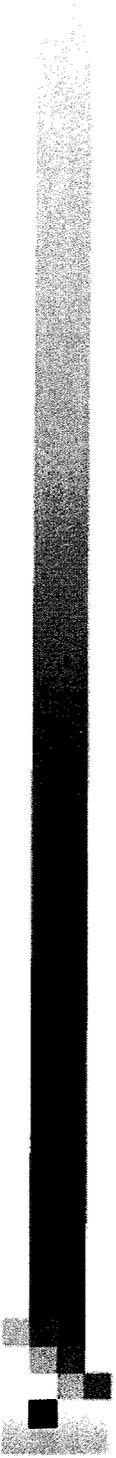
## Utilities Division Issues

- Budget
  - In Flux
- Staffing / Retirements
  - 72 Approved positions
  - 14 Vacant positions
- Succession Planning
  - Unable to Fill



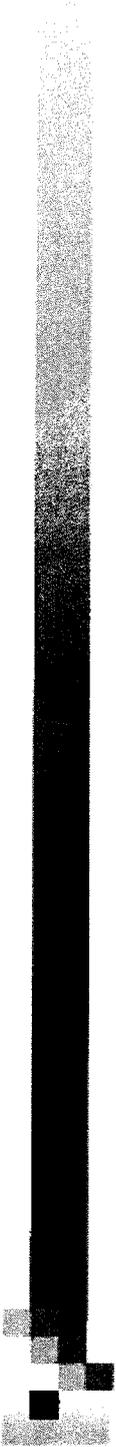
# Electric

- Rate Cases
  - Arizona Public Service
  - Sulphur Springs Valley Electric Coop
  - Trico Electric Cooperative
- Issues
  - Renewable Energy Standards
  - Energy Efficiency
    - Investigation of Regulatory & Rate Incentives
  - Time of Use Rates
  - Resource Planning
  - Electric Competition
  - ARRA Money
- Rulemakings
  - Demand Side Management
  - Interconnection
  - Net Metering – effective May 23, 2009



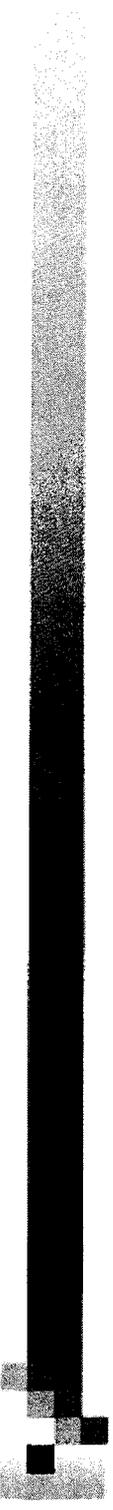
# Gas

- Rate Cases
  - UNS Gas
- Issues
  - Rate Incentives
  - Alternative Form of Regulation
- Rulemakings
  - Demand Side Management



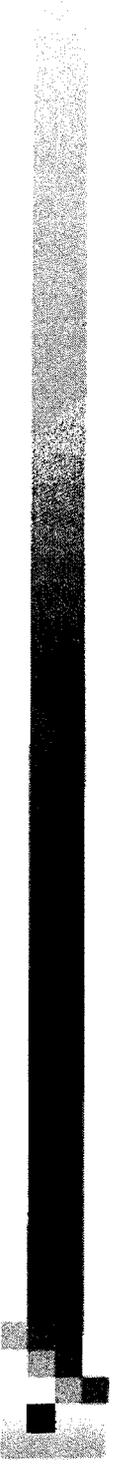
# Water

- Rate Cases
  - Chaparral City Water
  - H2O
  - Johnson Utilities
  - Arizona Water – 20 systems
  - Arizona-American Water – 10 systems
  - Global Water – 6 systems
  - Litchfield Park
  - 31 other pending
    - Wilhoit Water Company, ICR Water Users Association, Diablo Village Water, Fisher's Landing Water & Sewer, Tonto Village Water, Utility Systems, Christopher Creek Haven, Ehrenberg Improvement Association, Appaloosa Water, DS Water, Montezuma Rimrock Water, Pineview Water, Beaver Dam Water, Sunrise Water, Far West Water & Sewer, Orange Grove Water, Walnut Creek Water, Farmers Water, Ash Fork Development Association, Valley Utilities Water, Community Water of Green Valley, Wilhoit Water, Black Mountain Sewer, West Village Water, Q Mountain Water
  
- CC&N's
  - 49 – Water/Sewer Certificates (New / Extensions) pending
- Rulemaking
  - Water and Sewer CCN's



# Telecom

- Rate Cases
  - Qwest AFOR
- Issues
  - Triennial Review Remand Order
- Generic Dockets
  - Preferred Provider Agreements
  - VNXX
  - Arizona Universal Service Fund / Access Reform
- Federal Issues
  - Intercarrier Compensation
  - Net Neutrality
  - Telecom Mergers



# Conservation

- Electric & Gas
  - DSM
  - Energy Efficiency
- Water
  - Tiered Rates
  - Best Management Practices
    - Arizona Department of Water Resources



# Power Line & Generation Plant Siting

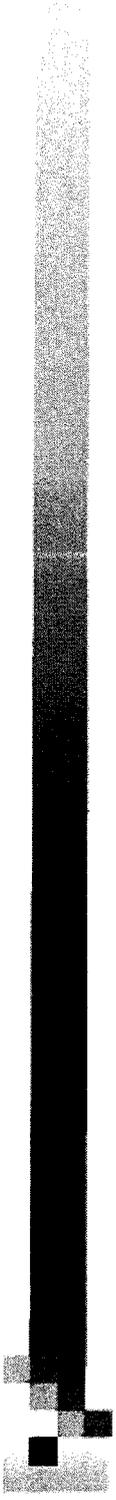
- 144 – UNS Electric: Vail to Valencia 115kV - 138kV upgrade
- 143 – APS: Bagdad 115kV transmission line relocation project
- 142 – Southwest Transmission Cooperative: San Manuel interconnect project
- Renewables
- FERC Backstop Authority



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# Questions?

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## Contact Information

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[SOlea@azcc.gov](mailto:SOlea@azcc.gov)

WMG-RB4

by Peter Navarro

## How Wall Street Ranks the Public Utility Commissions

Of the eight criteria Wall Street firms claim to use to measure the regulatory climate for public utilities, only two—the allowed rate of return on equity and the inclusion of construction work in progress in the rate base—are statistically significant. The higher the allowed return on equity, the higher the utility's realized return, hence the higher the value of its stock. It is thus not surprising that public utility commissions are perceived as more favorable, the higher the rate of return on equity they allow.

Use of the construction work in progress method of accounting allows the utility to earn an immediate return on its investment. Under the alternative approach to accounting for construction, the utility accrues an allowance during the construction period that can be earned only when the plant becomes operational. The construction work in progress method improves the utility's cash flow over the short term—a result investors obviously view with favor.

**A** REGULATORY CLIMATE unfavorable to investment in electric utilities not only reduces the availability of capital to the industry, but also raises its cost.<sup>1</sup> The increase in the cost of capital translates directly into rate increases for utility users. Furthermore, the reduced availability of capital may force an electric utility to forego cost-saving investments in new plants to meet load growth, in the conversion of existing oil plants to coal, and in energy conservation. Thus consumers may end up paying higher rates for less reliable service, and the nation may miss an opportunity to reduce oil imports.<sup>2</sup> Similarly, other regulated industries, such as telecommunications, may reduce their rate of technological innovation as a result of higher capital costs, indirectly raising rates to consumers and reducing the nation's productivity.

1. Footnotes appear at end of article.

*Peter Navarro is a researcher at the John F. Kennedy School of Government's Energy and Environmental Policy Center and a teaching fellow at Harvard University. He is also the author of The Dimming of America, a book about utility regulation, to be published by Ballinger Books in the spring of 1984.*

Regulatory climate, then, is of importance to consumers and policymakers as well as to public utility commissions (PUCs), regulated industries and the financial community. This article discusses how Wall Street investment firms measure regulatory climate and which factors dominate their rankings.

### Favorable vs. Unfavorable Regulation

More than 20 Wall Street investment and research firms rank the state PUCs that regulate virtually all the nation's public utilities. Although their scales vary, the basic goal is the same—to separate the very favorable and favorable commissions from the unfavorable ones.<sup>3</sup>

Based on a review of bulletins and books published by these firms and on discussions with individuals who rank PUCs, I have identified eight factors that Wall Street uses to determine regulatory rank:

- (1) the return on common equity (ROE) allowed by the PUC;
- (2) average regulatory lag (i.e., the time it takes for a PUC to process a rate case);
- (3) whether interim rates are put into effect

- before a final rate decision is made;
- (4) whether a historical, current or future test year is used;
  - (5) whether construction work in progress (CWIP) is allowed in the rate base or, alternatively, whether an allowance for funds used during construction (AFUDC) is computed;
  - (6) whether the tax benefits from accelerated depreciation and investment tax credits are "normalized" to enhance short-run cash flow for the utility or are "flowed through" to the rate payer;
  - (7) whether any automatic adjustment clauses are in effect (e.g., a fuel adjustment clause); and
  - (8) whether an "original cost" or "fair value" rate base is used.

The relevance of these factors is fairly straightforward. The higher the allowed rate of return on equity, the higher the utility's realized earnings, hence the higher the value of the utility's stock. In contrast, lengthy regulatory lag means the utility cannot realize the returns allowed it because inflation erodes some of the real earnings; the value of the utility's stock falls accordingly. Interim rate relief, the use of a future test year, the inclusion of automatic adjustment clauses and use of a fair value rate base lessen earnings attrition due to regulatory lag.

Use of the construction work in progress (CWIP) method of accounting allows the utility to earn an immediate return on its investment. Under the allowance for funds used during construction (AFUDC) method, the utility accrues an allowance during the construction period that can be earned only when the plant is operational. With construction work in progress soaring from less than 5 per cent of total assets in 1965 to more than 40 per cent today, this difference is increasingly important to investors. Although CWIP and AFUDC are supposed to be equivalent on a net present value basis, investors prefer CWIP because it improves the utility's cash flow in the short term; they perceive the "paper earnings" of AFUDC as riskier. The normalization of tax benefits is also attractive to investors because it increases the utility's cash flow during the early years of an investment.<sup>4</sup>

A favorably ranked regulatory policy, then, is likely to be characterized by a relatively high allowed rate of return on equity, minimal regulatory lag, interim rate relief, use of the future test year, CWIP in the rate base, normal-

ized accounting, an automatic fuel adjustment clause and a fair value rate base. An unfavorable regulatory climate might be characterized by lower allowed rates of return, lengthy regulatory lag, no interim rate relief, the use of a historical test year, AFUDC treatment of construction expenditures, flow-through accounting, a partially automatic fuel adjustment clause that flows through only a small percentage of fuel expenses to ratepayers and an original cost rate base.

### The Regulatory Climate Model

How much influence does each of these eight factors have in determining the regulatory ranking a PUC receives? By using the average value of each factor to create an "average PUC" and then changing one factor at a time, we can easily see whether it affects the ranking and by how much. Suppose, for example, that an otherwise average PUC increases its allowed rate of return by 15 per cent. If Wall Street does indeed value a higher allowed ROE, the probability of this PUC receiving an unfavorable ranking should now decrease and the probability of its receiving a favorable ranking should increase.

Table I shows the results of this average PUC analysis. (The model, specification of variables and the logit procedure used are discussed in the appendix.<sup>5</sup>) The predictive powers of all the factors are strong. However, *only* the allowed rate of return and the inclusion of CWIP appear to be statistically significant. Table II shows the results of a revised model that employs only ROE and CWIP. The results are conclusive: A 15 per cent increase above the sample mean for the allowed ROE increases the probability that Wall Street will assign the PUC a very favorable rank by 11 points and reduces the probability of an unfavorable rank by 12 points. Reducing the allowed ROE by 15 per cent has the opposite effect: The probability of a very favorable rank falls by 7 points and the probability of an unfavorable rank rises 22 points.

The effects of changing CWIP are even more dramatic.<sup>6</sup> Including 100 per cent CWIP in the rate base of an otherwise average PUC increases the probability of a favorable ranking by 20 points and reduces the probability of an unfavorable ranking by 16 points. With no CWIP in the rate base, the probability that the average PUC will be ranked favorably drops by 9 points, whereas the probability that it will be ranked unfavorably jumps by 25 points.

**Table I** Determinants of Regulatory Climate

The Full Model*					The Revised Model**				
Variable	Coefficient	Standard Error	T-Statistic		Variable	Coefficient	Standard Error	T-Statistic	
Normalization	ACCOUNT1	14.88	481.0	0.3093E-01	Rate of Return	ALLROE1	0.6756	0.2870	2.354
	ACCOUNT2	-0.8380	0.9651	-0.8683		ALLROE2	0.4331	0.2089	2.073
Rate-of-Return	ALLROE1	0.5727	0.3507	1.633	CWIP	CWIP1	4.084	1.0034	4.072
	ALLROE2	0.4965	0.2441	2.035		CWIP2	2.455	0.8084	3.037
	CWIP1	3.937	1.090	3.611	Constant	C1	-11.93	4.265	-2.798
	CWIP2	2.377	0.8589	2.767		C2	-6.213	2.967	-2.094
Fuel Cost	FAC1	0.6195	0.9679	0.6400					
Pass-Through	FAC2	-0.7899E01	0.7203	-0.1097					
Interim Rates	INTRLF1	0.3810	0.9858	0.3865					
	INTRLF2	-0.4233	0.6253	-0.6771					
Regulatory Lag	LAG1	0.2239E-01	0.1515	0.1478					
	LAG2	-0.1205E-01	0.8027E-01	-0.1502					
Rate Base	RTEBSE1	1.849	1.425	1.297					
	RTEBSE2	0.6652	1.285	0.5177					
Test Year	TESTYR1	0.8790	0.8978	0.9790					
	TESTYR2	0.9363	0.6423	1.458					
Constant	C1	-26.40	481.1	-0.5488E-01					
	C2	-6.335	3.735	-1.696					

\* Goodness-of-fit Statistics:  
Likelihood Ratio Index: 0.3302  
Likelihood Ratio Statistic: 69.64  
Percentage correctly predicted at convergence: 0.65

\*\* Goodness-of-fit Statistics:  
Likelihood Ratio Index: 0.2597  
Likelihood Ratio Statistic: 54.77  
Percentage correctly predicted at convergence: 0.56

**Table II** Results of the Average Commission Analysis

	$P_1$ - Predicted Probability of a Very Favorable Ranking	$P_2$ - Predicted Probability of a Favorable Ranking	$P_3$ - Predicted Probability of an Unfavorable Ranking
Average Commission	0.14	0.65	0.21
Policies expected to improve regulatory ranking			
Higher allowed rate of return (+15%)	0.25	0.67	0.09
CWIP in rate base	0.34	0.61	0.05
Policies expected to worsen regulatory ranking			
Lower allowed rate of return (-15%)	0.07	0.51	0.43
No CWIP in Rate Base	0.05	0.49	0.46

**Policy Implications**

Unfortunately, the two factors most important to investors' perception of the regulatory climate are the most susceptible to public scrutiny. The media seldom let an increase in allowed ROE slip by unnoticed. Perhaps even more controversial is the allowance of CWIP. Indeed, the political fortunes of some elected officials, such as former Governor Meldrim Thompson of New Hamp-

shire, have suffered because of their endorsement of CWIP.

PUC commissioners would undoubtedly prefer less controversial policy reforms. Nevertheless, the evidence indicates that PUCs must increase the allowed ROE and/or allow CWIP in the rate base or their utilities will suffer an increased cost and scarcity of capital for which utilities and, ultimately, consumers will have to pay. ■

### Footnotes

1. See, for example, G.B. Pinches, J.C. Singleton and A. Jahankhani, "Fixed Coverage as a Determinant of Electric Utility Bond Ratings" (Financial Management Association, 1978); R.R. Trout, "The Regulatory Factor and Electric Utility Common Stock Investment Values," *Public Utilities Fortnightly*, November 22, 1979; and S.H. Archer, "The Regulatory Effects of Cost of Capital in Electric Utilities," *Public Utilities Fortnightly*, February 26, 1981.
2. This indirect penalty is discussed in P. Navarro, "Our Stake in the Electric Utilities Dilemma," *Harvard Business Review*, May-June 1982. It has also been measured for six utilities in a report for the Department of Energy: P. Navarro, "How Much Does the Consumer Pay for Lower Electric Utility Rates?" (Office of Policy and Planning, January 1983).
3. See, for example, the quarterly public utility regulation reports of Salomon Brothers Inc, Merrill Lynch, Duff and Phelps, Goldman Sachs, or Value Line. My thanks to Mark Luftig of Salomon Brothers, Ernest Liu of Goldman Sachs, Leonard Hyman of Merrill Lynch, and Bernhard Fleming of Duff and Phelps for many useful discussions as well as cooperation with data.
4. While President Reagan has made this normalization versus flow-through debate a moot point by mandating in the *Economic Recovery Tax Act of 1981* that all public utility commissions adopt normalization accounting if they want their utilities to be eligible for federal tax benefits, this legislation was not enacted until 1982. Because I am using 1978 and 1981 data, it is included here as a tested variable.
5. The interested reader may refer to P. Navarro, "The Determination of Regulatory Rank: A Revealed Preference Analysis" (Harvard University, Energy and Environmental Policy Center, 1983).
6. The average commission analysis was also performed with the value for CWIP set to 0.5 rather than to the sample mean. The results were very similar.

### Appendix

#### The Model

The model used to test the revealed preferences of Wall Street is:

$$\text{REGCLIM} = f(\text{ALLROE}, \text{LAG}, \text{CWIP}, \text{ACCOUNT}, \text{INTRLF}, \text{TESTYR}, \text{FAC}, \text{RTEBASE}),$$

where:

- ALLROE = the allowed rate of return,  
 LAG = regulatory lag in months,  
 CWIP = an indicator variable equal to one if CWIP is allowed in the rate base and zero if AFUDC is computed,  
 ACCOUNT = an indicator variable equal to one if normalization is the accounting convention and zero if the convention is flow-through.

INTRLF = an indicator variable equal to one if interim rates are allowed and zero otherwise,

TESTYR = an indicator variable equal to one if a future or current test year is allowed and zero otherwise (e.g., an historical test year),

FAC = an indicator variable equal to one if fuel costs are automatically passed through and zero otherwise, and

RTEBASE = an indicator variable equal to one for a fair value rate base and zero for an original cost rate base.

The dependent variable, REGCLIM (regulatory climate), is a composite based on the rankings of five firms—Salomon Brothers Inc, Goldman Sachs, Value Line, Duff and Phelps, and Merrill Lynch. When it equals one, the regulatory climate is considered to be very favorable; when it is two, it is favorable; and when it is three, the climate is unfavorable.

#### Method of Estimation

Because the dependent variable was divided into three categories, I used multinomial logit estimation (which is similar to regression analysis) to examine the preferences of Wall Street. This procedure specified the probability that a PUC will be ranked in each of three categories as:

$$P_{ij} = \frac{e^{x_j \cdot B_j}}{\sum_{i=1}^3 e^{x_i \cdot B_i}}, \quad j=1,2,3,$$

where:

$i$  = the number of PUCs,

$j$  = the number of ranks,

$P_{ij}$  = the probability that rank  $j$  will be chosen for the  $i$ th PUC

$x$  = a vector of individual characteristics postulated to be of importance in regulatory ranking, and

$B^j$  = a vector of parameters satisfying the restriction  $B^j = 0$ .

Table I presents the logit coefficients, and Table II presents the results of the average PUC analysis.

#### The Data

The data were pooled from 1978 and 1981 data collected on the characteristics of state PUCs in 47 states and the District of Columbia. Estimates made using individual rankings were sufficiently similar to warrant reporting just the composite.

Table I presents logit coefficients, asymptotic standard errors and asymptotic T-statistics along with several "goodness of fit" measures for a full and a nested model. The percentage of correct predictions for maximum likelihood coefficients is 65 per cent for the full model and 56 per cent for the nested model. Only the variables ALLROE and CWIP appear to be statistically significant, so all other variables were deleted to arrive at the nested model. The coefficients of CWIP and ALLROE are both generally significant in either model; in the nested model, they are very robust.

*ARIZONA WATER COMPANY*



Docket No. W-01445A-08-0440

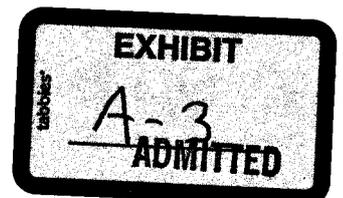
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**2008 RATE HEARING**  
For Test Year Ending 12/31/07

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**PREPARED**  
**RATE DESIGN AND COST OF SERVICE**  
**REBUTTAL TESTIMONY**  
**OF**  
**William M. Garfield**

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1 **ARIZONA WATER COMPANY**

2  
3 **Rebuttal Testimony of**  
4 **William M. Garfield**  
5

6 **I. Introduction and Purpose of Testimony**

7 **Q. PLEASE STATE YOUR NAME, EMPLOYER AND OCCUPATION?**

8 A. My name is William M. Garfield. I am employed by Arizona Water Company (the  
9 "Company") as President.

10 **Q. ARE YOU THE SAME WILLIAM M. GARFIELD THAT PREVIOUSLY**  
11 **PROVIDED DIRECT AND REBUTTAL TESTIMONY IN THIS MATTER?**

12 A. Yes.

13 **Q. HAVE YOU REVIEWED THE DIRECT TESTIMONY FILED BY THE OTHER**  
14 **PARTIES TO THIS PROCEEDING?**

15 A. Yes, I have reviewed the testimony of each of the witnesses of the Commission's  
16 ("Commission") Utilities Division Staff ("Staff") and the Residential Utility  
17 Consumer Office ("RUCO"), and have specifically analyzed and reviewed  
18 testimony concerning rate design and cost of service.

19 **Q. WHAT IS THE PURPOSE AND EXTENT OF YOUR TESTIMONY?**

20 A. The purpose of my rebuttal testimony is to (1) rebut the testimony of Staff witness  
21 Jeffery Michlik as it relates to conservation-oriented rates, their impact on  
22 expected revenues, and to provide testimony on the overall effects of  
23 conservation efforts and their impact on required revenues; (2) rebut the  
24 testimony of Staff witness Jeffery Michlik as it relates to Staff's proposed rate  
25 design for industrial class customers; (3) respond to the testimony of RUCO  
26 witness Rodney Moore as it relates to industrial class customers; and (4)  
27  
28

1 respond to the testimony of Staff witnesses Steve Olea and Jeffery Michlik as it  
2 relates to the Company's cost of service study.

3 **II. Staff Rebuttal**

4 **Q. DO YOU AGREE WITH STAFF'S PROPOSED RATE DESIGN AND IS IT**  
5 **SUPPORTED BY THE COST OF SERVICE?**

6 A. No, I do not agree with Staff's proposed rate design. The Company also has  
7 concerns over Staff's apparent disregard of the Company's cost of service study.  
8 However, another Company's witness, Joel Reiker, will address that issue.

9 **Q. WHY DON'T YOU AGREE WITH STAFF'S PROPOSED RATE DESIGN?**

10 A. For several reasons, as illustrated by the following example. First, for 5/8-inch by  
11 3/4-inch metered residential customers in the Company's Casa Grande system,  
12 Staff is proposing to reduce the commodity rate from current rates for the first tier  
13 by \$0.3147 per 1,000 gallons. This "Discount" would encourage greater water  
14 use by these customers and send the wrong price signal to customers that  
15 currently pay more than the rate Staff is proposing. This is contrary to  
16 established best management practices and the stated purpose for an inverted  
17 tier rate design. This is especially important for residential customers, where the  
18 majority of the Company's water sales are derived and where many experts  
19 believe the most conservation potential exists to conserve water. In addition,  
20 lowering the rate for the first tier from its current level would further shift the  
21 collection of revenues to the second and third tiers, increasing the risk that the  
22 Company will not achieve the necessary revenues and required rate of return on  
23 its investments. Mr. Reiker further discusses these issues in his rebuttal  
24 testimony.

25 Second, Staff's proposal to set the monthly minimum at \$14.00 per month  
26 for 5/8-inch by 3/4-inch metered residential customers in the Company's Casa  
27 Grande system, although a slight increase from the existing monthly minimum, is  
28 well below rates charged by other private water companies that provide service

1 in Pinal County. For example, of the four private water companies that provide  
2 service in the general area of the Company's Pinal Valley Water System,  
3 Johnson Utilities, Santa Cruz Water Company, Woodruff Water Company and  
4 Picacho Water Company, the average monthly minimum for the same size meter  
5 connection is \$21.75 per month. Staff's proposed monthly minimum is 35%  
6 lower than the average of these utilities. The historic monthly minimums for the  
7 Company, set at \$12.00 per month in 1983, and less in subsequent years, have  
8 not kept pace with inflation and have shifted the collection of revenues to the  
9 commodity portion of monthly bills. The Company's proposed minimum at  
10 \$17.25 per month is more in line with the monthly minimums for other regulated  
11 water utilities in the same area. Staff's rate design would continue shifting the  
12 revenue requirement from the monthly minimum to the commodity portion of  
13 customers' bills.

14 Third, Staff's proposed rate design is not supported by a cost of service  
15 study and is contradicted by the Company's cost of service study.

16 **Q. DOES STAFF'S RATE DESIGN FAIL TO REFLECT COST OF SERVICE AND**  
17 **WHY IS THAT IMPORTANT IN THIS PROCEEDING?**

18 **A.** Yes. As Mr. Reiker further testifies in his rebuttal testimony, rates must be  
19 designed to provide the required revenues to cover the Company's operating and  
20 maintenance expenses and provide a reasonable opportunity to earn a fair rate  
21 of return on its investments, but they must also be designed in such a way that  
22 does not result in discriminatory rates among customer classes. That is the main  
23 reason for conducting a cost of service study. The results of a cost of service  
24 study indicate whether rate designs should shift one way or another to reflect the  
25 costs of service for each customer class. The low return projected to be  
26 generated by the residential customers is not supported by any cost of service  
27 study in this proceeding.

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**Q. DO YOU HAVE OTHER CONCERNS WITH STAFF'S PROPOSED RATE DESIGN?**

A. Yes, particularly as it relates to industrial users. The Company's two largest industrial users, Abbott Laboratories and Frito Lay, both located in Casa Grande, account for nearly 82.1% of the Company's total industrial sales. These industrial customers have committed to reduce their water use by anywhere from 40% to 90%. In fact, the Company has already seen more than a 15% reduction in industrial sales from these two customers this past year.

**Q. WHAT IS THE OVERALL EFFECT OF STAFF'S RATE DESIGN ON INDUSTRIAL USERS?**

A. Inverted rates should be designed to send a price signal to customers to conserve water. Where industrial use is concerned, Frito Lay and Abbott do not need a price signal because they have already committed significant resources to reduce water use. See Chasse Direct Testimony Pages 4 to 6. Their commitment to "Go Green" and use less water is well known and has been publicized both on company websites and in business publications. See Exhibits WMG-RB5 and WMG-RB6. Their plans to reduce water use would dramatically reduce needed revenues. The impact of Staff's rate design will increase rates unnecessarily to customers that have already committed to use less water.

**Q. DO STAFF'S PROPOSED RATES AND THE NATURE OF THE COMPANY'S CUSTOMER BASE INCREASE THE RISK AND RESULTING REQUIRED RETURN ON EQUITY FOR THE COMPANY?**

A. As Mr. Reiker stated on page 8 (lines 13-16) of his revenue requirement rebuttal testimony, industrial customers provided over 3% of the Company's revenues in 2007, while representing less than one-tenth of 1% of the number of customers. Under Staff's proposed rates, the Company will rely on Abbott and Frito Lay alone to provide over \$1.3 million, or 2.5% of the Company's metered operating

1 revenues, and over \$838,400, or 7.16% of the Company's operating income.  
2 Relying on just two industrial customers to provide over 7% of the Company's  
3 required operating income undoubtedly increases uncertainty that the Company  
4 will achieve its allowed rate of return, especially when both of those customers  
5 have already significantly reduced their usage and intend to do so further. Staff  
6 provides no evidence that any of the publicly traded water companies used by  
7 Staff in its cost of capital analysis rely on just two industrial customers to provide  
8 such a large portion of their operating income.

9 **Q. ARE THERE OTHER CONCERNS OVER STAFF'S RATE DESIGN?**

10 A. Yes, over the projected lack of sales to generate needed revenues. Beyond the  
11 discussion over rate design, there has been a considerable drop in sales from  
12 historical sales. The fact is water sales have been dropping across customer  
13 classes. I have already discussed the effects of reduced sales by industrial-  
14 classified users. There has been a significant drop in residential sales as well.  
15 Staff's rate design, which seeks to collect a much higher percentage of revenues  
16 from the volumetric/commodity rate, combined with declining sales is a recipe for  
17 financial disaster due to huge revenue shortfalls resulting from falling sales. If  
18 rates are based on 2007 Test Year sales under Staff's proposed rate design,  
19 revenues will not be sufficient to cover expenses and provide Staff's proposed  
20 rate of return, let alone the fair rate of return the Company seeks. If Staff's rate  
21 design is approved by the Commission in its current form, the Company will not  
22 be able to "manage" its way out of the revenue shortfall, and the Company will  
23 remain in a precarious predicament - unable to replace aging infrastructure,  
24 improve its systems, maintain a full workforce, or attract capital under reasonable  
25 terms.

1 Q. DO YOU HAVE ANY SUGGESTIONS FOR THE COMMISSION ON HOW TO  
2 ADDRESS THIS PROBABLE OUTCOME?

3 A. Mr. Reiker will address various ways to recover the projected revenue shortfall in  
4 his rebuttal testimony. However, rates that fail to recover the necessary  
5 revenues because they shift recovery of fixed operating costs into the commodity  
6 rate generally, and the industrial class specifically which already is sharply  
7 cutting water use would be bad policy and a failure of the regulatory process.  
8 But this can be avoided by making adjustments to reflect the known and  
9 measurable drop in sales, adjusting for further reductions in sales resulting from  
10 conservation efforts, and implementing revenue adjustment mechanisms.

11 III. RUCO Rebuttal

12 Q. DO YOU HAVE ANY COMMENTS ON RUCO'S RATE DESIGN?

13 A. Mr. Reiker will provide the majority of the Company's rebuttal testimony as it  
14 relates to RUCO's rate design, sponsored by RUCO witness Rodney Moore. I  
15 will note, however, that RUCO's rate design more closely reflects the cost of  
16 service related to residential users than Staff's rate design. Moreover, RUCO's  
17 support of a uniform rate structure for industrial users is more consistent with the  
18 fact that additional price signals are not necessary for the Company's industrial  
19 users, although the Company's proposed rate design provides a more  
20 reasonable rate of return. RUCO's rate design is also more appropriate from a  
21 conservation perspective. However, like Staff's rate design, RUCO's proposed  
22 rate design will not produce sufficient revenues to achieve even RUCO's  
23 proposed rate of return due to dropping water sales. Adjustments to test year  
24 sales and reductions in sales achieved through conservation need to be  
25 accounted for in the final rate design along with approval of revenue adjustment  
26 mechanisms.

27 Q. DOES THAT CONCLUDE YOUR REBUTTAL TESTIMONY?

28 A. Yes.

**WMIG-RB5**

The New York Times  
nytimes.com



November 15, 2007

## In Eco-Friendly Factory, Low-Guilt Potato Chips

By ANDREW MARTIN

CASA GRANDE, Ariz. — At Frito-Lay's factory here, more than 500,000 pounds of potatoes arrive every day from New Mexico to be washed, sliced, fried, seasoned and portioned into bags of Lay's and Ruffles chips. The process devours enormous amounts of energy, and creates vast amounts of wastewater, starch and potato peelings.

Now, Frito-Lay is embarking on an ambitious plan to change the way this factory operates, and in the process, create a new type of snack: the environmentally benign chip.

Its goal is to take the Casa Grande plant off the power grid, or nearly so, and run it almost entirely on renewable fuels and recycled water. Net zero, as the concept is called, has the backing of the highest levels of corporate executives at PepsiCo, the parent company of Frito-Lay.

There are benefits besides the potential energy savings. Like many other large corporations, PepsiCo is striving to establish its green credentials as consumers become more focused on climate change. There are marketing opportunities, too. The company, for example, intends to advertise that its popular SunChips snacks are made using solar energy.

"We don't know what the complete payoff for net zero is going to be," said Indra K. Nooyi, PepsiCo's chairman and chief executive. "If this works even to 50 or 60 percent of its potential, that is fantastic, and it's so much better than what we already have."

From coast to coast, more companies are thinking about how much fossil fuel they use and ways to conserve energy. Venture capital money is also pouring into fledgling green technology.

Only a few years ago, Andy Walker, a government engineer, pleaded with companies to tackle the problems but got blank stares. "Now, my phone is ringing off the hook," said Mr. Walker, who works at the National Renewable Energy Laboratory of the Department of Energy in Colorado.

But advocacy groups contend that for all the interest in saving energy, many companies also exaggerate small improvements for marketing purposes.

"Now I think there's a transition, and it's only begun and the grandstanding is ahead of the action," said Joel Swisher, director of research at the Rocky Mountain Institute, a nonprofit energy research organization.

He said that some companies were trumpeting relatively modest changes. "Not that it's a bad thing," he added. "It is moving in the right direction."

Some companies have pursued much more ambitious changes. Toyota Motor Engineering and Manufacturing North America said it had managed to reduce energy consumption for every vehicle manufactured by more than 24 percent since 2002. Texas Instruments built a green semiconductor plant in Texas in 2006 that the company expects will save \$4 million a year in energy and water costs.

PepsiCo, meanwhile, has become the nation's biggest buyer of renewable energy credits, a financial instrument that stimulates the development of renewable energy sources, and its subsidiaries are retrofitting plants and distribution centers to reduce energy.

The net zero concept, however, is the company's most ambitious environmental venture to date. Reaching its goal of taking it almost completely off the power grid will not be easy.

Over the next several years, Frito-Lay plans to install high-tech filters that would recycle most of the water used to rinse and wash potatoes, as well as the corn used to make Doritos and other snacks, and then burn the leftover sludge to create methane gas to run the plant's boiler.

The company will also build at least 50 acres of solar concentrators behind the plant to generate solar power. A biomass generator, which will probably burn agricultural waste, is also planned to provide additional renewable fuel.

The retrofit of the Casa Grande factory, scheduled to be completed by 2010, would reduce electricity and water consumption by 90 percent and its natural gas use by 80 percent. Greenhouse gas emissions would be cut by 50 percent to 75 percent, the company said.

Frito-Lay hopes the project will help the company save money on energy costs, particularly as oil prices approach \$100 a barrel. What works in Casa Grande, one of 37 plants it operates in the United States and Canada, would then be replicated at other sites where possible.

The Casa Grande plant was built in 1984 and is bigger than two football fields. With its peelers and ovens and fryers, the plant burns enough natural gas in a year to heat 13,000 homes for the winter, and it makes 212 million bags of snack chips a year.

Under a directive from Frito-Lay to cut utility costs, the managers at the Casa Grande plant have already installed skylights in conference rooms, offices and a finished goods warehouse to reduce the need for artificial light. They have also bought more fuel-efficient ovens and have begun recapturing heat from oven stacks.

Vacuum hoses were installed to pull moisture from potato slices, both to recapture the water and to reduce the amount of heat needed to cook the potato chips.

Since 1999, Frito-Lay companywide has reduced its water use by 38 percent, natural gas by 27 percent and electricity by 21 percent, cutting \$55 million a year in utility costs.

But finding new ways to save energy and water is getting harder each year. So Frito-Lay officials started exploring more ambitious — and expensive — methods.

At a strategy meeting last year with Mrs. Nooyi, Frito-Lay managers proposed creating a plant with a

combination of technologies that would cut water and energy use as much as possible.

"We said, 'This might not make a hell of a lot of sense initially, but long term this is where we need to go,'" said David Haft, Frito-Lay's group vice president for sustainability and productivity.

The Casa Grande plant was selected because it was a midsize operation that would cost less to retrofit than a larger factory. The plant's locale also offered an attractive storyline for consumers: recycling water in the middle of the desert and producing snack chips from solar concentrators.

The project will start next year with the installation of a membrane bio-reactor, which looks like a railroad car with long strands of fettuccine hanging from the ceiling. In fact, the strands are filters that will clean the water used to process potato chips and corn products.

The waste produced by the filtering process will then be fed to a new anaerobic digester, which will produce methane gas to run the plant's boiler.

The second stage of the process will be the installation of at least 50 acres of solar concentrators behind the plant. Similar concentrators are now being installed at a plant in Modesto, Calif. The concentrators are parabolic mirrors about three feet off the ground that move with the sun and focus energy on a tube filled with water, much as a magnifying glass focuses the sun's rays.

The water is heated to about 500 degrees and is run through a maze of pipes back to the plant, where it will power a steam generator.

The last portion of the net zero plant would be a biomass generator that provides additional fuel to run the plant's boiler. Company officials have not yet determined what type of material will be used as fuel.

Frito-Lay would not provide a cost estimate for the project at Casa Grande. The company's projections show that installing the net zero technology will cost slightly more over the next 25 years than if they continued with the current programs. However, the estimates are fairly conservative and do not factor in oil at \$100 a barrel.

Frito-Lay officials maintain that trying net zero provides a hedge, particularly if the most pessimistic predictions about climate change and the availability of water and petroleum hold true.

"If the price of these resources continues to rise, we will be very happy we made these investments," said Rich Beck, senior vice president for operations.

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**WMIG-RB6**



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## Safeguarding the Environment

Abbott has a longstanding commitment to minimize its impact on the global environment—in our sourcing of raw materials, in the manufacturing and distribution of our products and in the ways consumers use and dispose of them. In every product that we make, in every service we provide and in every market we serve, we strive to be good stewards of the earth and its resources.

We have identified climate change, water use and product stewardship as our most significant environmental impacts, and we treat them as strategic priorities. At the same time we continue to manage the eco-efficiency of our many manufacturing sites around the world as well as protecting the health and safety of all our employees. We have an Environment, Health and Safety Policy and Management system to underpin this work.

### Awards & Recognition

#### Lake County, Illinois

For the tenth time, Abbott received the annual Illinois Governor's Pollution Prevention Award for outstanding environmental excellence. The award recognizes businesses and organizations in Illinois that have successfully reduced the generation of gaseous, liquid and solid waste. Abbott has been honored for implementing four pollution prevention projects at our headquarters that resulted in environmental benefits. These efforts included using a more environmentally friendly product to replace a volatile organic material in a manufacturing process; repairing production lines to reduce energy consumption and CO<sub>2</sub> emissions; reducing waste sent to landfills by providing employees at two Lake County plants with reusable clothing to replace disposable apparel; and lowering the amount of purified water used in a manufacturing process for producing pharmaceuticals.

#### Abbott Park, Illinois

We were recertified in 2007 by the Wildlife Habitat Council Wildlife at Work SM/International Accreditation Program, which recognizes meaningful wildlife habitat management programs, including environmental education programs. Certification through WHC provides third-party credibility and an objective evaluation of projects completed at our Abbott headquarters and the Abbott Park community at large.

#### Sturgis, Michigan

The nutrition plant was named Outstanding Business Recycler of the Year by the Michigan Recycling Coalition, a nonprofit environmental organization focused on sustaining and restoring our natural world.

#### Cootehill, Ireland

The 2008 inaugural Green Business Award was awarded to Abbott Ireland. Also, our nutrition manufacturing plant in Cootehill was the first recipient of the Passion for the World Around Us award, which honors businesses that make positive contributions to their operating communities. Our Cootehill plant also received the 2008 Regional Award for Occupational Safety in the North East Region from the National Irish Safety Organization Awards Scheme.

#### Barceloneta, Puerto Rico

The Abbott Biotechnology Plant received a Safety Achievement Award from the Puerto Rico Manufacturing



As part of our aggressive program to cut energy use and greenhouse gas emissions, Abbott is investing heavily in solar power. Here, utilities supervisor Giuseppe Stradella inspects newly installed photovoltaic cells at our Campoverde, Italy manufacturing center near Rome.

# 15%

Reduction in CO<sub>2</sub> Emission from manufacturing in 2008, representing significant progress towards our 2011 goal. This 250-megawatt installation helps us save 470,000 pounds in CO<sub>2</sub> emissions per year.

Association, which honors employers who have achieved an OSHA Incidence rate between 75 percent and 90 percent lower than the national average rate, for industries under the same SIC Code.

**Delkenheim, Germany**

Our Delkenheim, Germany plant received the 2006/2007 "Wiesbaden Ecoprofit Plant" for the fourth time running, in acknowledgement of services to the environment including the installation of a rooftop photovoltaics system able to convert light into electricity, replacement of 1,000 fluorescent tubes with lower-wattage systems, reuse of polystyrene cooler boxes, installation of 26 optical flush devices for urinals, and a continuous improvement process for packaging. The combination of measures allows Abbott to generate annual savings of €167,262 in terms of energy/emissions, water/waste and raw materials/disposal.

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## A Comprehensive Water Strategy

Abbott understands that water is a critical and finite resource, one that is essential to sustaining human health, economic growth and the environment. More than 1.1 billion people have no access to clean water; 2.4 billion lack proper sanitation; and 2.3 billion live in water-stressed areas. We also know that access to clean water is critical to maintaining our manufacturing operations and to the customers who use our products. Population growth, industrial expansion and agricultural development pose challenges for water access in many parts of the world.

It is within this global context that Abbott is committed to managing its water use in an efficient and sustainable manner and to improving access to clean water in communities where we play a part. In 2008, our company adopted a new water policy which has four elements:

- ▶ Continuous improvement of our operations and water use efficiency – with the goal of reducing water use by 40 percent by 2011 (indexed to sales, on a 2004 baseline);
- ▶ Recognition of the risks that water stress and scarcity pose for our business, along with concrete steps to mitigate those risks; and
- ▶ Facilitating access to high-quality water in all of the communities where we operate, and
- ▶ Educating community members about the importance of protecting water resources that are vulnerable to overuse or contamination.

During 2008, we completed an evaluation of local water stress for each of our manufacturing sites globally and prioritized them for further action. The top 4 sites identified are: Casa Grande, Arizona; Campoverde, Italy; Temecula, California, and Singapore.

By focusing efforts and resources on these higher risk sites, the plant in Casa Grande, Arizona, succeeded in reducing its total water usage for the second consecutive year (refer to chart data below), and the plant in Campoverde, Italy, has reduced its water consumption by more than 20 percent (51 million gallons/year) over the last two years while increasing overall production.

In addition, we are committed to improving the discharge of clean water where water cleanliness is at issue. Many Abbott sites do not discharge water that contains chemicals. Therefore, we measure water discharge results only at those sites where the cleanliness of water discharge is at issue.

### Managing Our Wider Water Footprint

In the many water-stressed regions where we operate, Abbott recognizes the role we can play in helping to educate local communities to better manage their water supplies. We are focused on helping communities with water conservation, starting with a water audit assessment, followed by consultations with experts from Abbott and from external nongovernmental organizations who can help develop a timeline to meet water use reduction goals. In 2008, for example, Abbott began working with the Project Wet International Foundation to develop an approach for use at Abbott manufacturing sites in water-scarce areas, such as Casa Grande, Arizona; Campoverde, Italy; and Singapore.

### Improving Access to Water



Water is essential to manufacturing, but the quality of the water we return to the environment is equally important. Here, at Abbott's Environmental and Industrial Hygiene Laboratory in Campoverde, Italy, Marco Marchioni (foreground) and Mauro D'Amario prepare to analyze samples from our wastewater treatment plant.

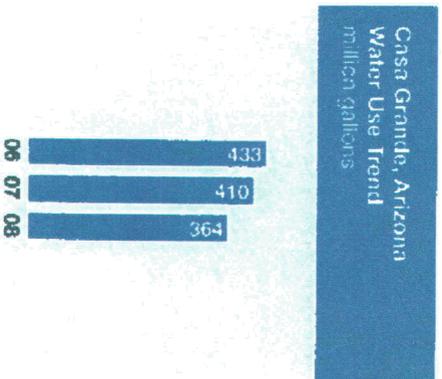
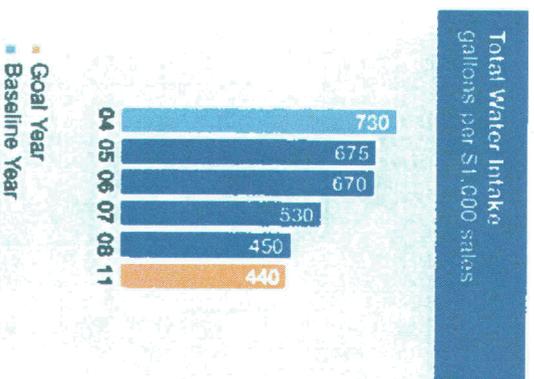
155   
Million Gallons  
of water saved in  
manufacturing in 2008  
through water-reduction  
projects.

Our comprehensive water strategy focuses on three key areas:

- Improving our operations and product design;
- Assessing and mitigating risks to our business due to regional water stress;
- Facilitating access to high-quality water in global communities.

Position statement on access to water 

We implemented new information technology to enable the evaluation of water-related risks at our manufacturing sites and to plan our water-management strategy accordingly. Moving forward, we will collaborate with our businesses and stakeholders to identify water conservation projects, especially in water-stressed regions where we have manufacturing operations.



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## **Access to Water - Position Statement**

Abbott understands that water is a critical finite natural resource that is essential to sustain human health, economic growth and the environment. Many governments and non-governmental organizations have recognized access to water as one of the world's key environmental and human health issues. The World Health Organization has reported that 1.1 billion people do not have access to safe water and 2.4 billion people do not have adequate sanitation. It has been estimated that more than 2.2 million deaths occurred in 2000 due to water, sanitation, or hygiene attributed ill health. The United Nations (UN) has set ambitious targets through the Millennium Development Goals hoping to halve the proportion of people without access to safe drinking water and sanitation by 2015.

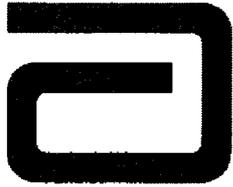
Abbott also recognizes that access to clean water is critical to maintaining its' manufacturing operations at any given location. Clean water is also a necessary resource for many customers who use our products. Unfortunately, access to clean water may become more difficult as demand increases due to factors such as growing populations, industrial expansion, and intensive agriculture. According to a 2004 study commissioned by Abbott, the percentage of Abbott plants in above average water stressed countries is expected to increase from 20% in 1995 to 66% by 2025. These countries include the U.S., Germany, Italy, Spain, France, Switzerland, Japan, Pakistan, India, South Africa, Mexico, and China. Additionally, at many Abbott operating locations, government-issued licenses or permits place enforceable restrictions on both the amount of water the location may use and the quality of water discharged.

It is within this global context that Abbott is committed to managing its own water resources in compliance with legal requirements and in an efficient and sustainable manner, and also to improving access to clean water for communities in which we are part. To do this, we must:

- Be guided by our values, policies, and management systems.
- Continuously improve our water usage efficiency and reduce the amount of water used by 15 percent by 2010.
- Prevent, whenever possible, water discharges that could have an adverse effect on human health or the environment.
- Engage with other water users and providers to promote appropriate water management principles and address challenges.
- Educate community members about the importance of protecting groundwater and other water resources that are vulnerable to overuse or contamination.

### **Abbott Actions**

We will focus our actions on three core elements.



1. **Global Environmental Management Initiative (GEMI)**
2. **United States Council for International Business (USCIB)**
3. **Pharmaceutical Research and Manufacturers of America (PhRMA)**

*ARIZONA WATER COMPANY*



Docket No. W-01445A-08-0440

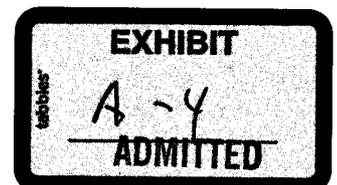
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**2008 RATE HEARING**  
For Test Year Ending 12/31/07

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**PREPARED**  
**REJOINDER TESTIMONY & EXHIBIT**  
OF  
**William M. Garfield**

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1 **ARIZONA WATER COMPANY**

2  
3 **Rejoinder Testimony of**  
4 **William M. Garfield**

5  
6 **I. Introduction and Purpose of Testimony**

7 **Q. PLEASE STATE YOUR NAME, EMPLOYER AND OCCUPATION?**

8 A. My name is William M. Garfield. I am employed by Arizona Water Company (the  
9 "Company") as President.

10 **Q. ARE YOU THE SAME WILLIAM M. GARFIELD THAT PREVIOUSLY**  
11 **PROVIDED DIRECT AND REBUTTAL TESTIMONY IN THIS MATTER?**

12 A. Yes.

13 **Q. HAVE YOU REVIEWED THE SURREBUTTAL TESTIMONY FILED BY THE**  
14 **OTHER PARTIES TO THIS PROCEEDING?**

15 A. Yes, I have reviewed the testimony of each of the witnesses of the Commission's  
16 ("Commission") Utilities Division Staff ("Staff"), the Residential Utility Consumer  
17 Office ("RUCO"), and the International Brotherhood of Electrical Workers (the  
18 "IBEW").

19 **Q. WHAT IS THE PURPOSE AND EXTENT OF YOUR TESTIMONY?**

20 A. The purpose of my rejoinder testimony is to rebut the surrebuttal testimony of  
21 Staff witness Igwe and RUCO witness Rigsby as they relate to adjustor  
22 mechanisms, and to certain issues raised by IBEW witness Junas.

23 **II. Staff Surrebuttal**

24 **Q. DO YOU AGREE WITH MR. IGWE THAT THE COMPANY'S REQUEST FOR**  
25 **VARIOUS ADJUSTOR MECHANISMS WOULD APPEAR TO BE**  
26 **ADVOCATING A "NEW PARADIGM OF RATE REGULATION" IN ARIZONA?**

1 A. No. Mr. Igwe misunderstands the Commission's policy regarding adjustors. The  
2 Company currently has an approved Purchased Power Adjustor Mechanism  
3 ("PPAM") for its Northern Group, which has been in effect for more than 25  
4 years. The Company's Eastern and Western Groups had both Purchased Water  
5 Adjustor Mechanisms and PPAMs for many years. Moreover, Arizona electric  
6 and gas utilities currently have various adjustor mechanisms and surcharges that  
7 allow recovery of changes in costs outside a general rate case. See Exhibit  
8 WMG-RJ1. Thus, Mr. Igwe's testimony that the Company's proposal for  
9 adjustors in this case conflicts with recent Commission orders is simply not true.  
10 In reality, the opposite is true.

11 In Decision No. 62993 (Nov. 3, 2000), the Commission specifically  
12 approved of the use of adjustment mechanisms for water utilities, based on the  
13 discussion of the use of those mechanisms that took place in connection with the  
14 Commission's Water Task Force. Decision No. 62993 at 1. The Commission  
15 indicated that it had recently approved adjustment mechanisms for Arizona  
16 Water Company, allowing the Company to recover costs associated with the  
17 Monitoring Assistance Program administered by the Arizona Department of  
18 Environmental Quality, and for Rio Verde Utilities, allowing that utility to recover  
19 cost increases associated with the purchase of CAP water. Decision No. 62993  
20 at 6. The Commission stated that these decisions "indicate that the  
21 Commission's policy ... is to support appropriate pass-throughs, which should  
22 mitigate the industries [sic] concerns." *Id.*

23 Arizona Water Company's PPAMs and PWAMs address two of our most  
24 significant operating expenses both of which are beyond the Company's control  
25 and are likely to change on a regular basis. The Company's proposed adjustor  
26 for purchased fuel is similarly designed to allow recovery of or increases to a  
27 specific, narrowly defined cost that is significant and volatile. These adjusters  
28

1 benefit ratepayers in two respects. First, the adjusters minimize the need for  
2 emergency or repeated rate cases when these significant expenses increase.  
3 Second, when the price of water, power or fuel decreases, the rates to  
4 ratepayers are decreased to reflect the reduction in the Company's operating  
5 expenses. Thus, the adjusters are equitable because they work to the benefit of  
6 both the Company and its customers.

7 **Q. DO YOU AGREE WITH MR. IGWE THAT THE NATIONAL REGULATORY**  
8 **RESEARCH INSTITUTE ("NRRI") RECOMMENDED ONLY THAT UTILITY**  
9 **COMMISSIONS APPROVE THE RECOVERY OF A SINGLE CATEGORY OF**  
10 **COSTS TO MITIGATE THE EXPENSES ASSOCIATED WITH**  
11 **INFRASTRUCTURE REPLACEMENTS, AND THAT IN ANY EVENT, SUCH**  
12 **RECOMMENDATION IS NOT BINDING ON THE COMMISSION?**

13 A. I agree with Mr. Igwe that the NRRI's recommendations are not binding on the  
14 Commission. However, the NRRI's recommendations to the nation's utility  
15 commissions are effective solutions to address mounting infrastructure  
16 investment needs. To that end, the NRRI not only recommended adjustment  
17 mechanisms, but also higher returns on equity, the use of forward-looking test  
18 years, the inclusion of construction work in progress in rate base, and procedures  
19 to streamline rate cases. Since increasing operating and maintenance costs  
20 reduce a utility's operating income and directly and negatively affect a utility's  
21 ability to fund infrastructure, i.e., to attract capital on reasonable terms, the NRRI  
22 recognized that other steps need to be taken by utility commissions to address  
23 the need to replace aging infrastructure.

24 **Q. DID MR. IGWE ADDRESS THE BEST PRACTICES POLICY ADOPTED**  
25 **BY THE NATIONAL ASSOCIATION OF REGULATORY UTILITY**  
26 **COMMISSIONERS ("NARUC") BOARD OF DIRECTORS ON JULY 7, 2005?**

1 A. No, he did not. The NARUC board resolution states that, in order to help ensure  
2 sustainable practices in promoting needed capital investment, i.e. attracting  
3 capital on reasonable terms and promoting cost-effective rates, the nation's utility  
4 commissions should adopt the NRRRI's recommendations as best practices. Staff  
5 has not stated that they disagree with the NRRRI's recommendations or with  
6 NARUC's best practices policy, just that the Commission is not bound by them.  
7 We submit that the Commission should follow the NARUC board resolution, as  
8 well as Commission Decision No. 62993 and the Water Task Force  
9 recommendations, and approve the Company's request for adjustor  
10 mechanisms.

11 **Q. IS MR. IGWE CORRECT WHEN HE CHARACTERIZES THE NRRRI**  
12 **RECOMMENDATIONS AS NOT APPLYING TO NORMAL DAY-TO-DAY**  
13 **EXPENSES?**

14 A. No, he is not. The NRRRI and NARUC both recommend and support the use of  
15 adjustment mechanisms generally, and do not limit their use to narrow expenses,  
16 volatile expenses, expenses above a certain size, or any other arbitrary  
17 categorization. Purchased power, purchased fuel, labor, chemicals, purchased  
18 water would all be categorized as a day-to-day expense. However, the NRRRI  
19 and NARUC understand that increases in such expenses can limit a utility's  
20 ability to invest in needed infrastructure.

21 **Q. DO YOU AGREE WITH MR. IGWE THAT FUEL COSTS HAVE DROPPED**  
22 **SINCE THE 2007 TEST YEAR AND THERE REALLY ISN'T MUCH OF A**  
23 **CONCERN OVER PRICE FLUCTUATIONS REGARDING PURCHASED**  
24 **FUEL?**

25 A. No, I do not. The following graph published by the U.S. Energy Information  
26 Administration demonstrates the contrary. While prices for gasoline dropped in  
27 response to the current recession, prices have again begun to rise. Moreover,  
28

1 there is tremendous uncertainty about the range of costs during the time new  
2 water rates will be in effect as a result of the current rate proceeding. Given that  
3 fuel prices are again on the rise and will continue to be volatile, the Company's  
4 PFAMs are an appropriate method to offset changes in fuel costs.



13 **Q. DID STAFF ADDRESS THE DIFFERENCES BETWEEN THE VARIOUS**  
14 **ADJUSTOR MECHANISMS PROPOSED BY THE COMPANY AND ITS**  
15 **PROPOSED ATTRITION ADJUSTMENT MECHANISM ("AAM")?**

16 **A.** No, it did not. As I explained in both my direct testimony at page 15 and my  
17 rebuttal testimony at pages 5-6, the AAM has advantages over single cost  
18 adjustor mechanisms, such as a PPAM. Other than stating that they continue to  
19 recommend against the AAM, Staff did not address the benefits of the AAM in its  
20 surrebuttal. They simply reject it without any explanation. But the same  
21 reasoning that applies to the PPAM and PWAM applies to the AAM. In addition,  
22 the AAM, which would apply on a Company-wide basis, would be easier to  
23 administer, creating additional efficiencies for both the Company and Staff.

24 **III. RUCO Surrebuttal**

25 **Q. DO YOU AGREE WITH MR. RIGSBY THAT THE AAM HAS BEEN**  
26 **COMPARED BY THE COMPANY TO THE ARSENIC COST RECOVERY**  
27 **MECHANISM ("ACRM")?**

28

1 A. No, I do not. The Company did compare certain aspects of the AAM to that of  
2 the ACRM (e.g., the fact that the AAM could include an earnings test), but the  
3 ACRM was never meant to be an adjustor mechanism. The ACRM was  
4 established to recover costs associated with arsenic treatment that were new  
5 types of cost to the Company. The ACRM does not include a mechanism to  
6 adjust cost recovery up or down in response to price changes, in contrast to the  
7 Company's requested adjustor mechanisms.

8 **Q. DO YOU AGREE WITH MR. RIGSBY THAT THE DISTINCTION BETWEEN**  
9 **ADJUSTOR MECHANISMS AND THE ACRM IS THAT ARSENIC TREATMENT**  
10 **WAS AN UNFUNDED MANDATE IMPOSED BY THE FEDERAL**  
11 **GOVERNMENT, WHEREAS COSTS UNDER ADJUSTORS ARE SIMPLY**  
12 **EVERDAY, ORDINARY EXPENSES?**

13 A. I agree that arsenic treatment was mandated by the federal government, but that  
14 fact is irrelevant. The Company is required to provide adequate and reliable  
15 service to its customers. Replacement of aging water mains, water services and  
16 water meters is only one aspect of the Company meeting its obligations to serve  
17 its customers. The Company must pay for power to pump, transport and treat  
18 water. The Company must also purchase water for certain of its systems,  
19 including Central Arizona Project water. The Company likewise must fuel the  
20 vehicles used to read meters, maintain water mains and services, provide  
21 customer service, and all other activities that require the use of fueled equipment.  
22 The annual cost of purchased power, purchased water and fuel are significant,  
23 and the Company has no control over their prices. Price increases will have a  
24 detrimental effect on a utility's ability to maintain reliable and adequate service.  
25 Therefore, it is appropriate to provide a mechanism that allows timely recovery of  
26 price increases without forcing the Company to file another rate case. Likewise,  
27 if prices decrease, the decrease in cost can be efficiently passed on to customers

1 through credits on their bills. As stated, these mechanisms benefit both the  
2 Company and its customers.

3 **Q. DO YOU AGREE WITH MR. RIGSBY THAT ADJUSTOR MECHANISMS ARE**  
4 **SIMPLY A MEANS OF SHIFTING RISK TO THE COMPANY'S RATEPAYERS?**

5 A. No, I do not. Frankly, I am not sure what Mr. Rigsby is talking about. Adjustors  
6 are not risk-shifting devices. Instead, by passing on the impact of price increases  
7 or decreases, a closer match between the actual cost of service and customer  
8 bills is achieved, providing a more accurate price signal. I assume that Mr.  
9 Rigsby would agree that rates and charges for service should be based on the  
10 cost to provide such service, not on costs that are several years old and fail to  
11 accurately reflect the true cost of service.

12 **Q. DO YOU AGREE THAT ADJUSTORS CREATE A DISINCENTIVE FOR**  
13 **UTILITIES TO KEEP COSTS UNDER CONTROL THROUGH MANAGING**  
14 **SUCH COSTS?**

15 A. No, I do not. It is ludicrous to believe that any business, let alone any regulated  
16 water utility, can maintain its financial viability simply through exercising  
17 management control over its costs. Purchased power, purchased water and  
18 purchased fuel cannot be managed in a way that would prevent the Company's  
19 costs from increasing when prices rise. Furthermore, an incentive to better  
20 manage one's operations is always present in the operation of a business that  
21 seeks to maximize earnings. Moreover, it is important to keep in mind that the  
22 adjustor mechanisms are triggered by changes in *price*, not changes in total  
23 usage. And no evidence has been presented showing that Arizona Water  
24 Company is poorly managed or could be more efficient in its use of power or  
25 purchased water.

26 **Q. MR. RIGSBY ALSO TESTIFIES THAT THE USE OF ADJUSTOR**  
27 **MECHANISMS, RATHER THAN BEING BENEFICIAL TO THE COMMISSION**  
28

1           **IN A TIME OF BUDGET AND STAFF CUTS, WOULD MAKE THINGS WORSE**  
2           **BY SHIELDING UTILITIES FROM HARSH ECONOMIC CONDITIONS. IS MR.**  
3           **RIGSBY CORRECT?**

4    A.    No, he is not correct. It is a fact that the severe budget problems the State of  
5           Arizona faces have resulted in staffing cut backs and an increased workload for  
6           the Staff, resulting in difficulty in timely processing many Commission filings,  
7           including rate cases. Indeed, this case was delayed two months simply because  
8           of Staff's workload. Adjustor mechanisms, which can decrease the need for rate  
9           applications, would help to alleviate this situation. Instead of focusing on these  
10          facts, Mr. Rigsby asserts that if the Company can recover increases in costs  
11          more quickly through the use of adjustor mechanisms, it would make current  
12          economic conditions worse.

13                 This point of view implies that there is nothing wrong with a utility  
14                 experiencing deteriorating earnings, even if that means the utility, as is the case  
15                 with the Company today, can no longer issue long term debt or finance needed  
16                 infrastructure projects. Clearly, in this light, our economic survival is not  
17                 guaranteed by the regulatory system, as Mr. Rigsby would have the Commission  
18                 believe. Nor do customers benefit when capital projects are delayed due to  
19                 inadequate earnings. The Company is experiencing an unprecedented level and  
20                 period of low earnings and there is uncertainty as to if and when this condition  
21                 will improve. It is not in the public interest for the Company's ability to serve its  
22                 customers to be imperiled by low earnings when the uses of recognized  
23                 regulatory solutions like adjustor mechanisms are available. Rather than  
24                 shielding it from harsh economic conditions, the adjustor mechanisms the  
25                 Company is requesting would help to put it back on the road to financial  
26                 recovery, while protecting customers if the prices of purchased power, purchased  
27                 water and fuel decrease between rate cases.

1 **IV. IBEW Surrebuttal**

2 **Q. MR. JUNAS' TESTIMONY CRITICIZES THE COMPANY'S ACTIONS**  
3 **CONCERNING THE COMPANY'S LAYOFFS EARLIER THIS YEAR. DID THE**  
4 **IBEW FILE A GRIEVANCE CONCERNING THE LAYOFF?**

5 A. No, it did not file a grievance. Moreover, the Company followed the procedures  
6 contained in the parties' collective bargaining agreement in carrying out the  
7 layoffs. The Company believes that collective bargaining procedures, including  
8 the grievance procedure, provide the proper way to discuss and resolve matters  
9 such as this, and this rate case is, to say the least, not the proper forum.

10 **Q. MR. JUNAS CLAIMS THAT THE COMPANY IS GOING TO GROW AT A**  
11 **SUSTAINED PACE IN THE YEARS TO COME. DO YOU AGREE?**

12 A. No, I cannot agree with Mr. Junas. Our customer counts reflect a much different  
13 reality. While I am sure the Chamber of Commerce is optimistic about the State's  
14 future on the website Mr. Junas visited, the information specific to the Company  
15 leaves us more pessimistic about growth in the future.

16 **Q. DOES THAT CONCLUDE YOUR REJOINDER TESTIMONY?**

17 A. Yes.

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## **EXAMPLES OF ADJUSTOR MECHANISMS AUTHORIZED FOR ARIZONA ELECTRIC AND GAS UTILITIES**

### **1. Arizona Public Service Company**

In Decision No. 67744 (April 7, 2005), the ACC approved a settlement agreement between APS and several parties that included the following four rate adjustor mechanisms: (1) Power Supply Adjustor, (2) Environmental Benefits Surcharge, (3) Transmission Cost Adjustor, and (4) Competition Rules Compliance Charge ("CRCC").

#### **A. Power Supply Adjustor ("PSA")**

The purpose of the PSA is to allow for the recovery of both fuel and purchased power costs. In adopting a modified PSA, the ACC provided the following rationale.

"The benefits of this PSA are that over time, the utility's earnings will be stabilized, thereby preserving the financial integrity and in the longer term, improve the likelihood that the company will attract capital on reasonable terms, to the benefit of ratepayers." Decision No. 67744 at 15.

#### **B. Environmental Benefits Surcharge ("EPS")**

The EBS is a combination of two surcharges: the environmental portfolio surcharge and Demand Side Management ("DSM") surcharge. The purpose of the EBS is to allow APS to collect from its customers funds (above what was already included in base rates) necessary to carry out various renewable programs, including compliance with the ACC's Renewable Energy Standards Tariff rules, energy-efficiency DSM and low-income assistance. Each year, APS is required to file a plan of implementation with the ACC that sets forth the renewable-related programs to be pursued for the following year, and the estimated costs of the program.

#### **C. Transmission Cost Adjustor ("TCA")**

The TCA was established by the ACC in Decision No. 67744 "to ensure that any potential direct access customers pay the same for transmission as Standard Offer customers." It is limited to recovery of costs associated with changes in APS' open access transmission tariff or equivalent tariff. It was scheduled to go into effect when the transmission component of retail rates exceeds the test year base amount of \$0.00476 per kWh by 5%, upon ACC approval.

#### **D. Competition Rules Compliance Charge ("CRCC")**

The CRCC was intended to allow APS to recover \$47.7 million plus interest, over 5 years to recover costs for transitioning to a competitive electricity market in Arizona.

At the end of 5 years, the CRCC will immediately terminate, and APS must file an application to deal with any under or over-recovery of these costs.

## **2. Tucson Electric Power Company**

In Decision No. 70628 (December 1, 2008), the ACC approved a settlement agreement between TEP and several parties that included three rate adjustor mechanisms: (1) Purchased Power and Fuel Adjustor Clause, (2) Renewable Energy Adjustor, and (3) DSM Adjustor.

### **A. Purchased Power and Fuel Adjustor Clause ("PPFAC")**

The purpose of the PPFAC is to allow TEP to recover purchased power and fuel costs over and above what is embedded within the base rate. Unlike APS's PSA, there is no bandwidth or cap, and no 90/10 sharing.

### **B. Renewable Energy Adjustor ("REA")**

The REA is similar to APS's EBS, except that it does not integrate the DSM adjustor (which is separate). Each year, TEP is required to file a REST Implementation Plan and have the funding level for the next approved by the ACC, and the adjustor is reset (taking into account any left over funds from the previous year).

### **C. DSM Adjustor**

Similar to the REA, the DSM Adjustor is adjusted each year pursuant to TEP's annual REST Implementation Plan (as approved by the ACC) to fund programs related to the company's demand-side management and energy efficiency programs.

## **3. UNS Electric, Inc.**

Decision No. 70360 (May 27, 2008) was the result of a contested rate case in which the ACC approved three adjustor mechanisms for UNSE: (1) Purchased Power and Fuel Adjustor Clause ("PPFAC"), (2) REST Adjustor, (3) DSM Adjustor. The REST and DSM Adjustors are modeled after both APS's and TEP's adjustors, and are revisited by the ACC on an annual basis and reset.

The PPFAC is similar to the PPFAC approved for TEP, except that it has a 1.73 cents per kWh cap. In addition, under the terms of the plan of administration, the PPFAC has a "forward component" and a "true-up component" that compares the amount of actual fuel and purchased power costs versus amounts collected through base rates and the PPFAC.

**4. Southwest Gas Company**

In Decision No. 64172 (October 30, 2001), the ACC approved a Purchased Gas Adjustor ("PGA") for SWG. The purpose of the PGA is to allow SWG to timely recover the cost of natural gas in a volatile market. SWG is required to file monthly reports on the cost of natural gas (and an annual report) so that the ACC can track the under or over-recovery of costs against the base cost of natural gas included in base rates. The monthly bandwidth was initially set at \$0.10 per therm. Included with the PGA is a "trigger" that requires the company to take action at the ACC (emergency) whenever a certain under or over-collection threshold is exceeded. In this scenario, SWG would have to establish a surcharge to recover the under-collection (or credit for an over-collection).

In SWG's most recent rate decision (Decision No. 70665 (December 24, 2008)), the ACC increased the monthly bandwidth from \$0.13 per therm to \$0.15 per therm to deal with increased volatility. The ACC also eliminated the under-collected threshold, and increased the over-collection threshold to \$55.78 million.

**ARIZONA WATER COMPANY**



Docket No. W-01445A-08-\_\_\_\_\_

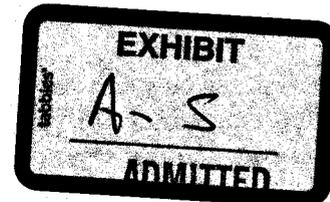
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**2008 RATE HEARING**  
**For Test Year Ending 12/31/07**

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**PREPARED**  
**DIRECT TESTIMONY & EXHIBITS**  
**OF**  
**Joseph D. Harris**

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1 **ARIZONA WATER COMPANY**

2  
3 **Direct Testimony of**  
4 **Joseph D. Harris**

5  
6 **I. Introduction and Qualifications**

7 **Q. WHAT ARE YOUR NAME, EMPLOYER AND OCCUPATION?**

8 A. My name is Joseph D. Harris. I am employed by Arizona Water Company (the  
9 "Company") as Vice President and Treasurer.

10 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK**  
11 **EXPERIENCE.**

12 A. I have been Vice President and Treasurer of the Company since March 2007. I  
13 received a Bachelor of Science degree in Accounting from Eastern Illinois  
14 University in 1981 and I am a Certified Public Accountant in the State of Illinois.  
15 From approximately 1982 until 1999, I worked for Northern Illinois Water  
16 Company, first as Staff Accountant (from 1986 to 1999) and as Chief Accountant,  
17 where I managed the accounting department and oversaw the company's  
18 financial reporting, tax compliance, strategic planning and filings with the Illinois  
19 Commerce Commission. From November 1999 until July 2002, I served as  
20 Comptroller of Illinois American Water Company, managing the company's  
21 accounting and information system departments. From July 2002 until March  
22 2007, I worked for American Water Service Company as Senior Financial Analyst  
23 and as Manager for Performance, Planning and Reporting, where I directed and  
24 coordinated preparation of the annual business plan and quarterly forecasts, and  
25 provided financial expertise on all financial issues. I am also a member of the  
26 American Institute of Certified Public Accountants.

1 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

2 A. The purpose of my testimony is to provide an overview of the filing, advocate  
3 the reintroduction of Purchased Power and Water Adjuster Mechanisms ("PPAM"  
4 and "PWAM") for the Company's Eastern and Western Groups and the  
5 introduction of a Purchased Fuel Adjuster Mechanism ("PFAM") in all groups, or  
6 in the alternative, approval of a company-wide Attrition Adjuster Mechanism  
7 ("AAM"), recommend the weighted cost of capital, discuss how the  
8 Arsenic Cost Recovery Mechanism ("ACRM") surcharges and underlying plant  
9 have been handled in this case, discuss the consolidation in several systems and  
10 address the Arizona Corporation Commission (the "Commission") required  
11 change in depreciation methodology for the Company's Northern Group systems.

12 **II. Overview of Filing**

13 **Q. PLEASE DESCRIBE THE FILING.**

14 A. The Company filed this application with the Commission to adjust its rates and  
15 charges for its Northern, Eastern, and Western Group water systems based on  
16 operating results and investment in the water systems for Adjusted Test Year  
17 2007. The requested rate increases will result in a total revenue increase of  
18 \$15,441,290. As of December 31, 2007, the Northern, Eastern, and Western  
19 Groups included nineteen systems serving over 83,800 customers.

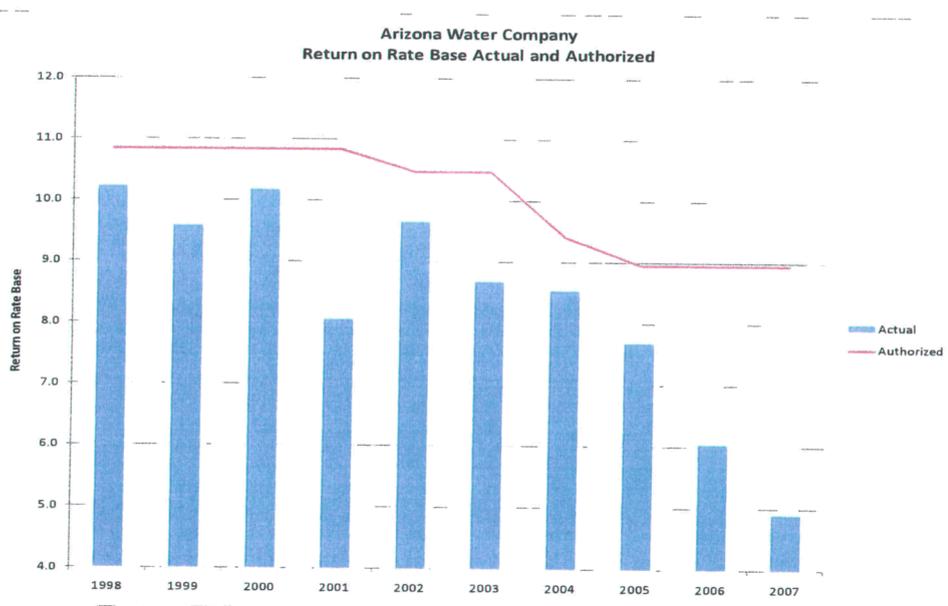
20 The current rates were based on operating results and utility plant  
21 investments for the following test years; Northern Group – Test Year 1999,  
22 Eastern Group – Test Year 2001, and Western Group – Test Year 2003. Since  
23 these rates went into effect, operating costs and investment in needed utility  
24 plant have increased dramatically.

25 In the Northern Group, rate base has increased by \$16,252,341, or 98.5%,  
26 since rates were set in 2001. The Eastern Group's rate base has increased by  
27 \$27,097,864, or 75.4%, and the rate base for the Western Group has increased  
28 by \$28,701,213, or 123.4%, since rates were set in 2004 and 2005, respectively.

1           Increases in operating expenses since the last rate orders have been just  
2 as dramatic, with costs rising \$2,723,914 or 51.5% in the Northern Group,  
3 \$3,294,757 or 25.1% in the Eastern Group, and \$5,134,060 or 58.5% in the  
4 Western Group.

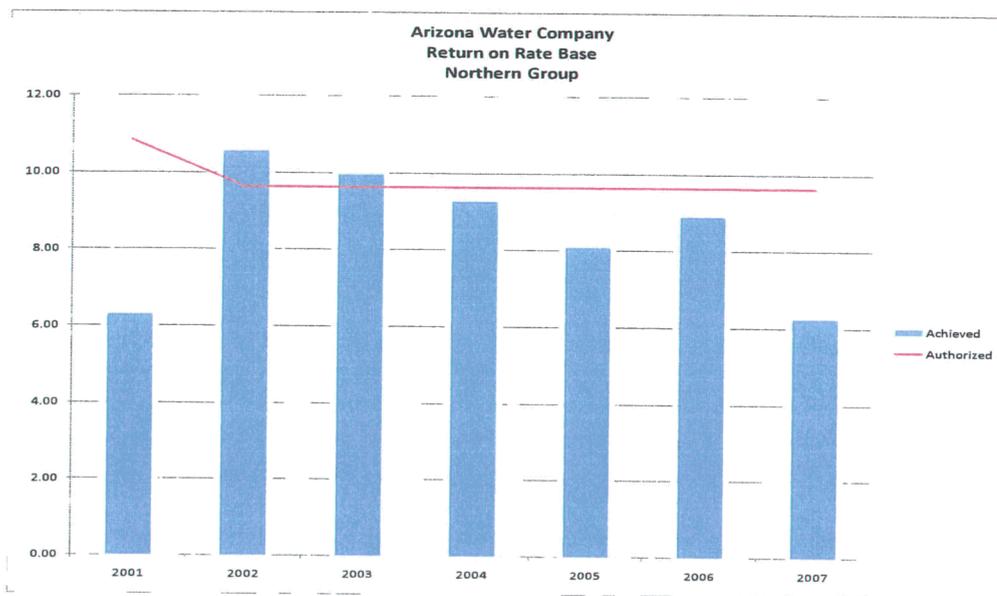
5 **Q.   WHAT HAS BEEN THE EFFECT ON THE COMPANY'S RETURN ON RATE**  
6 **BASE?**

7 A.   The historic growth in customers and investment in infrastructure, coupled with  
8 the financial demands of complying with the new, more stringent arsenic  
9 standard and inflationary pressures on rising costs, has caused returns to  
10 steadily decline. Since 1998, the Company has not earned its authorized rate of  
11 return, as evidenced by the graph below. Although the Northern, Eastern, and  
12 Western Groups all had new rates approved during this time, the revenues  
13 generated failed to keep pace with the increase in utility plant investment and  
14 operating expenses.

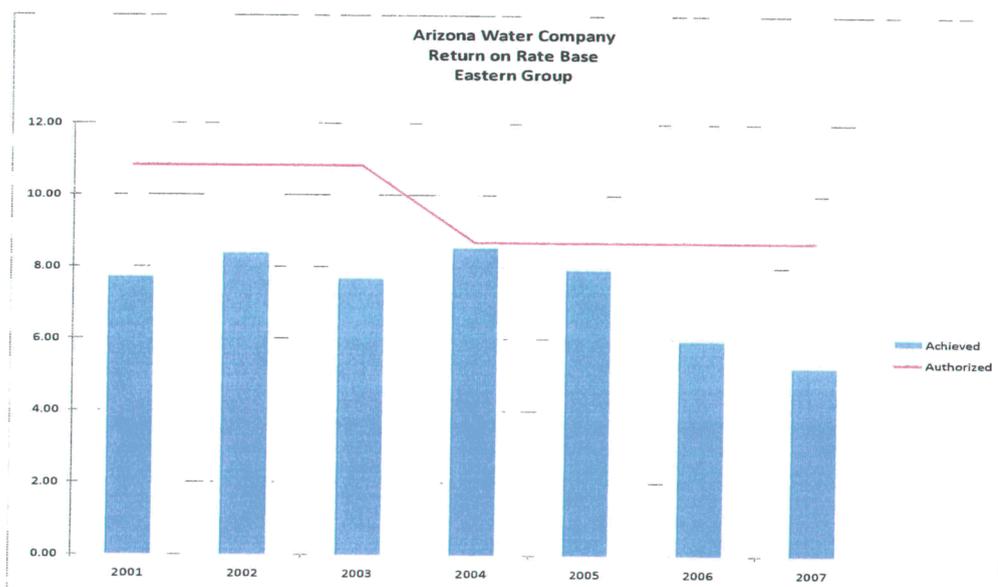


25           Except for the 2 years following the last Northern Group rate case, returns  
26 have fallen due to increased utility plant investments and operating expenses.

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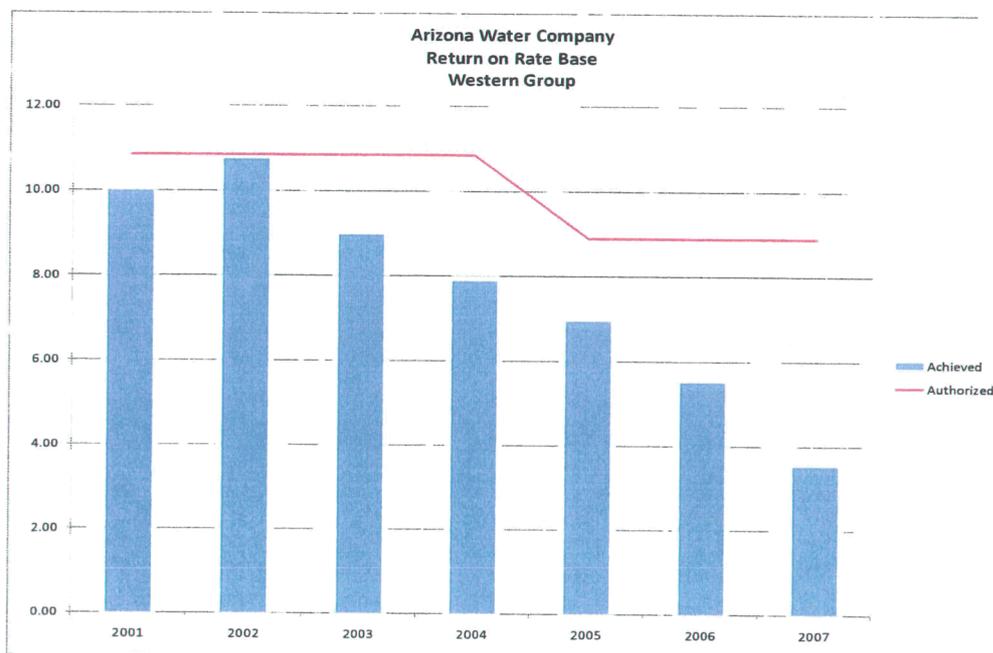


The Eastern Group shows a similar result with actual returns falling below the authorized return throughout the period. This is a direct result of historic levels of utility plant investment coupled with rising operating costs.



The Western Group returns began falling in 2002 and have continued their dramatic fall. New rates went into effect in 2005, which should have helped stabilize this free fall, but the introduction of conservation rates caused usage to decline and the operating incomes targeted in the rate case were never achieved. Based on its experience in the Western Group, the Company is proposing an adjustment to mitigate the loss of sales caused by conservation

1 rates in this case. A more detailed explanation of this adjustment is contained in  
2 Section VI of Mr. Reiker's direct testimony.



13 **Q. IS THE COMPANY ANTICIPATING AN IMPROVEMENT IN 2008?**

14 **A.** No. As evidenced by Schedule JDH-1, the Company anticipates that its dire  
15 financial condition will continue until adequate rates of return are approved and  
16 increased revenues are received. While new revenues from the ACRM  
17 surcharge will provide limited help with cost recovery on arsenic treatment  
18 facilities, they do not recover all arsenic treatment costs and these other costs  
19 further degrade and erode the Company's earnings.

20 **Q. WON'T THE IMPLEMENTATION OF THE RATES REQUESTED IN THIS CASE**  
21 **ALLOW THE COMPANY TO EARN ITS AUTHORIZED RETURN?**

22 **A.** No. As shown on Schedule JDH-1, even after new rates are approved, the  
23 Company will not earn its authorized rate of return. Line 24 of Schedule JDH-1  
24 shows that the requested rate of return drops from 12.40% at the end of test year  
25 2007, to 9.53% at the end of projected year 2008 – a 23% decrease in one year.  
26 Because rates are set on a historical basis, from the day they are effective, they  
27 are inadequate to provide the opportunity to earn the allowed return in any period  
28

1 when the Company is continuing to make substantial capital improvements or  
2 when the cost of service is increasing.

3 **Q. ARE THERE STEPS THAT COULD BE TAKEN TO GIVE THE COMPANY AN**  
4 **OPPORTUNITY TO EARN ITS AUTHORIZED RATE OF RETURN?**

5 **A.** Yes. As discussed in the next section of my testimony, either PPAMs, PWAMs,  
6 PFAMs, or an AAM, should be adopted. These adjusters would give the  
7 Company a better opportunity to earn its authorized rate of return.

8 **III. Adjuster Mechanisms**

9 **Q. DO THE COMPANY'S EXISTING TARIFFS AUTHORIZE ADJUSTER**  
10 **MECHANISMS FOR ANY OF ITS SYSTEMS?**

11 **A.** Yes. A PPAM is authorized for each Northern group system.

12 **Q. HAVE POWER COSTS REMAINED STABLE FOR THE EASTERN AND**  
13 **WESTERN GROUP SYSTEMS?**

14 **A.** No. Power costs have increased significantly in the past few years. As an  
15 example, since the PPAM was eliminated in Decision No. 66849 for the Eastern  
16 Group systems, power costs have risen nearly 15%.

17 Further, we have seen a pattern of almost continuous rate filings by both  
18 Arizona Public Service ("APS") and the Salt River Project ("SRP") seeking and  
19 implementing higher rates. In the last four years, APS had seven filings to  
20 increase either its base or Power Supply Adjuster rates. SRP has implemented  
21 six base or fuel adjuster increases and there is no indication that the current  
22 trend of increasing power costs will stop.

23 **Q. DOES PURCHASED POWER COST REPRESENT A SIGNIFICANT PORTION**  
24 **OF THE COMPANY'S EXPENSES?**

25 **A.** Yes. Adjusted purchased power costs account for nearly 18% of the Company's  
26 operating expenses. Behind payroll, it is the Company's single largest expense.

27 **Q. DOES THE COMPANY HAVE ANY APPRECIABLE CONTROL OVER POWER**  
28 **COSTS?**

1 A. No. While the Company takes advantage of pumping at off-peak hours when it  
2 can, there are no competitive alternatives that would allow the Company to  
3 choose a lower cost provider. The amount of power consumed is driven more by  
4 the depth of wells and the elevation to which it must be pumped, rather than the  
5 equipment used – thus, there is little opportunity to reduce consumption through  
6 newer equipment.

7 **Q. WHICH SYSTEMS INCUR PURCHASED WATER EXPENSES?**

8 A. The White Tank, Ajo, San Manuel, and Superstition Systems all have purchased  
9 water expenses.

10 **Q. DOESN'T CASA GRANDE HAVE PURCHASED WATER COSTS?**

11 A. Yes. However, these costs are for non-potable water which is delivered without  
12 treatment and any cost increases are directly passed on to customers pursuant  
13 to Tariff NP-274.

14 **Q. ARE THESE PURCHASED WATER COSTS SIGNIFICANT TO THOSE**  
15 **SYSTEMS?**

16 A. Yes. In the Adjusted Test Year, purchased water costs make up the following  
17 percent of total Operations and Maintenance expenses for those systems:

- 18 • White Tanks 21%
- 19 • Ajo 48%
- 20 • San Manuel 32%
- 21 • Superstition 15%

22 **Q. ARE OTHER SIGNIFICANT PURCHASED WATER INCREASES ON THE**  
23 **HORIZON?**

24 A. Yes. As more fully discussed in Section VIII of Mr. Garfield's testimony, the  
25 Company's Superstition system relies on the City of Mesa to treat its Central  
26 Arizona Project ("CAP") water allocation. In addition to a reserve capacity  
27 charge, the Company pays its pro-rata share of the operations and maintenance  
28 costs associated with treating the Company's CAP water in the plant. These

1 O&M costs vary by month and are likely to increase in the future. In addition,  
2 negotiations continue between the City and the Company over the status of  
3 future charges in the contract, such as increases in O&M costs.

4 **Q. HAS THE COMPANY MADE PRO FORMA ADJUSTMENTS FOR THESE**  
5 **INCREASES?**

6 A. Yes, to the extent that they are known and measurable. However, part of the  
7 City's requests in the on-going discussions, is for significant and continuing  
8 increases in the Company's share of O&M costs, including an annual escalator  
9 tied to the CPI, which will cause the cost of water to increase beyond the amount  
10 included in this filing.

11 **Q. IS THE RE-INTRODUCTION OF THE PPAM AND THE PWAM THE ONLY**  
12 **OPTION THE COMPANY IS PROPOSING TO HELP COMBAT THE**  
13 **IMMEDIATE EROSION OF ITS OPERATING MARGIN?**

14 A. No. As discussed in Section IV of Mr. Garfield's and Section VIII of Mr. Reiker's  
15 testimony, the Company is proposing an Attrition Adjuster Mechanism ("AAM") as  
16 an alternative to the PPAM, PWAM and PFAM surcharges. The AAM is a broad-  
17 based adjuster that would not focus on one particular cost versus another. The  
18 AAM adjuster, which is based on the Consumer Price Index and limited by a cap  
19 and an earnings test, would help the Company minimize the effects of the  
20 earnings erosion caused by increases in operating costs. As discussed in  
21 Section I of my testimony, even if the rates and adjuster mechanisms requested  
22 by the Company are approved as filed, they won't be sufficient to allow the  
23 Company to earn its authorized return. Approval of the AAM could be an  
24 important first step in giving the Company an opportunity to earn its authorized  
25 return. Mr. Garfield also discusses the need and basis for a PFAM in the event  
26 that an AAM is not approved in this proceeding.

27 **IV. Weighted Cost of Capital**

28 **Q. WHAT IS THE REQUESTED COST OF CAPITAL?**

1 A. The Company's requested weighted cost of capital is not less than 9.81%. This  
2 amount is calculated in the D Schedules and the method is discussed below.

3 **Q. HOW IS THE WEIGHTED COST OF CAPITAL DETERMINED?**

4 A. The weighted cost of capital is determined by establishing the cost of the  
5 individual capital components, and then calculating an overall cost weighted by  
6 each component's percentage of the total capital structure, and individual cost.  
7 The Company's pro forma capital structure includes two components: Long-Term  
8 Debt and Common Stock Equity.

9 **Q. WHY IS SHORT-TERM DEBT NOT INCLUDED IN THE COMPANY'S PRO**  
10 **FORMA CAPITAL STRUCTURE?**

11 A. On June 19, 2008 the Commission approved the Company's application to issue  
12 \$35,000,000 of long-term debt. The proceeds from this bond issue will be used  
13 to fully repay the short term debt which was outstanding at the end of 2007. The  
14 Company anticipates issuing its Series M bonds in the third quarter of 2008.

15 **Q. HOW WAS THE COST FOR THE SERIES M BONDS DEVELOPED?**

16 A. The Company expects the annual interest rate for the Series M bonds to be no  
17 more than 300 basis points over the 30-year Treasury. As of June 10, 2008, the  
18 U.S. Treasury 30-year constant maturity rate was 4.70%. Based on that rate, the  
19 Company estimated the interest rate for the Series M Bonds to be 7.70%.

20 **Q. WHAT IS THE COST OF DEBT IN THE CAPITAL STRUCTURE?**

21 A. The cost of long-term and short-term debt is set forth in Schedule D-2, page 1.  
22 The Company's general mortgage bonds are listed by series with the annual  
23 interest and amortization in lines 24 through 26. The Company's computation of  
24 its long-term debt cost shown on line 28 is the approach adopted by the  
25 Commission in the Company's last three general rate cases and is the method  
26 used by the Company in this proceeding. This method relies on an unchanging  
27 cost for each debt issue and then weights the cost of each individual issue by its  
28 percentage of the total debt outstanding.

1 In summary, at the end of Adjusted Test Year 2007, the Company had  
2 total long-term debt of \$75,000,000, at a weighted average embedded cost of  
3 7.31%, and no short-term debt.

4 **Q. HOW DID YOU DETERMINE THE COST OF COMMON EQUITY?**

5 A. The cost of common equity, 12.4%, was determined by the Company's expert  
6 witness, Dr. Thomas M. Zepp, and supported by his direct testimony.

7 **Q. DO YOU HAVE AN OPINION AS TO WHAT WOULD BE A FAIR AND  
8 PROPER RATE OF RETURN FOR THE COMPANY TO EARN ON ITS  
9 ADJUSTED OCLD RATE BASE?**

10 A. Yes. It should not be less than 9.81%, the weighted composite cost of capital  
11 computed on Schedule D-1.

12 **V. ACRM Surcharges and Post Test Year plant**

13 **Q. DOES THE COMPANY HAVE PENDING ACRM APPLICATIONS?**

14 A. Yes. The Company has pending applications for the following systems: Sedona,  
15 Rimrock, White Tank, Casa Grande, and Stanfield.

16 **Q. HOW WERE THE PLANT ADDITIONS AND REQUESTED SURCHARGE  
17 REVENUES HANDLED IN THIS FILING?**

18 A. All arsenic treatment related plant additions included in the pending ACRM  
19 applications were included in Post Test Year plant, as more fully described in  
20 Section V of Mr. Reiker's testimony. No surcharge revenues from the pending  
21 filings were included in Adjusted Test Year revenue.

22 **Q. WHAT ABOUT ARSENIC TREATMENT RELATED O&M EXPENSES SUCH  
23 AS MEDIA REPLACEMENT OR REGENERATION COSTS; MEDIA  
24 REPLACEMENT OR REGENERATION SERVICE COSTS, AND WASTE  
25 MEDIA OR REGENERATION DISPOSAL COSTS?**

26 A. A pro forma adjustment has been made to include these costs in test year  
27 expenses. Section VI-C of Mr. Reiker's direct testimony provides a more detailed  
28 explanation of this adjustment.

1 Q. DOES THE COMPANY HAVE ADDITIONAL ARSENIC TREATMENT  
2 RELATED PLANT STILL UNDER CONSTRUCTION?

3 A. Yes. As described in Section III of Mr. Schneider's direct testimony, the  
4 Company has additional arsenic treatment facilities under design and will be  
5 constructing such plants in its Superstition and Sedona systems. While the  
6 Company is making every effort to complete these facilities as quickly as  
7 possible, they will not be in service before the end of 2008.

8 Q. WHAT WILL BE THE FINANCIAL IMPACT ON THE COMPANY OF  
9 CONSTRUCTING THESE FACILITIES?

10 A. The estimated cost of these additional facilities is approximately \$5,000,000 and  
11 without new rates to offset the effect of these investments, and the costs of  
12 operating and maintaining these facilities, they will have a significant negative  
13 impact on the Company's financial performance.<sup>1</sup>

14 Q. SHOULD THE COMPANY'S ABILITY TO FILE FOR FUTURE ACRM  
15 SURCHARGES BE CONTINUED?

16 A. Yes. As described above, the Company still has arsenic treatment-related plant  
17 investments which were not completed in the test year. Additionally, the  
18 Company has several ACRM Step 2 filings which include deferred O&M costs.  
19 These surcharges should be allowed to continue until the O&M costs are fully  
20 recovered. Continuation of ACRM Surcharges can then be addressed in the  
21 Company's next rate application.

22 VI. System Consolidation

23 Q. THE COMPANY IS PROPOSING A NUMBER OF SYSTEM CONSOLIDATIONS.  
24 WHAT IS MEANT BY CONSOLIDATION?

25 A. The Company is proposing to consolidate the accounting records and billing  
26 tariffs for the proposed systems. In the systems in which the Company is  
27

28 <sup>1</sup> \$5,000,000 in plant investment times 9.81% required return times 1.62 tax multiplier equals \$795,000, plus \$130,000 in depreciation, equals \$925,000 in annual capital costs and does not include additional costs for arsenic treatment related operating costs.

1 proposing a phased consolidation, the first phase would be to consolidate the  
2 accounting records and the minimum charges. The commodity rates would then  
3 be set to produce the remaining revenue requirement.

4 **Q. WHAT ARE THE BENEFITS OF CONSOLIDATING SYSTEMS FROM A RATE-**  
5 **MAKING PROSPECTIVE?**

6 A. There are a number of benefits that rate consolidation will bring to the water  
7 systems, the customers, and the Company as a whole. Primary among these  
8 are:

- 9 • Mitigate rate impacts to utility customers by smoothing the effect of  
10 discrete cost spikes across systems and over time.
- 11 • Improve affordability of service in smaller systems.
- 12 • Achieve value of service equity to the extent that all customers pay the  
13 same price for comparable service.
- 14 • Improve overall operational efficiency by encouraging utilities to invest in  
15 systems based on need and not be hindered by systems that fail to earn  
16 their return.
- 17 • Streamline administrative and regulatory processes, thereby lowering  
18 costs, especially costs related to ratemaking.
- 19 • Improve and further ensure affordability of water service in all systems.

20 **Q. ARE THESE BENEFITS THE MAIN REASON THAT THE COMPANY IS**  
21 **PROPOSING CONSOLIDATION?**

22 A. Yes. As Mr. Garfield discusses in Section VI of his direct testimony, many of the  
23 Company's water systems are small Class C and D water systems. In general,  
24 these systems are hard hit by any utility plant investment or expense spikes. By  
25 consolidating these small systems into larger rate groups, these modest  
26 increases are spread over a larger base, thereby smoothing rate increases. This  
27 approach also promotes uniformity of pricing across the systems, ensuring that  
28 all customers are paying the same amount for similar service.

1 Q. A CRITICISM OF MOST CONSOLIDATION EFFORTS IS THAT THEY ARE  
2 NOT SUPPORTED BY A COST OF SERVICE STUDY. HAS THE COMPANY  
3 PERFORMED SUCH A STUDY?

4 A. Yes. As detailed in Section IX of Mr. Reiker's direct testimony, the Company  
5 conducted a cost of service study. The rate design for the systems in which the  
6 Company is proposing a full or partial rate consolidation produces revenues that  
7 are equal to or below the residential cost of service, thus avoiding the type of  
8 residential subsidies that often result when separate water systems are  
9 consolidated for rate purposes.

10 Q. CAN YOU DESCRIBE EACH CONSOLIDATION THAT THE COMPANY IS  
11 PROPOSING?

12 A. Yes. The Company is proposing to consolidate the following systems:

13 **Casa Grande, Coolidge and Stanfield**

14 These three systems share a common regional water source, management and  
15 operating personnel. As described in Section VIII of Mr. Schneider's testimony  
16 the Coolidge and Casa Grande systems were interconnected in 2007, which  
17 means that from a water distribution standpoint these two systems are  
18 consolidated. As the Company's distribution system continues to extend  
19 westward from Casa Grande, it will connect with the Stanfield system.  
20 Applications to extend the Casa Grande CC&N are currently before the  
21 Commission which, when approved, will make all CC&Ns contiguous.

22 The Company is proposing to fully consolidate the Casa Grande and  
23 Coolidge systems with a phased consolidation of the Stanfield system. The  
24 monthly minimums will be set to a uniform rate for all systems and Casa Grande  
25 and Coolidge will share common commodity rates. Commodity rates in Stanfield  
26 will be different until a future rate case in which the Company will file for full  
27 consolidation.  
28

1           **Superstition and Miami**

2           In Decision No. 66849, the Commission authorized the Company to consolidate  
3           the Apache Junction and Superior systems into a new consolidated system, the  
4           Superstition system. In this filing, the Company is proposing to complete the  
5           consolidation of its Superstition system, while adding the Miami system. These  
6           systems share resources and related sources of supply, management, and  
7           operating personnel. The Company is proposing full consolidation for these  
8           systems.

9           **Bisbee and Sierra Vista**

10          These two systems in the Eastern Group share a common regional water supply,  
11          as well as management and operating personnel. The Company is proposing to  
12          consolidate these systems in two phases. The first phase proposed in this filing  
13          is to set the monthly minimums to a uniform rate. The commodity rates have  
14          then been developed to recover the remaining revenue requirement. The  
15          Company would file for full consolidation for these systems in a future rate case.

16          **Sedona, Pinewood and Rimrock**

17          These three systems in the Northern Group share a common regional water  
18          supply, as well as management and operating personnel. The Company is  
19          proposing a mix of phased and full consolidation for these systems. Minimums  
20          were set to a uniform rate for all systems. A three-tier increasing block structure  
21          was used to develop the commodity rate, which is fully consolidated for the  
22          Rimrock and Pinewood systems. Full consolidation with the Sedona system  
23          would be achieved in a future rate filing.

24          **Lakeside and Overgaard**

25          These two systems in the Northern Group share a common regional water  
26          supply, as well as management and operating personnel. The current rates for  
27          these two systems are nearly identical with commodity rates separated by \$0.015  
28          per 100 gallons, and monthly minimums only \$0.59 different. The Company is

1 proposing full consolidation and a three-tiered increasing block structure for  
2 these systems.

3 **VII. Depreciation Methodology**

4 **Q. IN DECISION NO. 64282, THE COMPANY WAS ORDERED TO FILE A**  
5 **SCHEDULE OF COMPONENT DEPRECIATION RATES FOR ALL OF ITS**  
6 **SYSTEMS IN ITS NEXT RATE APPLICATION, HAS THE COMPANY DONE**  
7 **SO?**

8 A. The Company submits the following schedule of component depreciation rates  
9 for its Phoenix Office, Meter Shop, and Northern Group systems:

Plant Account Number	Description	Component Depreciation
314	WELLS	3.33%
321	PUMPING PLANT STRUCTURES & IMPROVEMENTS	2.86%
325	ELECTRIC PUMPING EQUIPMENT	5.00%
328	GAS ENGINE EQUIPMENT	4.00%
331	WATER TREATMENT STRUCTURES & IMPROVEMENTS	2.50%
332	WATER TREATMENT EQUIPMENT	2.86%
341	TRANSMISSION & DISTRIBUTION STRUCTURES	3.33%
342	STORAGE TANKS	1.82%
343	TRANSMISSION & DISTRIBUTION MAINS	1.79%
344	FIRE SPRINKLER TAPS	2.00%
345	SERVICES	2.63%
346	METERS	3.85%
348	HYDRANTS	1.79%
390	GENERAL PLANT STRUCTURES	2.50%
391	OFFICE FURNITURE & EQUIPMENT	6.67%
393	WAREHOUSE EQUIPMENT	5.00%
394	TOOLS, SHOP & GARAGE EQUIPMENT	3.33%
395	LABORATORY EQUIPMENT	5.00%
396	POWER OPERATED EQUIPMENT	6.67%
397	COMMUNICATION EQUIPMENT	6.67%
398	MISCELLANEOUS EQUIPMENT	3.33%

25 These component rates will be implemented prospectively, based on the  
26 decision in this proceeding. These rates have already been implemented in the  
27 Eastern and Western Group systems per Decision Nos. 66849 and 68302,  
28 respectively. The pro forma depreciation expense adjustments described in Mr.

1 Reiker's testimony are based on these component depreciation rates, rather than  
2 the presently authorized composite rate for the Northern Group of 2.59%.

3 **Q. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?**

4 **A. Yes.**

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**ARIZONA WATER COMPANY**  
 Test Year Ended December 31, 2007  
 Summary of Schedule D-1

Exhibit  
 Schedule JDH-1  
 Page 1 of 1  
 Witness: Harris

Line No.	Description	Total Company				End of Projected Year - Present Rates			
		(A) Dollar Amount	(B) Percent of Total	(C) Rate of Return	(D) Weighted Return	(E) Dollar Amount	(F) Percent of Total	(G) Rate of Return	(H) Weighted Return
1									
2	Short-Term Debt	\$ 32,000,000	22.38%	7.00%	1.57%	\$ 14,111,886	8.96%	7.00%	0.63%
3									
4	Long-Term Debt	40,000,000	27.97%	6.96%	1.95%	75,000,000	47.75%	7.31%	3.49%
5									
6	Common Equity	71,015,718	49.66%	5.46%	2.71%	67,868,378	43.27%	1.76%	0.76%
7									
8	Totals	143,015,718	100.00%		6.23%	157,070,364	100.00%		4.88%
9									
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Line No.	Description	End of Test Year - Proposed				End of Projected Year - Proposed Rates			
		(A) Dollar Amount	(B) Percent of Total	(C) Rate of Return	(D) Weighted Cost	(E) Dollar Amount	(F) Percent of Total	(G) Rate of Return	(H) Weighted Return
17									
18	Short-Term Debt	\$ -	-	-	-	\$ 6,363,933	4.05%	7.00%	0.28%
19									
20	Long-Term Debt	75,000,000	50.76%	7.31%	3.71%	75,000,000	47.75%	7.31%	3.49%
21									
22	Common Equity	72,744,646	49.24%	12.40%	6.11%	75,706,431	48.20%	9.53%	4.59%
23									
24	Totals	147,744,646	100.00%		9.81%	157,070,364	100.00%		8.37%
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**ARIZONA WATER COMPANY**



**Docket No. W-01445A-08-0440**

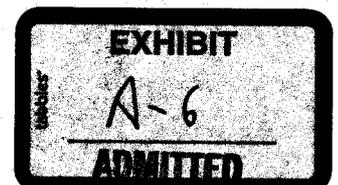
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**2008 RATE HEARING  
For Test Year Ending 12/31/07**

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**PREPARED  
REBUTTAL TESTIMONY & EXHIBITS  
OF  
Joseph D. Harris**

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1 **ARIZONA WATER COMPANY**

2  
3 **Rebuttal Testimony of**  
4 **Joseph D. Harris**

5  
6 **I. Introduction and Purpose of Testimony**

7 **Q. WHAT ARE YOUR NAME, EMPLOYER AND OCCUPATION?**

8 A. My name is Joseph D. Harris. I am employed by Arizona Water Company (the  
9 "Company") as Vice President and Treasurer.

10 **Q. ARE YOU THE SAME JOSEPH D. HARRIS THAT PREVIOUSLY PROVIDED**  
11 **DIRECT TESTIMONY IN THIS MATTER?**

12 A. Yes.

13 **Q. HAVE YOU REVIEWED THE DIRECT TESTIMONY FILED BY THE OTHER**  
14 **PARTIES TO THIS PROCEEDING?**

15 A. Yes, I have generally reviewed the testimony of each of the witnesses of the  
16 Commission's ("Commission") Utilities Division Staff ("Staff"), the Residential  
17 Utility Consumer Office ("RUCO"), and Abbott Laboratories, Inc. .

18 **Q. WHAT IS THE PURPOSE AND EXTENT OF YOUR TESTIMONY?**

19 A. The purpose of my rebuttal testimony is to respond to the direct testimony of  
20 Staff witness Katrin Stukov and reiterate the Company's recommendation that  
21 the Arsenic Cost Recovery Surcharge ("ACRM") and Monitoring Assistance  
22 Program ("MAP") surcharges be continued.

23 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

24 A. My testimony is presented in three sections including the introductory section I.  
25 In section II I present the Company's response to Staff witness Stukov  
26 specifically related to the economic barriers the Company faces in meeting  
27 Staff's water loss targets in certain of the Company's water systems. In section  
28 III I advocate the retention of the ACRM and MAP surcharge mechanisms.

1 Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR REBUTTAL  
2 TESTIMONY?

3 A. Yes, I am sponsoring JDH – RB1 which, based on Mr. Schneider's testimony,  
4 calculates the investment in replacement water mains and the revenue  
5 requirement necessary to meet Staff's targeted water loss.

6 **II. Lost and Unaccounted for Water**

7 Q. HAVE YOU REVIEWED THE LOST AND UNACCOUNTED FOR WATER  
8 SUMMARY FOR THE WATER SYSTEMS THAT STAFF LISTED AS BEING  
9 OVER 10 PERCENT AND STAFF'S RECOMMENDATION FOR THOSE  
10 SYSTEMS?

11 A. Yes, I have.

12 Q. CAN YOU EXPLAIN THE ECONOMIC BARRIERS THAT WOULD PROHIBIT  
13 THE COMPANY FROM REDUCING WATER LOSS TO 10% OR LESS BY THE  
14 END OF 2010?

15 A. Yes, as Mr. Schneider discusses in his rebuttal testimony (pages 15-21) while  
16 the Company maintains an aggressive leak detection program the long-term  
17 solution for many of these systems is the replacement of distribution mains. The  
18 quantity of mains that would need to be replaced varies by system, but the total  
19 cost to achieve Staff's targeted water loss would be nearly \$35,000,000 as  
20 detailed on page 1, line 62 of Exhibit JDH – RB1.

21 Q. HOW DOES THIS AMOUNT OF INVESTMENT COMPARE TO THE  
22 COMPANY'S TYPICAL CAPITAL BUDGET?

23 A. Because of its deteriorating earnings, soaring debt and interest expense the  
24 Company's 2009 capital budget was slashed to \$5,000,000. At this level of  
25 capital investment the Company would need seven years of devoting its entire  
26 capital budget to this problem in order to achieve the level of investment  
27 required. This is neither practical nor possible given the other ongoing capital  
28 investment needs of the Company.

1 **Q. WON'T NEW RATES RECOMMENDED BY THE COMPANY GENERATE**  
2 **ENOUGH EARNINGS TO ADDRESS THESE ISSUES?**

3 A. No. The rate setting process in Arizona is backward looking and makes no  
4 provision for future investment. Therefore, the current rate case would only  
5 provide earnings sufficient to support the level of investment the Company had in  
6 2007, nearly two years ago. In the current rate setting environment the Company  
7 would make its investment in replacement water mains of nearly \$35,000,000  
8 and wait nearly two years until recovery is granted in a new rate case at an  
9 earnings loss of nearly \$6,000,000 per year as shown on page 2, line 15 of  
10 Exhibit JDH-RB1. At best Staff's water loss requirement would be detrimental in  
11 the extreme to the Company's financial health; at its worst it is an unfunded  
12 mandate comparable to the arsenic mandates imposed by the Federal  
13 government.

14 **Q. IS ARIZONA UNIQUE IN FACING THE CHALLENGES OF INFRASTRUCTURE**  
15 **REPLACEMENT?**

16 A. No, in fact, in its study "The Clean Water and Drinking Water Infrastructure Gap  
17 Analysis", the Environmental Protection Agency ("EPA") highlights the aging  
18 infrastructure issue and estimates that nationwide between \$52 and \$249 billion  
19 will need to be spent on pipe replacement in the next 20 – 30 years<sup>1</sup>. Arizona,  
20 while a relatively new state, faces these same kinds of issues as age of pipe is  
21 just one factor in determining its useful life as Mr. Schneider explains in his  
22 rebuttal testimony.

23 **Q. HAVE OTHER STATES RECOGNIZED THIS PROBLEM AND DEVELOPED**  
24 **REGULATORY MECHANISMS TO AVERT THIS CRISIS?**

25 A. Yes, eight states; Pennsylvania, Delaware, Indiana, New York, Illinois, Missouri,  
26 Ohio and Connecticut have adopted a regulatory mechanism that allows utilities  
27

28 <sup>1</sup> See Environmental Protection Agency, "The Clean Water and Drinking Water Infrastructure Gap Analysis" pages 32 – 35,  
[www.epa.gov/ogwdw000/gapreport.pdf](http://www.epa.gov/ogwdw000/gapreport.pdf)

1 to recover the return on, and the return of, the capital costs needed to replace  
2 water infrastructure on a periodic basis without filing a full rate case. These  
3 mechanisms, typically called Distribution System Improvement Charge or "DSIC",  
4 allow these states to proactively deal with the problem of aging infrastructure.

5 **Q. HOW DOES THIS TYPE OF MECHANISM WORK?**

6 A. A utility submits an annual filing to its regulatory commission detailing the amount  
7 of qualified non-revenue producing infrastructure constructed along with the  
8 schedules that calculate depreciation expense and the amount of pre-tax return  
9 necessary to support this investment and showing the calculation of the  
10 infrastructure surcharge.

11 **Q. HAS ANY TYPE OF SURCHARGE LIKE THIS EVER BEEN APPROVED IN**  
12 **ARIZONA?**

13 A. Yes, the ACRM is a surcharge mechanism that is very much like the DSIC  
14 surcharge approved in other states. The ACRM was a joint effort between the  
15 Company, Staff and RUCO. It was developed during the course of the  
16 Company's Northern Group rate case, Docket W-01445A-00-0962 as a response  
17 to the staggering investment requirements, some \$34,000,000, of complying with  
18 the EPA's reduced maximum contaminant levels for arsenic. The Company  
19 believes the ACRM has worked well, and has balanced the utility's need to  
20 handle this unprecedented level of investment with the need to mitigate its impact  
21 on customers.

22 **Q. IF THE COMMISSION ADOPTS STAFF'S RECOMMENDATIONS IN**  
23 **REGARDS TO WATER LOSS SHOULD IT ALSO INCLUDE A FUNDING**  
24 **MECHANISM TO ADDRESS THESE ISSUES?**

25 A. Yes. Adoption of Staff's recommendations without providing a funding  
26 mechanism would not only cause serious harm to the Company's financial health  
27 but would also require an unfunded regulatory requirement comparable in scale  
28 and impact to the EPA's lowering of the maximum arsenic contaminant.

1 III. **ACRM and MAP Surcharges**

2 Q. ARE THERE ISSUES WHICH THE COMPANY RAISED IN ITS DIRECT  
3 TESTIMONY WHICH HAVE NOT BEEN ADDRESSED IN THE TESTIMONY OF  
4 THE OTHER PARTIES?

5 A. Yes, there are two issues the Company raised in its direct testimony which have  
6 not been addressed. They are: 1) continuation of the ACRM and 2) continuation  
7 of the MAP surcharge.

8 Q. **WHY IS IT IMPORTANT TO CONTINUE THE ACRM?**

9 A. As discussed in my direct testimony the Company has several arsenic treatment  
10 plants either under contract for construction or in the design phase. The  
11 estimated cost of these facilities is approximately \$5,000,000 and without the  
12 type of immediate relief allowed under the ACRM the Company's precarious  
13 financial condition will continue to deteriorate. Additionally, the Company has  
14 ACRM surcharges in place that were designed to allow it to recover over  
15 \$150,000 of previously deferred allowable O&M costs. It is likely that full  
16 recovery will not be possible before new rates are approved. For these reasons  
17 the Company recommends that the ACRM process be continued.

18 Q. **WHAT ABOUT THE MAP SURCHARGE?**

19 A. As outlined in Mr. Reiker's direct testimony urging the retention of the MAP  
20 surcharge, this approach brings transparency to the process by informing  
21 customers that participation in MAP testing is required by the Arizona  
22 Department of Environmental Quality. Additionally, the process allows cost  
23 reductions to be passed on to customers or for the MAP Surcharge to be  
24 eliminated entirely if population growth ends a system's requirement to  
25 participate in MAP.

26 Q. **DOES THAT CONCLUDE YOUR REBUTTAL TESTIMONY?**

27 A. Yes.  
28

Line No.	(A) PLANT IN SERVICE - MAINS (LF)	(B) Total	(C) Bibbs	(D) Pinewood	(E) Rimrock
1	Diameter (in inches)				
2	2	132,652.0	102,334.0	5,555.0	24,763.0
3	3	21,085.0	18,582.0	1,153.0	1,350.0
4	4	191,548.0	53,115.0	71,040.0	67,393.0
5	6	254,661.0	112,486.0	87,487.0	54,688.0
6	8	34,092.0	25,390.0	5,064.0	3,638.0
7	10	28,065.0	28,505.0	560.0	-
8	12	12,517.0	12,517.0	-	-
9	REPLACEMENT COST/LF (Based on Medium Installation Difficulty)				
10	Diameter (in inches)	Total	Bibbs	Pinewood	Rimrock
11	2	\$ 94.45	\$ 101.31	\$ 71.31	\$ 71.31
12	3	\$ 97.75	\$ 101.31	\$ 71.31	\$ 71.31
13	4	\$ 79.63	\$ 101.31	\$ 71.31	\$ 71.31
14	6	\$ 84.56	\$ 101.31	\$ 71.31	\$ 71.31
15	8	\$ 121.05	\$ 135.09	\$ 80.09	\$ 80.09
16	10	\$ 163.94	\$ 165.00	\$ 110.00	\$ 110.00
17	12	\$ 165.00	\$ 165.00	\$ 111.00	\$ 112.00
18	TOTAL REPLACEMENT COST (Based on Quantity of Mains and Replacement Cost/LF)				
19	Diameter (in inches)	Total	Bibbs	Pinewood	Rimrock
20	2	\$ 12,529,435	\$ 10,367,458	\$ 386,127	\$ 1,765,850
21	3	\$ 2,061,031	\$ 1,862,342	\$ 82,220	\$ 96,269
22	4	\$ 15,252,738	\$ 5,351,081	\$ 5,065,862	\$ 4,805,795
23	6	\$ 21,554,456	\$ 11,395,857	\$ 6,238,698	\$ 3,891,801
24	8	\$ 4,126,878	\$ 3,429,935	\$ 405,576	\$ 291,367
25	10	\$ 4,764,925	\$ 4,703,325	\$ 61,600	\$ -
26	12	\$ 2,065,305	\$ 2,065,305	\$ -	\$ -
27	PERCENTAGE REPLACEMENT NEEDED TO ACHIEVE TARGETED WATER LOSS				
28	Diameter (in inches)	Total	Bibbs	Pinewood	Rimrock
29	2	60%	60%	60%	35%
30	3	60%	60%	60%	35%
31	4	60%	60%	60%	35%
32	6	60%	60%	60%	35%
33	8	60%	60%	60%	35%
34	10	60%	60%	60%	0%
35	12	60%	60%	0%	0%
36	TOTAL INVESTMENT NEEDED				
37	(Based on Replacement Cost and Replacement Percentage)				
38	Diameter (in inches)	Total	Bibbs	Pinewood	Rimrock
39	2	\$ 7,076,199	\$ 6,220,475	\$ 237,676	\$ 618,048
40	3	\$ 1,212,551	\$ 1,129,525	\$ 49,332	\$ 35,694
41	4	\$ 7,950,194	\$ 3,228,649	\$ 3,039,517	\$ 1,682,028
42	6	\$ 11,945,723	\$ 6,837,574	\$ 3,743,219	\$ 1,364,930
43	8	\$ 2,403,285	\$ 2,057,961	\$ 249,346	\$ 101,978
44	10	\$ 2,858,955	\$ 2,821,995	\$ 36,960	\$ -
45	12	\$ 1,239,183	\$ 1,239,183	\$ -	\$ -
46	Total Investment				
47		\$ 34,686,030	\$ 23,535,362	\$ 7,350,050	\$ 3,800,678

Arizona Water Company  
Test Year Ended December 31, 2007  
Revenue Requirement on Main Replacements

Line No.		Total	Bilbree	Pinewood	Rimrock
1	Replacement Mains Plant in Service (pg 1, ln 60)	\$ 34,686,090	\$ 23,535,362	\$ 7,350,050	\$ 3,800,678
2	Accum Depreciation				
3	Replacement Mains Rate Base	\$ 34,686,090	\$ 23,535,362	\$ 7,350,050	\$ 3,800,678
4					
5	Required Rate of Return (Company Proposed)	9.81%	9.81%	9.81%	9.81%
6	Operating Income Deficiency	\$ 3,402,705	\$ 2,308,219	\$ 721,040	\$ 372,847
7					
8	Gross Conversion Factor	1.6286	1.6286	1.6286	1.6286
9					
10	Revenue Required on Replacement Mains	\$ 5,541,645	\$ 3,760,143	\$ 1,174,286	\$ 607,219
11					
12	Depreciation Expense	\$ 99,196	\$ 67,307	\$ 21,020	\$ 10,869
13					
14	Revenue Required for Main Replacements	\$ 5,640,841	\$ 3,827,450	\$ 1,195,306	\$ 618,088
15					
16					
17	Total Revenue at Company Proposed Rates Test Year Ended December 31, 2007	\$ 4,051,142	\$ 2,086,472	\$ 1,183,794	\$ 780,876
18	Schedule A-1 pg 2, ln 41, col J; pg 7, ln 41, col J; pg 8, ln 41, col B				
19					
20	Percentage Increase over Company Proposed Rates	139.2%	183.4%	101.0%	79.1%

*ARIZONA WATER COMPANY*



Docket No. W-01445A-08-0440

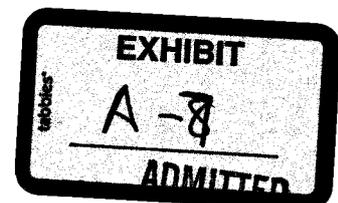
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**2008 RATE HEARING**  
For Test Year Ending 12/31/07

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PREPARED  
REJOINDER TESTIMONY  
OF  
Joseph D. Harris

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1 **ARIZONA WATER COMPANY**

2  
3 **Rejoinder Testimony of**

4 **Joseph D. Harris**

5  
6 **I. Introduction and Purpose of Testimony**

7 **Q. WHAT ARE YOUR NAME, EMPLOYER AND OCCUPATION?**

8 A. My name is Joseph D. Harris. I am employed by Arizona Water Company (the  
9 "Company") as Vice President and Treasurer.

10 **Q. ARE YOU THE SAME JOSEPH D. HARRIS THAT PREVIOUSLY PROVIDED**  
11 **DIRECT AND REBUTTAL TESTIMONY IN THIS MATTER?**

12 A. Yes.

13 **Q. HAVE YOU REVIEWED THE SURREBUTTAL TESTIMONY FILED BY THE**  
14 **OTHER PARTIES TO THIS PROCEEDING?**

15 A. Yes, I have reviewed the testimony of each of the witnesses of the Commission's  
16 ("Commission") Utilities Division Staff ("Staff") and the Residential Utility  
17 Consumer Office ("RUCO").

18 **Q. WHAT IS THE PURPOSE AND EXTENT OF YOUR TESTIMONY?**

19 A. The purpose of my rejoinder testimony is to respond to certain issues raised in  
20 the surrebuttal testimony of Staff witnesses Katrin Stukov and Alexander Igwe,  
21 as identified below.

22 **Q. HOW IS THE REMAINDER OF YOUR TESTIMONY ORGANIZED?**

23 A. Section II of this testimony addresses lost and unaccounted for water. Section III  
24 addresses Staff's recommendations concerning the continuation of the  
25 Company's arsenic cost recovery mechanism ("ACRM") in this proceeding.  
26  
27  
28

1 **II. Lost and Unaccounted for Water**

2 **Q. HAVE YOU REVIEWED STAFF'S SURREBUTTAL TESTIMONY**  
3 **CONCERNING WATER LOSS?**

4 A. Yes, I have.

5 **Q. DID STAFF RESPOND TO THE COMPANY'S LEGITIMATE CONCERN ABOUT**  
6 **FINANCING THE TYPE OF INFRASTRUCTURE REPLACEMENT THAT**  
7 **WOULD BE NECESSARY TO ACHIEVE STAFF'S TARGETED WATER**  
8 **LOSS?**

9 A. No. Mr. Schneider's rebuttal testimony (at pages 15-20), explained the causes  
10 of water loss for each of the Company's systems having water loss in excess of  
11 10%. Mr. Schneider further explained that with regard to most of those systems,  
12 extensive and very expensive infrastructure replacements would be necessary to  
13 achieve reductions in water loss. Staff has not responded to the economic impact  
14 such a program would impose on the Company and its customers.

15 **Q. DID STAFF OFFER ANY ALTERNATIVES TO FUNDING THIS TYPE OF**  
16 **INFRASTRUCTURE REPLACEMENT?**

17 A. No, it did not. As discussed in my rebuttal testimony, the need for infrastructure  
18 replacements to reduce system leaks and water loss is a serious investment and  
19 ratemaking issue that confronts the Company and this Commission as well as  
20 water utilities throughout the country. Staff's demands for reductions in lost and  
21 unaccounted for water without any consideration of the costs involved and the  
22 impacts of such a capital program is both unrealistic and unreasonable. Given  
23 Staff's failure to address how this program can be funded, the Company  
24 reiterates its request that if Staff's recommendations regarding water loss are to  
25 be adopted, the Commission should first authorize a Distribution System  
26 Improvement Charge funding mechanism (as outlined in my rebuttal testimony at  
27 pages 5-6) to provide a realistic and manageable means to accomplish that goal.  
28

1 **III. Continuation of the ACRM for All Systems**

2 **Q. HAVE YOU READ STAFF'S SURREBUTTAL TESTIMONY IN THIS CASE AS**  
3 **IT RELATES TO CONTINUATION OF THE ACRM?**

4 A. Yes.

5 **Q. DO YOU AGREE WITH STAFF'S RECOMMENDATION?**

6 A. Yes. Staff has agreed that it is appropriate to allow the recovery of deferred  
7 Operations and Maintenance ("O&M") costs relating to arsenic treatment, as  
8 authorized by the Commission in Decisions Nos. 70702, 70834 and 70962.  
9 Further, Staff has recommended that the Company be allowed to continue to  
10 recover those costs in accordance with the terms and conditions set forth in  
11 those decisions.

12 **Q. DO YOU AGREE WITH STAFF'S RECOMMENDATION ON CONTINUATION**  
13 **OF THE ACRM MECHANISM FOR NEW PLANTS?**

14 A. Substantially, yes. Staff is recommending that the Company be allowed to file  
15 applications for new ACRM surcharges for both its Sedona and its Superstition  
16 systems. The format of the filing, the nature of recoverable costs and the  
17 number of step increases would all be consistent with the requirements outlined  
18 in Decision No. 66400, which is in agreement with the Company's request.

19 However, the Company also requests that Staff's recommended  
20 restriction, which would allow new ACRMs to be filed only in Sedona and  
21 Superstition, should be removed. While new arsenic treatment plants are either  
22 under construction or being designed for the Sedona and Superstition systems,  
23 the Company is already planning new and expanded arsenic treatment facilities  
24 for its Casa Grande system. The amount of arsenic in a groundwater supply is  
25 not static and changes over time. Wells that currently do not require arsenic  
26 treatment may require it in the future. Removing the system-specific restriction  
27 suggested by Staff would allow the Company to file for new ACRMs in any  
28 system for which it must construct these federally mandated treatment facilities.

1 Q. DOES THAT CONCLUDE YOUR REJOINDER TESTIMONY?

2 A. Yes.

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**ARIZONA WATER COMPANY**



Docket No. W-01445A-08-0440

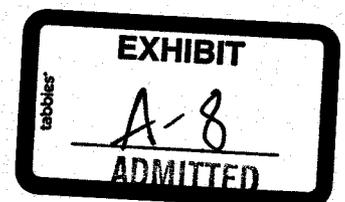
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**2008 RATE HEARING**  
**For Test Year Ending 12/31/07**

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**PREPARED**  
**RATE DESIGN AND COST OF SERVICE**  
**REJOINDER TESTIMONY**  
**OF**  
**Joseph D. Harris**

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**ARIZONA WATER COMPANY**

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**Rejoinder Testimony of  
Joseph D. Harris**

**I. Introduction and Purpose of Testimony**

**Q. PLEASE STATE YOUR NAME, EMPLOYER AND OCCUPATION?**

A. My name is Joseph D. Harris. I am employed by Arizona Water Company (the "Company") as Vice President and Treasurer.

**Q. ARE YOU THE SAME JOSEPH D. HARRIS THAT PREVIOUSLY PROVIDED DIRECT AND REBUTTAL TESTIMONY IN THIS MATTER?**

A. Yes.

**Q. HAVE YOU REVIEWED THE SURREBUTTAL TESTIMONY ON RATE DESIGN FILED BY THE OTHER PARTIES TO THIS PROCEEDING?**

A. Yes, I have reviewed the testimony of each of the witnesses of the Commission's ("Commission") Utilities Division ("Staff"), the Residential Utility Consumer Office ("RUCO") and Abbott Laboratories.

**Q. WHAT IS THE PURPOSE AND EXTENT OF YOUR TESTIMONY?**

A. The purpose of my rejoinder testimony is to respond to the surrebuttal testimony on Rate Design of RUCO witness Jodi Jerich.

**II. RUCO's Rate Design**

**Q. DOES THE COMPANY AGREE WITH RUCO'S PROPOSED RATE DESIGN OPTION "F", AS PRESENTED BY MS. JERICH?**

A. No. This is not to say that the Company doesn't support further consolidation of its water systems in the long-term. The Company discussed its long-term goal of rate consolidation in its response to Staff data request EA 9-4.

1 Q. WHAT ASPECTS OF RUCO'S PROPOSAL DOES THE COMPANY  
2 DISAGREE WITH?

3 A. RUCO's proposal lacks a clearly defined path to the full rate consolidation of  
4 certain or all of the Company's systems in subsequent rate proceedings. Ms.  
5 Jerich's testimony is unclear as to whether RUCO supports the eventual full rate  
6 consolidation of any of the Company's systems, but her testimony (p. 13, lines 6--  
7 8) that RUCO's proposal would require the Company to maintain separate  
8 accounting information for each system would indicate that RUCO does not  
9 support the type of true rate consolidation the Company proposed.  
10

11 Q. WHAT DO YOU MEAN BY "TRUE" RATE CONSOLIDATION?

12 A. The attachment to Ms. Jerich's surrebutal testimony, which is a 1999 study  
13 published by the U.S. Environmental Protection Agency (the "EPA Study"), at  
14 page 1, describes rate consolidation as follows: "Consolidated rates or single-  
15 tariff pricing is the use of a unified rate structure for multiple (or other) utility  
16 systems that are owned or operated by a single utility, but that may or may not  
17 be contiguous systems or physically interconnected." As I explained on pages  
18 12 (lines 25 - 26) and 13 (lines 1 - 3) of my direct testimony, the Company  
19 proposes to consolidate the accounting records and billing tariffs of those  
20 systems that are fully consolidated in this proceeding. For systems where the  
21 Company proposes partial, or phased consolidation, the accounting records  
22 would be consolidated, but all billing information would remain separate until the  
23 systems are fully consolidated in the next rate proceeding. This process was  
24 approved by the Commission in Decision No. 66849, dated March 19, 2004 for  
25 the Company's Apache Junction and Superior systems, and allows the Company  
26 and the Commission to realize the administrative benefits cited by Ms. Jerich on  
27  
28

1 pages 7 (lines 19 and 21) and 19 (lines 8 – 14) of her surrebuttal testimony.  
2 Absent such a process these benefits could not be realized.

3 Under RUCO's proposal, in contrast, each Company system would  
4 continue to have its own set of regulatory books and accounts, its own rate base,  
5 its own income statement, and its own particular rate design. This isn't "true"  
6 rate consolidation as described in the EPA study. And as a result, it will not  
7 achieve the benefits of rate consolidation discussed by Ms. Jerich on pages 7 to  
8 8 of her testimony. It will not simplify rate cases and other regulatory  
9 proceedings, nor will it lower administrative costs to either the Commission or the  
10 Company.

11  
12 **Q. DO YOU HAVE A RESPONSE TO THE CONCERNS RAISED BY RUCO ON**  
13 **PAGES 20 (LINES 21-25) AND 21 (LINES 1-15) OF MS. JERICHS**  
14 **TESTIMONY REGARDING THE CONSOLIDATION OF ACCOUNTING**  
15 **INFORMATION?**

16 **A.** Yes. Ms. Jerich claims that consolidating the books of individual systems could  
17 lead to the Company "over-building" a system which would unnecessarily inflate  
18 its rate base. While Ms. Jerich theorizes that this over-building could occur, the  
19 facts show otherwise. The Company already has four separate but consolidated  
20 water systems: Sedona/Valley Vista, Lakeside/Pinetop Lakes, Apache  
21 Junction/Superior and Casa Grande/Tierra Grande. These systems have been  
22 consolidated for a number of years, neither RUCO nor Staff has taken the  
23 position that the Company has engaged in over-building any of these systems  
24 and there is no evidence of any such over-building.  
25

26 The reality is that plant additions are subject to prudence reviews by both  
27 RUCO and Staff in the process of setting rates. In this case, for example, Staff  
28

1 engineering witness, Katrin Stukov, conducted site visits to every plant facility the  
2 Company owns, which is over 200 individual sites, as part of Staff's prudency  
3 review. Such reviews occurred regardless of whether the systems were  
4 consolidated for rate purposes or not.

5 **Q. MS. JERICH ALSO CLAIMS ON PAGES 21-22 OF HER TESTIMONY THAT IT**  
6 **IS NECESSARY TO RETAIN INDIVIDUAL SYSTEM COMMODITY CHARGES**  
7 **FOR EACH SYSTEM IN ORDER TO REFLECT DIFFERENT SYSTEM**  
8 **CHALLENGES. DO YOU AGREE?**

9  
10 A. No. The Company considered system challenges when it developed its  
11 consolidation groups that are proposed in this case. All of the Company's  
12 proposed consolidation groups share common source and water quality issues  
13 which naturally lead to consolidated rate designs that reflect these challenges.  
14 For example, scarce water supplies are a challenge for both Overgaard and  
15 Pinetop/Lakeside. Under the Company's proposal these two systems are  
16 combined with the resulting rate not only achieving rate consolidation but also  
17 reflecting their combined system challenges.

18  
19 **Q. IS MS. JERICH CORRECT THAT EACH SYSTEM MUST HAVE ITS OWN**  
20 **COMMODITY RATE TO "MAINTAIN THE INTEGRITY OF PRICE SIGNALS"?**

21 A. No. Consolidated rates can be designed to provide an appropriate price signal.  
22 The Company's approach has combined systems with similar challenges to  
23 create consolidated system rates that reflect those challenges and therefore  
24 maintain the appropriate price signal.

25 **Q. DOES THIS CONCLUDE YOUR REJOINDER TESTIMONY?**

26 A. Yes.  
27  
28

*ARIZONA WATER COMPANY*



Docket No. W-01445A-08-\_\_\_\_\_

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**2008 RATE HEARING**  
**For Test Year Ending 12/31/07**

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**PREPARED**  
**DIRECT TESTIMONY & EXHIBITS**  
**OF**  
**Fredrick K. Schneider**

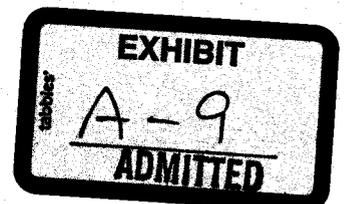


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1 **ARIZONA WATER COMPANY**  
2

3 Direct Testimony of

4 **Fredrick K. Schneider**  
5

6 **I. Introduction and Qualifications**

7 **Q. PLEASE STATE YOUR NAME, EMPLOYER AND OCCUPATION?**

8 A. My name is Fredrick K. Schneider. I am employed by Arizona Water Company  
9 (the "Company") as Vice President of Engineering. My business address is 3805  
10 N. Black Canyon Highway, Phoenix, Arizona 85015.

11 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.**

12 A. I graduated in 1990 with a Bachelor of Science degree in Hydrology from the  
13 College of Engineering and Mines at the University of Arizona, in Tucson,  
14 Arizona. Additionally, I have taken graduate level classes at the University of  
15 Phoenix.

16 **Q. PLEASE DESCRIBE YOUR WORK EXPERIENCE.**

17 A. In 1987, I began working for the United States Department of Agriculture  
18 performing chemical and granular gradation laboratory soils analysis. In 1988, I  
19 accepted a position with the City of Tucson as an Engineering Intern in their  
20 Engineering Department performing civil engineering site reviews and later  
21 transferred to the Water Department working on groundwater modeling,  
22 environmental remediation and groundwater contamination investigation until I  
23 graduated from the University of Arizona in 1990.

24 Upon obtaining my degree, I joined Boyle Engineering Corporation in  
25 Phoenix, Arizona as an Assistant Engineer and was later promoted to the  
26 position of Associate Engineer. Boyle Engineering provides consulting  
27 engineering services to the public and private sectors in the areas of water and  
28 wastewater. During this time, I was involved in a variety of consulting

1 assignments including system planning and design encompassing a full range of  
2 services from reconnaissance level investigations and feasibility studies through  
3 final design and construction phase services including water and wastewater  
4 master planning, groundwater supply development, surface water supply,  
5 storage reservoirs, treatment facilities, pipeline systems, wastewater collection,  
6 treatment, and disposal.

7 In 1995, I accepted a position with Wood, Patel and Associates in  
8 Phoenix, Arizona. During that time, my duties consisted of engineering design  
9 and project management for various water and wastewater pipeline feasibility  
10 analyses, evaluation of alternatives, cost estimating, detailed hydraulic analysis  
11 and master planning new developments ranging in size from several hundred to  
12 several thousand acres.

13 In 1998, I joined Citizens Water Resources as a Senior Development  
14 Engineer. I was later promoted to the position of Development Services  
15 Supervisor where I negotiated development agreements, reviewed water and  
16 wastewater master plans and facility infrastructure plans and was responsible for  
17 the inspection and approval of the related constructed facilities for projects within  
18 the metro Phoenix area. I became an employee of Arizona American Water  
19 Company ("Arizona-American") when its parent, American Water Company  
20 purchased the water and wastewater assets of Citizens on January 15, 2001 and  
21 was subsequently promoted to the position of Development Services Manager,  
22 responsible for the same duties described above, statewide. In 2003, I moved  
23 from engineering to operations when I was promoted to the position of Manager  
24 of Arizona-American, responsible for the operations of all of Arizona-American's  
25 Arizona water and wastewater treatment facilities, distribution and collection  
26 facilities, and customer service. In May 2004, I was promoted to the position of  
27 Director of Engineering for American Water Company's Western Region where  
28 my responsibilities included overseeing all capital planning and engineering

1 activities for American Water Company's operations in Arizona, California,  
2 Hawaii, New Mexico and Texas.

3 In October 2005, I accepted a position as an Associate of Brown and  
4 Caldwell managing the Phoenix Infrastructure Department including the design,  
5 project management and construction administration of water and wastewater  
6 infrastructure within the metropolitan Phoenix area.

7 In August 2007, I joined the Company as Vice President of Engineering.  
8 My responsibilities now include capital planning, design and construction  
9 management of all of the Company's engineering projects.

10 **Q. ARE YOU A MEMBER OF ANY PROFESSIONAL ORGANIZATIONS?**

11 A. Yes. I am a member of the American Water Works Association, Water  
12 Environment Federation and the Arizona Water and Pollution Control  
13 Association.

14 **Q. ARE YOU A REGISTERED PROFESSIONAL ENGINEER?**

15 A. Yes, I have been a registered professional engineer in the State of Arizona since  
16 1995. In addition, I am an Arizona Department of Environmental Quality certified  
17 water and wastewater operator.

18 **Q. HAVE YOU TESTIFIED PREVIOUSLY BEFORE THE ARIZONA**  
19 **CORPORATION COMMISSION?**

20 A. Yes. I have previously testified in rate proceedings and Certificate of  
21 Convenience and Necessity hearings before the Arizona Corporation  
22 Commission (the "Commission"). In addition, I have testified in California before  
23 the California Public Utilities Commission and presented prepared written  
24 testimony in Hawaii and New Mexico.

25 **II. Purpose and Extent of Testimony**

26 **Q. WHAT IS THE PURPOSE AND EXTENT OF YOUR TESTIMONY?**

27 A. My testimony discusses the Company's planning and budgeting process for the  
28 construction of plant additions and improvements. For ratemaking purposes, the

1 Company's water systems are divided into three groups. I will discuss relevant  
2 plant additions and improvements for the three groups as follows: 1) Northern  
3 Group 2000-2007, 2) Eastern Group 2002-2007, and 3) Western Group 2004-  
4 2007.

5 **III. Description of Company-Funded Construction Budgeting Procedures**

6 **Q. WHAT PROCEDURE DOES THE COMPANY UTILIZE TO IDENTIFY A**  
7 **COMPANY-FUNDED CONSTRUCTION PROJECT?**

8 A. Each year the Company prepares a detailed construction budget for each of its  
9 18 water systems for the upcoming year. The budgeting process starts with each  
10 Division Manager who prepares a proposed construction budget for the water  
11 systems they manage. In the proposed construction budget, each Division  
12 Manager emphasizes improving or maintaining the infrastructure needed to serve  
13 existing customers based on the Division Manager's experience and personal  
14 knowledge of the water system. For example, a Division Manager may  
15 recommend construction of a storage tank, replacement or upsizing of a booster  
16 pump station, a new well, the replacement of a water main or the installation of a  
17 new transmission line, as may be needed, in his judgment, to ensure safe and  
18 reliable service.

19 Several days are set aside each year when the Division Managers and the  
20 Company's Engineering and Operations departments and senior management  
21 meet at the Division office to review and discuss each proposed construction  
22 project. A field visit is conducted to review and discuss the larger construction  
23 projects. The projects proposed are prioritized and upon completion of this  
24 process, a final construction budget is prepared and presented to the Company's  
25 Board of Directors for review and approval.

26 **Q. WHO DETERMINES HOW MUCH MONEY WILL BE SPENT ON COMPANY-**  
27 **FUNDED PROJECTS?**

1 A. The Company's Board of Directors establishes the dollar amount of the annual  
2 construction budget. This amount usually increases each year to reflect the  
3 increasing costs of construction due to increases in the costs of materials and  
4 labor, as well as general inflation and additional regulatory requirements.

5 **Q. DOES THE COMPANY FUND ALL INFRASTRUCTURE NEEDED TO SERVE**  
6 **NEW DEVELOPMENTS?**

7 A. No, the Company does not. The Company's annual capital budget is strictly for  
8 projects which are funded by the Company. Developers' infrastructure  
9 requirements are funded by them as their projects proceed.

10 **Q. SO, DEVELOPER ADVANCED FUNDS OR INFRASTRUCTURE FACILITIES**  
11 **ARE NOT INCLUDED IN THE COMPANY'S ANNUAL CAPITAL BUDGET?**

12 A. That is correct.

13 **Q. HOW ARE THOSE INFRASTRUCTURE REQUIREMENTS DETERMINED AND**  
14 **BUDGETED?**

15 A. The Company works with the developers to determine the water infrastructure  
16 required to serve their developments. The infrastructure includes waterlines,  
17 hydrants, services and meters. However, for larger developments, the  
18 infrastructure required may also include storage tanks, booster pump stations,  
19 wells and the treatment of those wells. These infrastructure requirements are  
20 included in main extension agreements between the Company and developer.  
21 The developers fund these infrastructure requirements and the timing is entirely  
22 dependent on their development schedule. Since the Company does not fund  
23 these infrastructure requirements, it does not include their expenditures within its  
24 annual capital budget.

25 **Q. SO, THERE IS A BALANCE OF THE COMPANY'S NEED TO CONSTRUCT**  
26 **INFRASTRUCTURE VERSUS THAT FUNDED BY NEW DEVELOPMENT.**

27 A. That is correct.

28

1 Q. WHAT IS THE BREAKDOWN OF COMPANY-FUNDED INFRASTRUCTURE  
2 VERSUS DEVELOPER FUNDED PLANT ADDED SINCE THE LAST RATE  
3 CASES' TEST YEARS?

4 A. The breakdown of Company versus developer funded construction follows the  
5 growth characteristics of each group. In both the Northern and Eastern Groups,  
6 which are more mature, slower growing areas, developers funded 24% of the  
7 capital expenditures with the remainder being funded by the Company. In the  
8 rapidly growing Western Group, developers funded 58% of capital expenditures.

9 Q. WHAT BENEFITS ARE ACHIEVED BY BALANCING THE COMPANY-FUNDED  
10 INFRASTRUCTURE WITH DEVELOPER FUNDED INFRASTRUCTURE?

11 A. The primary benefit which is also the Company's goal, is to maintain stable  
12 growth of rate base by budgeting for steady increases in utility plant additions  
13 each year to meet customer demands, and to assure that the Company  
14 maintains safe and reliable water systems.

15 Q. WHAT IMPACT HAS ARSENIC TREATMENT AND REMOVAL HAD ON THE  
16 COMPANY'S CONSTRUCTION BUDGET?

17 A. The Company has funded and constructed approximately \$27 million in arsenic  
18 treatment facilities. Because these were significant capital investments, the  
19 Company postponed other needed utility plant investments in all of its systems.  
20 Even though the majority of arsenic treatment plant construction is complete, the  
21 Company is confronted with the need for higher than typical capital expenditures  
22 over the next three to five years as we catch up on previously postponed but  
23 much needed utility plant additions. Mr. Garfield discusses the financial burdens  
24 and risks of these rising Company-funded capital budgets in his direct testimony.

25 Q. YOU MENTIONED "NEEDED" PROJECTS BEING DELAYED. DID ANY OF  
26 THESE DELAYS LEAD TO INADEQUATE SERVICE OR EXPOSE CUSTOMERS  
27 TO HARM?

28

1 A. Absolutely not. The needed projects which were postponed, were those projects  
2 which the Company budgets for annually to replace older undersized waterlines,  
3 loop dead ends and waterline extensions to add system reliability, or alleviate  
4 areas of low pressure. At no time did any of these postponed projects result in  
5 the Company not meeting the service requirements set by the Arizona  
6 Department of Environmental Quality ("ADEQ") or the Commission.

7 **Q. DOES THE COMPANY ANTICIPATE CONSTRUCTION OF ADDITIONAL**  
8 **ARSENIC TREATMENT FACILITIES?**

9 A. Yes. The Company is in compliance with the regulatory requirements for arsenic  
10 in the water we serve to our customers. However, due to increased customer  
11 growth and system demands experienced since the original arsenic treatment  
12 plants were built, we currently have three arsenic treatment plants under design  
13 for expansion. Two of these plants are in the Superstition system located at the  
14 Company's Baseline and Oasis plant sites, as discussed in Mr. Harris' direct  
15 testimony. The third plant is in the Sedona system and is located at the  
16 Company's Valley Vista site. A fourth plant is in the Sedona system for a well  
17 that will also require arsenic treatment. Preliminary design for the fourth plant has  
18 been completed; however, additional adjacent land acquisitions are required  
19 before the design can be finalized. These acquisitions are anticipated to be  
20 completed by late September of 2008. These four arsenic projects represent  
21 significant capital investments. Discussions on the recovery of these investments  
22 and related O&M costs are included in Mr. Harris' direct testimony.

23 **Q. HOW IS THE COMPANY'S CONSTRUCTION BUDGET IMPLEMENTED?**

24 A. Following Board approval of the Company's construction budget, the Company's  
25 Engineering Department prepares detailed construction plans for the planned  
26 additions to utility plant and obtains the required regulatory approvals. Once the  
27 required approvals have been obtained, the Engineering Department releases  
28 the project for construction. Major water infrastructure, such as booster pump

1 stations, storage tanks, and new wells, are competitively bid by the Company's  
2 Engineering Department. All other factors being equal, these projects are  
3 awarded to the qualified contractor with the lowest bid.

4 For pipeline projects, the Division Managers solicit competitive bids from  
5 independent contractors. Pipeline projects are awarded to the qualified  
6 contractors submitting the lowest bids.

7 All Company-funded projects are inspected by Company inspectors during  
8 the course of construction to ensure compliance with Company plans,  
9 specifications and governmental approval requirements.

10 **IV. Description of Company-Funded Capital Improvements For The Northern**  
11 **Group**

12 **Q. PLEASE SUMMARIZE THE COMPANY- FUNDED CAPITAL IMPROVEMENTS**  
13 **FOR THE NORTHERN GROUP FROM 2000 TO TEST YEAR 2007.**

14 **A.** From 2000 through test year 2007, the Company annually funded construction  
15 projects for each of the Northern Group systems (Lakeside, Overgaard, Sedona,  
16 Pinewood, and Rimrock) in order to maintain infrastructure, resolve operational  
17 problems, comply with regulatory requirements, and make necessary utility plant  
18 improvements to assure safe and reliable water service for its customers.

19 The cost of the utility plant additions for the five water systems in the  
20 Northern Group generally increased at a uniform rate, with the exception of those  
21 years when high-cost projects such as new production wells, reservoirs, arsenic  
22 treatment facilities or larger pipeline projects were necessary.

23

<b>ARIZONA WATER COMPANY</b>				
<b>Northern Group</b>				
<b>Company-Funded Utility Plant Added From 2000 to 2007</b>				
<b>Lakeside</b>	<b>Overgaard</b>	<b>Sedona</b>	<b>Pinewood</b>	<b>Rimrock</b>
\$4,817,467	\$2,572,060	\$15,653,058	\$815,212	\$1,959,036

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27 The following table summarizes the linear feet of water pipelines added to  
28 each system since the last rate case.

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Linear Feet Of Water Pipelines Added From 2000 to 2007					
	Lakeside	Overgaard	Sedona	Pinewood	Rimrock
6 inch	10,300	17,100	14,300	50	3,200
8 inch	11,700	4,300	5,800	1,800	2,500
12 inch	3,300	0	3,100	0	0
16 inch	0	0	3,400	0	0

Over the last eight years, four of the five Northern Group systems experienced customer growth ranging from 15% to 32%, (15% in Sedona, 21% in Lakeside and Rimrock, and 32% in Overgaard). In response to the increasing water demand brought about by the increase in customers, the Company has constructed new wells, replaced small aging pipelines, constructed new reservoirs and expanded pump stations.

**Lakeside:**

In Lakeside, the Company expenditures on utility plant additions were fairly consistent each year, except for 2001 when a new well was completed to replace an aging, low-capacity shallow well. To utilize the full production capacity of the new well, additional transmission lines were also constructed. The Company continues to replace older, undersized distribution pipelines, and to loop pipelines in order to increase system pressures, distribution system capacity, and overall system reliability. Many of the old pipelines in this system are located in alleys and residential backyards. To facilitate construction and improve access and future maintenance, these old pipelines are being relocated to existing rights-of-way in front of the residences.

**Overgaard:**

Increased water demand and customer growth in Overgaard resulted in the need to construct a new storage tank in 2000, a second tank in 2007 and the drilling of a new production well and related transmission pipelines in 2001. With the addition of the production well, water storage tank and water main tie-ins, peak demands have been met while maintaining adequate water storage levels. With

1 the exception of these specific additions to utility plant and sources of supply,  
2 capital expenditures have been fairly consistent each year. The Company  
3 continues to replace older, undersized distribution pipelines and complete the  
4 looping of pipelines and water main tie-ins to increase system pressures and  
5 improve system reliability.

6 **Sedona:**

7 In Sedona, a significant amount of water infrastructure has been added to: 1)  
8 meet the growing water demand by constructing new wells and water storage  
9 tanks; 2) provide arsenic treatment to comply with the new EPA arsenic  
10 standard; and 3) replace complex pipeline infrastructure related to the Arizona  
11 Department of Transportation ("ADOT") Highway 179 project. The Company re-  
12 equipped two wells in 2000; added new wells in 2005 and 2007 with related  
13 transmission and pumping equipment; constructed arsenic treatment equipment  
14 between the years of 2003 and 2005. In 2007, the Company constructed a new  
15 water storage tank, and the pipeline relocation of the phase 1 portion of the  
16 ADOT Highway 179 roadway project. Pipeline relocation for the phase 2 portion  
17 of the ADOT Highway 179 roadway project has been funded by the Company  
18 with construction directed and managed by ADOT and the Company's staff  
19 provided construction inspection.

20 **Pinewood:**

21 Company expenditures on utility plant additions in Pinewood remained fairly  
22 constant while adding needed well capacity with the equipping of a well in 2000  
23 and adding new pipelines to increase water system reliability and service integrity  
24 in addition to replacing older, undersized pipelines.

25 **Rimrock:**

26 Utility plant additions in Rimrock remained fairly constant with the exception of  
27 the construction of a new well in 2003 to meet the increasing demands,  
28 construction of federally-mandated arsenic treatment facilities between 2004 and

1 2006 and construction of new pipelines and water main tie-ins to improve system  
2 reliability and service integrity in addition to replacing some older undersized  
3 pipelines.

4 **V. Description of Company-Funded Utility Plant Additions For The Eastern**  
5 **Group**

6 **Q. PLEASE SUMMARIZE THE COMPANY-FUNDED UTILITY PLANT ADDITIONS**  
7 **FOR THE EASTERN GROUP FROM 2002 TO TEST YEAR 2007.**

8 A. From 2002 through test year 2007, the Company annually funded construction  
9 projects for each of the Eastern Group systems (Superstition, Bisbee, Sierra  
10 Vista, Miami, San Manuel, Oracle, and Winkelman) in order to maintain  
11 infrastructure, resolve operational problems, comply with regulatory  
12 requirements, and make necessary utility plant improvements to assure safe and  
13 reliable water service for its customers.

<b>ARIZONA WATER COMPANY</b>						
<b>Eastern Group</b>						
<b>Company-Funded Utility Plant Made From 2002 to 2007</b>						
<b>Superstition</b>	<b>Bisbee</b>	<b>Sierra Vista</b>	<b>Miami</b>	<b>San Manuel</b>	<b>Oracle</b>	<b>Winkelman</b>
\$27,909,094	\$3,045,233	\$1,002,118	\$5,756,679	\$2,520,103	\$829,006	\$160,823

14  
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18 The cost of the utility plant additions for the seven water systems in the  
19 Eastern Group generally increased at a uniform rate, with the exception of those  
20 years when high-cost projects such as new production wells, reservoirs, arsenic  
21 treatment or larger pipeline projects were necessary.

22 The following table summarizes the linear feet of water pipelines added for  
23 each system since the last rate case.

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Linear Feet Of Water Pipelines Added From 2000 to 2007							
	Superstition	Bisbee	Sierra Vista	Miami	San Manuel	Oracle	Winkelman
6-inch	14,200	2,500	500	4,800	0	1,200	20
8-inch	6,500	6,200	200	1,300	0	0	0
12-inch	6,800	400	0	14,200	0	2,900	0
14-inch	0	0	0	100	0	0	0
16-inch	4,000	0	20	0	0	0	0
24-inch	5,900	0	0	0	0	0	0
36-inch	26,400	0	0	0	0	0	0

As a result of the two-step consolidation approved in Decision No. 66849 (March 19, 2004), the Company has combined the Company-funded capital budget process for the Superstition system (consolidated Apache Junction and Superior systems).

**Superstition:**

Over the last six years, the number of customers in the Superstition system (primarily from Apache Junction area) has continued to increase. Since the last rate case, the number of new connections increased by 16%, or nearly 3000 new connections. In response to the continued increasing water demands brought about by the increase in customers, the Company constructed two new wells in 2007. The largest and most significant water system plant additions were three arsenic treatment facilities and related infrastructure and plant additions. Additionally, a new water storage tank was added at the Baseline Arsenic Treatment Facility.

**Bisbee:**

In Bisbee, Company-funded capital budgets focused on the continued replacement of aging distribution infrastructure and undersized pipelines as part of the Company's pipeline replacement program or made necessary by the City's roadway or sewer line improvement projects. The priority pipeline replacements became necessary because of main breaks and leaks; and those replacements completed in conjunction with the City's improvement projects. No additional

1 sources of supply or storage tanks were added to the Bisbee system during the  
2 relevant time frame.

3 **Sierra Vista:**

4 Continued customer growth and increased water demand in Sierra Vista resulted  
5 in the need to construct additional pipelines for looping, water main tie-ins and  
6 parallel mains to improve water system pressures, reliability and service. By  
7 adding these pipeline improvements, the Company was able to make better use  
8 of its available water supply facilities and water storage, avoiding the need to add  
9 additional wells or storage tanks. The Company also continues to replace aging  
10 plastic service lines. I expect that the replacement of these service lines will be  
11 completed in 2009.

12 **Miami:**

13 In Miami, the addition of two new production wells in 2004 has significantly  
14 increased the adequacy, reliability and availability of the source of supply needed  
15 to meet customer water demands. These two wells added a combined 600  
16 gallons per minute of water supply capacity to the Miami system. The addition of  
17 these two wells required a significant length of transmission line to move water  
18 from the new wells to the Miami system. Additionally, new mains were added to  
19 the water system to effectively move water from the new supply tie-in location to  
20 areas of greater demand and as part of the ADOT State Highway 88  
21 improvement project. The Company also re-built a critical but aging booster  
22 pump station.

23 **San Manuel:**

24 Company expenditures on utility plant additions in the San Manuel system  
25 remained consistent over the past six years with the exception of the construction  
26 of an arsenic treatment facility in 2007.  
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**Oracle:**

In Oracle, the Company expenditures on utility plant additions remained consistent over the past six years with the exception of a parallel pipeline along Highway 77 completed in 2002. This pipeline was constructed to provide redundancy, improve reliability, and supplement the single transmission pipeline which brings water from a remote water supply area to the community.

**Winkelman:**

In Winkelman, Company-funded capital budgets remained consistent focusing on the replacement of aging equipment and water mains. Over the past six years, the customer base has declined slightly in the Winkelman system.

**VI. Description of Company-Funded Utility Plant Additions For The Western Group**

**Q. PLEASE SUMMARIZE THE COMPANY-FUNDED UTILITY PLANT ADDITIONS FOR THE WESTERN GROUP FROM 2004 TO TEST YEAR 2007.**

A. From 2004 through test year 2007, the Company annually funded construction projects for each of the Western Group systems (Casa Grande, Coolidge, Stanfield, White Tank, and Ajo) in order to maintain infrastructure, resolve operational problems, comply with federally-mandated water treatment requirements, and make necessary utility plant improvements to assure safe and reliable water service for its customers.

ARIZONA WATER COMPANY Western Group Company-Funded Utility Plant Made From 2004 to 2007				
Casa Grande	Coolidge	Stanfield	White Tank	Ajo
\$25,854,296	\$4,206,111	\$544,533	\$3,086,228	\$403,957

The cost of the utility plant additions for the five water systems in the Western Group generally increased at a uniform rate, with the exception of those

1 years when larger capital projects such as new production wells, reservoirs,  
2 arsenic treatment facilities or larger pipeline projects were necessary.

3 The following table summarizes the linear feet of water pipelines added for  
4 each system since the last rate case.

5

<b>Linear Feet Of Water Pipelines Added From 2000 to 2007</b>					
	<b>Casa Grande</b>	<b>Coolidge</b>	<b>Stanfield</b>	<b>White Tank</b>	<b>Ajo</b>
6 6-inch	500	6,000	200	0	1,700
7 8-inch	1,300	40	0	4,000	500
8 12-inch	2,500	15,900	0	2,600	0
9 16-inch	20,100	0	0	0	0
10 24-inch	2,600	0	0	0	0

11 **Casa Grande:**

12 The Casa Grande system experienced significant customer growth, totaling 64%  
13 or nearly 10,000 new connections over the past four years. In response to the  
14 increasing water demand brought about by the increase in customers, the  
15 Company constructed two new wells; one in 2006 and one in 2007. A new  
16 storage reservoir was constructed in 2007. Two new wells were also funded by a  
17 developer during this time period. Yet, the largest and most significant additions  
18 to the water system were five arsenic treatment facilities and related  
19 infrastructure.

20 To convey water within the system to meet increased customer demand,  
21 resolve operational concerns, and improve system pressure and reliability, the  
22 Company added significantly to its pipeline infrastructure. The addition of these  
23 pipelines allowed the Company to better utilize existing water storage and  
24 production and to postpone major system water storage additions to future years.  
25 Additionally, to meet the increased demand in both the Casa Grande and  
26 Coolidge systems, a pipeline was constructed in 2007 interconnecting these two  
27 growing systems. A detailed discussion of this project is included in Section VIII  
28 herein. To meet the continued growth and demand for new sources of supply, a

1 new surface water treatment facility is planned to treat CAP water and surface  
2 water from other sources to provide an additional source of supply and a  
3 renewable water resource to the system. A detailed discussion on the proposed  
4 surface water treatment facility is included in Section IX herein.

5 **Coolidge:**

6 The Coolidge system also experienced significant growth with a 73% increase in  
7 new connections over the last four years. With the resulting increase in system  
8 demands, the Company added two new wells in 2007, rehabilitated one well and  
9 in 2008 added nitrate treatment to another well which had increasing nitrate  
10 levels. The nitrate treatment plant uses an ion exchange process utilizing a  
11 proprietary resin to reduce the level of nitrate in two wells. The design of the plant  
12 allows for treatment of a portion of the well water. The treated water is then  
13 blended with other water to produce water that complies with the MCL of 10 ppm.

14 The Company added significantly to its pipeline infrastructure to tie-in  
15 water mains for system reliability and to improve system pressure. Additionally,  
16 to meet the increased demand and improve reliability in both the Coolidge and  
17 Casa Grande systems, a pipeline was constructed in 2007 interconnecting the  
18 two systems. Also, a new surface water treatment facility is planned to treat CAP  
19 water and surface water from other sources to provide an additional source of  
20 supply and a renewable water resource to the system.

21 **Stanfield:**

22 In Stanfield, Company-funded capital budgets remained consistent while the  
23 Company added a new combined arsenic and nitrate treatment facility in 2008.  
24 Due to rising nitrates levels in the primary well, a combined arsenic/nitrate resin  
25 was selected. A cost comparison was conducted on treatment to remove arsenic  
26 and nitrate and the Company determined that a combined treatment facility was  
27 more cost effective than two stand-alone treatment facilities. The Company's  
28

1 other well was piped to the centralized treatment facility to allow for combined  
2 treatment of water from both wells.

3 The combined arsenic and nitrate treatment plant uses an ion exchange  
4 process utilizing a proprietary blended resin to reduce the level of arsenic and  
5 nitrate in any operational combination of the two wells. The construction of the  
6 combined treatment plant allows for the two wells to be utilized to meet the  
7 system peak demands. Having a combined system also allows for the continued  
8 treatment of either well during a pump or motor failure.

9 **White Tank:**

10 The White Tank system experienced a 39% increase in connections over a four-  
11 year period. To meet this increased demand and to enhance the ability to move  
12 water more efficiently within this system, critical pipelines were added and water  
13 main tie-ins were completed.

14 In 2007, a nitrate treatment plant was constructed which uses an ion  
15 exchange process utilizing a proprietary resin to reduce the level of nitrate in the  
16 contaminated well. In this specific case, the treatment plant capacity,  
17 construction and operation costs were minimized by designing the plant capacity  
18 to reduce the nitrate levels in the well water, which is then blended with water at  
19 the Company's new arsenic treatment facility to help further reduce both the  
20 nitrate and arsenic levels to comply with MCLs. The plant costs were significantly  
21 less than the cost of drilling a new well, which itself would have been vulnerable  
22 to contamination due to high regional nitrate levels.

23 In 2008, a new arsenic treatment facility was completed which allows the  
24 Company to treat water from three of the Company's wells to comply with the  
25 arsenic MCL.

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Ajo:

In Ajo, capital expenditures remained consistent. The Company completed two important water main tie-ins to increase service and system reliability. These tie-ins were completed in 2004 and 2007.

**VII. Apache Junction, Superior System Consolidation - Superstition Pipeline and System Interconnection**

**Q. WHAT IS THE STATUS OF THE PIPELINE TO INTERCONNECT THE APACHE JUNCTION AND SUPERIOR SYSTEMS?**

A. The Company continues to move forward with the final interconnection of the Apache Junction and Superior water systems, and has been working diligently to obtain State Land permits and private easements while working with the surrounding developers. Essentially, the project was divided into three sections to ensure that the State Land permits and private easements were contiguous.

The first segment was completed in 2005. The second segment is approximately 2.5 miles in length. The Company worked closely with the developer of the adjacent Ranch 160 development to obtain the required State Land Lease from the Arizona State Land Department ("ASLD"). The lease for this segment was recently acquired. The third and final segment is approximately 3.5 miles in length. Currently, we are working with the ASLD to obtain the required permits for this final segment. The application, survey and legal description have been completed and submitted to ASLD. The Company has contracted with SWCA Environmental Consultants, Inc. to complete the site assessment required by ASLD. The property appraisal is being completed by the ASLD. Construction will begin approximately twelve months after obtaining the ASLD Lease for the final segment. ASLD typically takes 12 to 18 months to issue a lease.

**VIII. Casa Grande, Coolidge, Stanfield, Pinal Valley System Interconnections - Pinal Valley Pipeline and System Interconnection**

1 Q. PLEASE EXPLAIN THE COMPANY'S INTERCONNECTION OF THE CASA  
2 GRANDE, STANFIELD, AND COOLIDGE SYSTEMS.

3 A. Interconnection of the Casa Grande and Coolidge systems was completed in  
4 2007. This interconnection allows the two systems to maximize the beneficial use  
5 of water storage and water production achieved by sharing source of supply and  
6 system storage. The interconnection was completed in two segments. The first  
7 segment was part of the Martin Valley subdivision, was developer-funded, and  
8 construction comprised of approximately 19,000 feet of 12 and 16-inch diameter  
9 water mains. The remaining 23,500 feet of 16-inch diameter water main was  
10 funded and constructed by the Company. The water main alignment and sizing  
11 was completed in accordance with the Company's Pinal Valley Master Plan for  
12 the Company's Pinal Valley Water System Planning Area attached as Exhibit  
13 FKS-1. With the Company's pending CCN applications which comprise a  
14 significant area between the Casa Grande and Stanfield systems, an  
15 interconnection of these two systems is a logical next step. Currently, the two  
16 CCNs are approximately one mile apart. With the approval of the pending CCN  
17 application, the CCNs will be contiguous (See Docket No. W-01445A-06-0199).  
18 In accordance with the Company's Pinal Valley System Master Plan, (See Exhibit  
19 FKS-1), the Company plans to interconnect these systems as the areas develop.

20 IX. Design and Construction of a Pinal Valley Service Area Surface Water  
21 Treatment Plant

22 Q. WHAT IS THE PINAL VALLEY SERVICE AREA SURFACE WATER  
23 TREATMENT PLANT?

24 A. The Pinal Valley Service Area Surface Water Treatment Plant was discussed in  
25 the Company's last Western Group rate case, decided in 2005, using a 2003 test  
26 year. Essentially, it is a surface water treatment plant being planned and  
27 designed to provide a renewable water source of supply to the Company's Pinal  
28 Valley service area. The Casa Grande and Coolidge systems have a combined

1 annual CAP allocation of 10,884 acre-feet, or 10 million gallons of water per day.  
2 In addition, the Company is working with the San Carlos Irrigation and Drainage  
3 District ("SCIDD") to enable the Company to use surface water supplies available  
4 from SCIDD as SCIDD's area converts from agricultural uses to municipal and  
5 industrial uses. Additional CAP water allocations may also become available in  
6 the future.

7 **Q. WHAT ARE THE COMPANY'S PLANS FOR DESIGN AND CONSTRUCTION**  
8 **OF A SURFACE WATER TREATMENT PLANT?**

9 A. In 2001, the Company started planning a surface water treatment plant to treat  
10 CAP water (the "Proposed Treatment Plant") in central Pinal County. We  
11 identified the preferred location for the Proposed Treatment Plant and purchased  
12 approximately 68 acres of land southeast of Coolidge, in close proximity to the  
13 CAP canal. The Company has submitted its application to the ASLD for right-of-  
14 way access to cross state land from the CAP canal to the Proposed Treatment  
15 Plant site. This right-of-way will be necessary for construction of parallel 36-inch  
16 diameter pipelines, which will be used to deliver water from the CAP canal to the  
17 Proposed Treatment Plant. Based on ASLD requirements, a new alignment was  
18 selected 50 feet north of the previous alignment and a new site assessment is  
19 being completed by SWCA Environmental Consultants, Inc.

20 **Q. DOES THE COMPANY CONSIDER THE PROPOSED TREATMENT PLANT**  
21 **TO BE A REGIONAL PLANT?**

22 A. Yes. The Company considers it to be a regional plant because it will be treating  
23 the Company's CAP allocations for use within all systems in the Company's Pinal  
24 Valley Service Area.

25 **Q. WHEN DOES THE COMPANY EXPECT TO COMMENCE ACTUAL**  
26 **CONSTRUCTION OF THE PIPELINE AND PROPOSED TREATMENT PLANT?**

27 A. The project continues to move forward toward construction. The Company is in  
28 the process of acquiring the ASLD permit for the raw water pipeline to supply

1 untreated CAP water to the site for treatment. The SCADA master plan for the  
2 Casa Grande and Coolidge systems has been completed and the Company has  
3 begun construction of the phase one facilities. I expect that five phases of the  
4 SCADA system will be required and the Company intends to complete one phase  
5 per year so that the SCADA system will be completed and operational when the  
6 Proposed Treatment Plant construction begins. The Company intends to begin  
7 the intake structure design in January 2009 and initiate the United States Bureau  
8 of Reclamation ("BOR") review/approval process. Obviously, these projects  
9 require significant capital investments. However, when completed, the facilities  
10 to treat and deliver CAP water will provide significant benefits to customers in the  
11 Company's Pinal Valley Service Area.

12 **X. Design and Construction of the White Tank Water Treatment Facility**

13 **Q. WHAT IS THE WHITE TANK WATER TREATMENT FACILITY?**

14 A. The White Tank Water Treatment Facility ("White Tank Project") is Arizona-  
15 American's Agua Fria Division surface water treatment plant currently under  
16 construction. Pursuant to the Arizona Corporation Commission's Decision No.  
17 69914 (September 27, 2007), Arizona-American, in association with Maricopa  
18 County Municipal Water Conservation District Number One ("MWD") began  
19 construction of the first phase of a regional water treatment plant.

20 **Q. WHAT IS THE COMPANY'S INTEREST IN THE WHITE TANK PROJECT?**

21 A. The Company has had and continues to have on-going discussions with Arizona-  
22 American. These discussions began in 1999 and reflect the Company's interest  
23 in participating in the White Tank Project. Those discussions stemmed from the  
24 regional water supply plan developed by WESTCAPS and the BOR. Of course,  
25 those initial discussions related to regional planning coordination, however,  
26 formal contract negotiations will take place when the treatment plant construction  
27 costs are known. The Company's interest in the White Tank Project is to utilize a  
28

1 portion of the treatment capacity to treat the Company's White Tank CAP  
2 allocation of 968 acre-feet.

3 **Q. WHAT IS THE STATUS OF THOSE DISCUSSIONS?**

4 A. The Company is developing a strategic list of agreements that would be required,  
5 options to those agreements and supporting cost information to allow it to make a  
6 sound decision of which options are in the best interest of the Company and the  
7 ratepayers. As an example, the Company is considering the long-term capital  
8 investment required to acquire a portion of the plant capacity versus the long-  
9 term costs of paying for treatment service or purchasing treated water from  
10 Arizona-American. Final costs of the various options will be determined when the  
11 treatment plant costs are known, the financial recovery method for Arizona-  
12 American is determined, and the proposed transmission pipeline location and  
13 cost are determined.

14 **Q. WHAT IS THE STATUS OF DETERMINING THE PLANT COSTS?**

15 A. The Company has been informed by Arizona-American that final plant costs and  
16 its corresponding proportional share of the plant cannot be determined until  
17 MWD has determined its participation. It is anticipated that MWD will make a  
18 written determination by the end of 2008.

19 **Q. WILL THE COMPANY BE PARTICIPATING BY THE END OF 2008?**

20 A. No. The costs related to the regional transmission line must be finalized. Once  
21 this information is determined and gathered, the Company will analyze the costs  
22 for wheeling the water to the White Tank Project by MWD, treatment facility  
23 capital, operational and maintenance costs and the costs of delivering the water  
24 to the Company's White Tank system before this determination is made. Part of  
25 the evaluation process will include an analysis of funding mechanisms as the  
26 investment is expected to be significant.

27 **Q. WHEN DO YOU ANTICIPATE A DECISION WILL BE MADE?**

28

1 A. Based on the timeline for construction completion Arizona-American has  
2 provided to the Company, I expect the Company to make a final determination by  
3 summer 2010, once capital, operation, and maintenance costs are known.

4 **XI. Description Of Company's Tank Maintenance Program**

5 **Q. PLEASE EXPLAIN THE COMPANY'S TANK MAINTENANCE PROGRAM.**

6 A. Under the Company's tank maintenance program, water storage tanks are  
7 inspected and cleaned on a routine basis. Interiors are recoated every 14 years  
8 and the exteriors are painted every seven years. Without this program, water  
9 storage tanks would deteriorate more rapidly, shortening the useful life of each  
10 tank.

11 **Q. WHY 14-YEAR AND 7-YEAR COATING INTERVALS?**

12 A. Typically, the Company finds that the interior coatings show deterioration after 14  
13 years and it has been the Company's experience that postponing interior  
14 recoating beyond 14 years results in premature metal damage. Similarly, after  
15 seven years, exterior surfaces show signs of chalking and cracking due to  
16 ultraviolet rays. Repainting is required to maintain metal protection, a suitable  
17 exterior appearance, and prevent surface corrosion.

18 **Q. HAS THE COST OF MAINTAINING WATER STORAGE TANKS CHANGED  
19 SINCE THE COMPANY'S LAST RATE CASE FOR THE WESTERN GROUP?**

20 A. Yes. Inspection costs, the cost of the actual coating and labor costs to clean the  
21 tanks and apply the coatings have all increased since the previous rate cases for  
22 each group. The composition of the coatings that must be used today (reduced  
23 solvents) make the coatings more difficult to apply, resulting in increased labor  
24 and equipment costs.

25 Specifically, the cost of coating interior surfaces of the Company's water  
26 storage tanks has increased from \$2.32 per square foot in 2002 to \$3.83 - \$4.22  
27 per square foot in 2008. During the same period, the cost of coating the exterior  
28 surfaces has increased from \$1.32 per square foot to \$1.58 - \$1.68 per square

1 foot. These costs continue to rise with the increased costs of fuel, labor and  
 2 materials. A detailed discussion of the impact of these cost increases is  
 3 contained in Mr. Reiker's direct testimony. The Company has added several new  
 4 water storage tanks and arsenic treatment backwash tanks since the previous  
 5 rate cases. The Company has added approximately 234,295 square feet of  
 6 interior and exterior painted surfaces that must be properly maintained. A list of  
 7 new storage tanks added since the previous rate case is summarized in the table  
 8 below.

9 **Tanks Added Since Last Rate Cases**

System	Tank	Capacity	Year Added	Interior Sq. Footage	Exterior Sq. Footage	Total Sq. Footage
AJ	Baseline Tank	1,400,000	2005	30,390	15,390	45780
	Baseline Settling Tank	150,000	2007	4,753	3,217	7970
	Oasis Settling Tank	90,000	2007	3,313	2,376	5689
	Vista Del Corazon	1,000,000	2002	19,074	12,427	31501
CG	Hennes Road Tank	1,100,000	2006	25,294	13,144	38438
	Hennes Road Settling Tank	70,000	2007	3,000	2,061	5061
	Cottonwood Settling Tank	190,000	2007	5,599	3,965	9564
	Well #27 Settling Tank	4,000	2008	511	361	872
	Well #28 Settling Tank	35,000	2008	1,828	1,315	3143
	Well #29 Settling Tank	31,000	2007	1,712	1,199	2911
WT	Blue Horizon Tank	1,000,000	2008	29,942	13,718	43660
	Blue Horizon Settling Tank	106,000	2008	4,393	2,556	6949
	Monte Vista Settling Tank	21,000	2008	1,328	968	2296
OV	Section 31 Tank #2	315,000	2007	7,963	5,441	13404
SM	San Manuel Settling Tank	48,000	2007	2,385	1,659	4044
SD	Sunup Tank #2	175,000	2007	5,438	3,601	9039
SU	Desert Wells Settling Tank	48,000	2007	2,350	1,624	3974
<b>Totals</b>		<b>5,783,000</b>		<b>149,273</b>	<b>85,022</b>	<b>234,295</b>

Interior Sq. Foot Cost	\$3.83 - \$4.22/sq. ft.
Exterior Sq. Foot Cost	\$1.58 - \$1.68/sq. ft.

26 **Q. BASED ON THE FOREGOING DISCUSSION, IS THE COMPANY PROPOSING**  
 27 **ANY CHANGES TO ITS COMMISSION-APPROVED TANK MAINTENANCE**  
 28 **ACCRUAL?**

1 A. Yes. The Company is proposing changes to the existing Commission-approved  
2 tank maintenance accruals based on a 2008 study of tank maintenance  
3 requirements and associated costs. That adjustment is sponsored by Mr. Reiker.

4 **XII. Desert Wells Pump Maintenance Accrual Account**

5 **Q. DOES THE COMPANY HAVE A COMMISSION-APPROVED PUMP**  
6 **MAINTENANCE ACCRUAL FOR ITS DESERT WELL STATION IN THE**  
7 **SUPERSTITION SYSTEM?**

8 A. Yes. The Desert Well Station pumps 900 gallons per minute at 700 to 800 psi to  
9 deliver water approximately 26 miles to the Town of Superior. The delivery of  
10 water at such high pressure requires special pumps and motors which cost  
11 between \$100,000 and \$150,000 to rebuild. This should be done every seven to  
12 eight years. In Decision No. 66849, the Commission approved the annual accrual  
13 of \$41,908 for the purpose of maintaining the Desert Well pumps. As a result,  
14 the Company rebuilt and maintains these pumps to ensure the continued  
15 uninterrupted service to customers in the Superstition system.

16 **Q. IS THE COMPANY PROPOSING ANY CHANGES TO THE ANNUAL PUMP**  
17 **MAINTENANCE ACCRUAL?**

18 A. Yes. The Desert Station is the sole means for the delivery of water to the Town  
19 of Superior. The associated steel pipeline lies on top of the ground and corrodes  
20 from the bottom. When a leak occurs in the pipe, the entire section of steel pipe  
21 must be replaced. Considering the age of the pipe, this occurrence will happen  
22 more frequently and more sections of pipe will need to be replaced, as well as  
23 the replacement of malfunctioning, obsolete valves. The Company's long-term  
24 plans are to replace this pipeline with an underground pipeline, a project  
25 estimated to take more than 20 years to complete. In the interim, the Company  
26 requests Commission authority to charge the cost of maintaining and repairing  
27 this critical pipeline to the Desert Wells pump maintenance accrual account.  
28 Although the Company is requesting this additional authority, we are not

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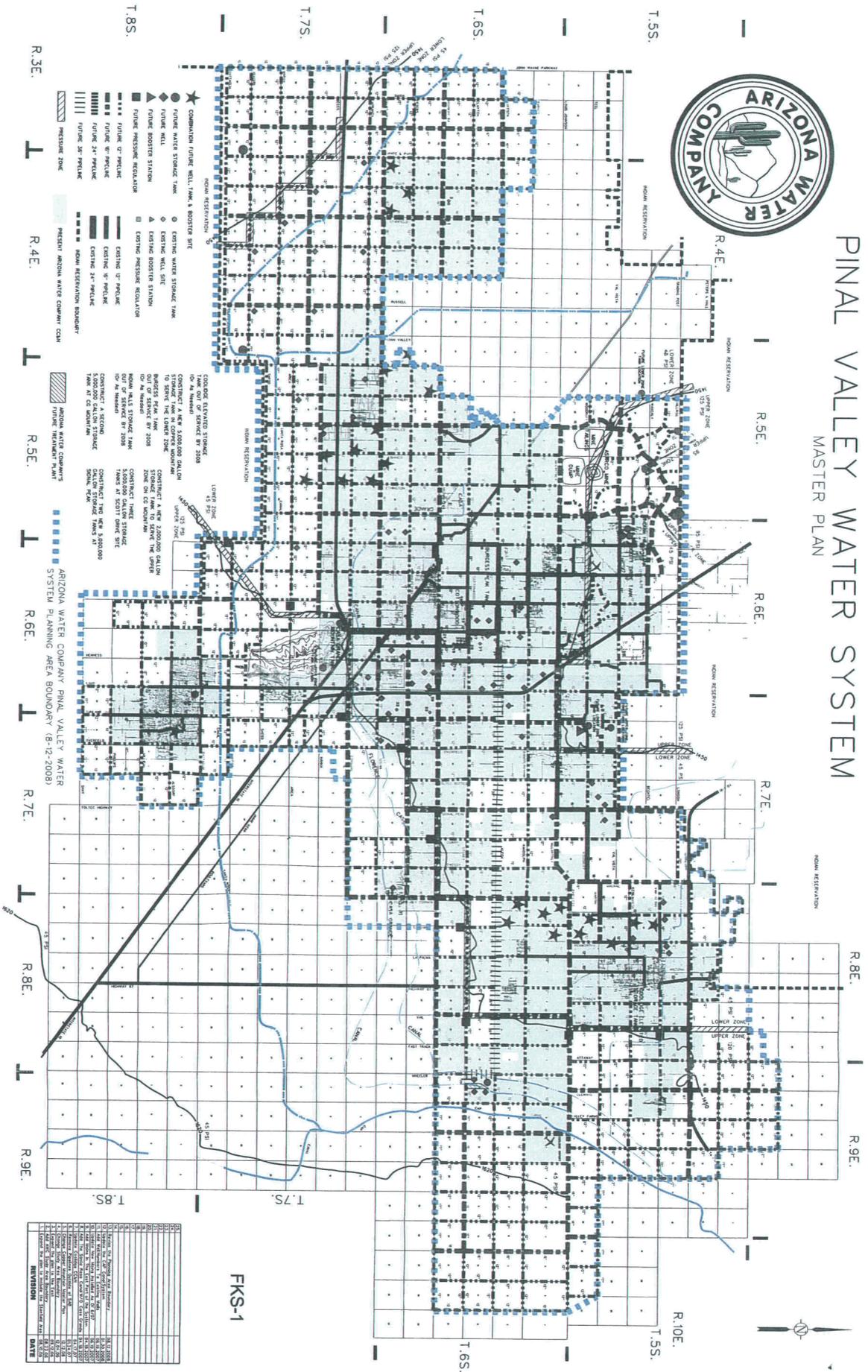
proposing any change in the \$41,908 annual accrual amount currently authorized.

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

A. Yes.



# PINAL VALLEY WATER SYSTEM MASTER PLAN



- ★ COMBINATION FUTURE WELL, TANK & BOOSTER SITE
- FUTURE WATER STORAGE TANK
- FUTURE WELL SITE
- ▲ FUTURE BOOSTER STATION
- FUTURE PRESSURE REGULATOR
- ◆ FUTURE 12" PERLINE
- ◆ FUTURE 18" PERLINE
- ◆ FUTURE 24" PERLINE
- ◆ FUTURE 36" PERLINE
- ▨ PRESSURE ZONE
- ▨ PRESENT ARIZONA WATER COMPANY COAM
- ▨ ARIZONA WATER COMPANY FUTURE TREATMENT PLANT

- EXISTING WATER STORAGE TANK
- EXISTING WELL SITE
- ▲ EXISTING BOOSTER STATION
- EXISTING PRESSURE REGULATOR
- ◆ EXISTING 12" PERLINE
- ◆ EXISTING 18" PERLINE
- ◆ EXISTING 24" PERLINE
- ◆ EXISTING 36" PERLINE
- ▨ MOUNTAIN RESERVATION BOUNDARY
- ▨ ARIZONA WATER COMPANY FUTURE TREATMENT PLANT

- ▨ ARIZONA WATER COMPANY PINAL VALLEY WATER SYSTEM PLANNING AREA BOUNDARY (8-12-2008)

CONDUCT ELEVATED STORAGE TANK OUT OF SERVICE BY 2008

CONSTRUCT A NEW 500,000 GALLON STORAGE TANK IN COUNTRY MOUNTAIN

CONSTRUCT A NEW 200,000 GALLON STORAGE TANK TO SERVE THE UPPER ZONE

CONSTRUCT A NEW 200,000 GALLON STORAGE TANK TO SERVE THE UPPER ZONE

CONSTRUCT A SECOND 500,000 GALLON STORAGE TANK AT SCOTT DRIVE SITE

CONSTRUCT TWO NEW 500,000 GALLON STORAGE TANKS AT SCOTT DRIVE SITE

NO.	REVISION	DATE
1	ISSUED FOR PERMITS	08/12/08
2	ISSUED FOR PERMITS	08/12/08
3	ISSUED FOR PERMITS	08/12/08
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5	ISSUED FOR PERMITS	08/12/08
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FKS-1

**ARIZONA WATER COMPANY**



**Docket No. W-01445A-08-0440**

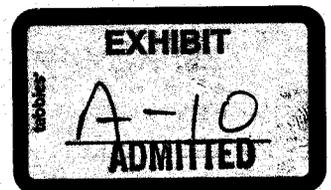
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**2008 RATE HEARING**  
**For Test Year Ending 12/31/07**

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**PREPARED**  
**REBUTTAL TESTIMONY & EXHIBITS**  
**OF**  
**Fredrick K. Schneider**

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1 **ARIZONA WATER COMPANY**

2  
3 **Rebuttal Testimony of**

4 **Fredrick K. Schneider**

5  
6 **I. Introduction and Purpose of Testimony**

7 **Q. PLEASE STATE YOUR NAME, EMPLOYER, AND OCCUPATION?**

8 A. My name is Fredrick K. Schneider. I am employed by Arizona Water Company  
9 (the "Company") as Vice President of Engineering. My business address is 3805  
10 N. Black Canyon Highway, Phoenix, Arizona 85015.

11 **Q. ARE YOU THE SAME FREDRICK K. SCHNEIDER THAT PREVIOUSLY**  
12 **PROVIDED DIRECT TESTIMONY IN THIS MATTER?**

13 A. Yes.

14 **Q. HAVE YOU REVIEWED THE DIRECT TESTIMONY FILED BY THE OTHER**  
15 **PARTIES TO THIS PROCEEDING?**

16 A. Yes, I have reviewed the testimony of each of the witnesses of the Commission's  
17 Utilities Division Staff ("Staff"), the Residential Utility Consumer Office ("RUCO"),  
18 and Abbott Laboratories, Inc.

19 **Q. WHAT IS THE PURPOSE AND EXTENT OF YOUR REBUTTAL TESTIMONY?**

20 A. The purpose of my rebuttal testimony is to respond to the direct testimony of  
21 Staff witnesses Katrin Stukov and Brian K. Bozzo, and RUCO witness Timothy  
22 Coley.

23 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

24 A. My testimony is presented in five sections including this section. In section II, I  
25 present the Company's responses to Staff witness Stukov specifically related to  
26 Arizona Department of Water Resources ("ADWR") compliance in the  
27 Company's Oracle and Superior systems. In section III, I address Staff witness  
28

1 Stukov specifically related to lost and unaccounted water for the Company's  
2 systems which were depicted as having water loss above the Commission-  
3 recommended thresholds, the plant improvements required and subsequent rate  
4 impacts of meeting that threshold. In section IV, I respond to Staff witness Bozzo  
5 and RUCO witness Coley related to their recommended disallowance of certain  
6 plant facilities which are properly classified as plant held for future use since the  
7 Company has specific plans for the full use of these facilities. In section V, I  
8 respond to, and discuss, post test year plant testimony presented by Staff  
9 witness Bozzo and RUCO witness Coley; which work is complete and describe  
10 how certain plant cannot yet be fully used since Arizona Public Service ("APS")  
11 has and continues to cause the Company delays in establishing the requested  
12 service.

13 **Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR REBUTTAL**  
14 **TESTIMONY?**

15 A. Yes, I am sponsoring the following exhibits:

16 FKS- RB1 - ADWR Compliance Report for Superior

17 FKS- RB2 - ADWR Compliance Report for Oracle

18 II. **ADWR Compliance**

19 **Q. MS. STUKOV CONTENDS THAT THE COMPANY'S SUPERIOR AND**  
20 **ORACLE SYSTEMS ARE NOT IN COMPLIANCE WITH ADWR'S**  
21 **REQUIREMENTS FOR LOST AND UNACCOUNTED FOR WATER. IS THAT**  
22 **CORRECT?**

23 A. No. The Superior and Oracle systems are currently in compliance with ADWR's  
24 requirements. Attached are copies of the ADWR Water Provider Compliance  
25 Status Reports for Superior as Exhibit FKS-RB1 and Oracle as Exhibit FKS-RB2.

1 Q. ARE ALL OF THE OTHER SYSTEMS IN COMPLIANCE WITH THESE  
2 REQUIREMENTS?

3 A. Yes.

4 III. Lost and Unaccounted Water

5 Q. HAVE YOU REVIEWED STAFF'S LIST OF COMPANY WATER SYSTEMS  
6 WITH LOST AND UNACCOUNTED WATER OVER 10 PERCENT?

7 A. Yes I have.

8 Q. ACCORDING TO MS. STUKOV, THE COMPANY HAS A SERIOUS PROBLEM  
9 WITH LOST AND UNACCOUNTED FOR WATER, AND STEPS SHOULD BE  
10 IMMEDIATELY TAKEN TO ADDRESS THIS PROBLEM. DO YOU AGREE  
11 WITH STAFF'S RECOMMENDATION?

12 A. No. Although certain systems have higher water losses than other systems,  
13 there are justifiable reasons for that situation. In fact, the Company administers  
14 one the most comprehensive programs for managing water loss of all private  
15 water utilities in Arizona. The systems that are experiencing such higher water  
16 losses have unusual or unique circumstances, which Ms. Stukov has ignored in  
17 her testimony. She has also ignored the fact that capital improvements needed  
18 to achieve Staff's recommendations would cost many millions of dollars, and  
19 result in substantial rate increases for our customers. There is no indication that  
20 Staff has considered these costs or their impact on rates.

21 Q. DO YOU AGREE WITH MS. STUKOV THAT EACH COMPANY WATER  
22 SYSTEM SHOULD HAVE LOST AND UNACCOUNTED FOR WATER OF NO  
23 GREATER THAN 15%?

24 A. No, I do not. Several of the Company's water systems are faced with unique and  
25 compelling circumstances that lead to higher water losses. Some water systems  
26 pump water many miles from the source of supply to the communities they serve  
27 at extremely high pressures. Others are faced with large changes in seasonal  
28

1 use and freezing winter temperatures resulting in ruptured service lines and  
2 meters. Yet, others are faced with waterlines that are older than the State of  
3 Arizona itself. A single system can face multiple issues or determinants affecting  
4 performance. The over-simplified and antiquated water loss determinants used  
5 by Staff do not account for any of these or other relevant factors. I will discuss in  
6 detail these factors and their impacts on water loss for each of the eight water  
7 systems.

8 **Q. IS MS. STUKOV'S RECOMMENDATION NO. 2, IN SECTION KS OF HER**  
9 **TESTIMONY THAT THE COMPANY BE REQUIRED TO FILE CERTAIN**  
10 **WATER LOSS REPORTS REASONABLE?**

11 A. No, it is not. The arbitrary and unfounded requirement of filing additional reports  
12 does absolutely nothing to reduce lost water within any of these systems. The  
13 extensive time which the Company would spend in developing these reports only  
14 detract from the Company's extensive efforts and does nothing to address the  
15 factors leading to water loss in these systems.

16 **Q. DESCRIBE THE COMPANY'S CURRENT EFFORTS TO PROMOTE AND**  
17 **ENCOURAGE CONSERVATION?**

18 A. In addition to the Leak Detection Program and the Meter Application and  
19 Maintenance Programs which I discuss in detail on pages 10-11 of my rebuttal  
20 testimony, the Company also has four other measures it currently uses.

21 **BASIC WATER CONSERVATION EDUCATION PROGRAM**

- 22 • Rotation of 13 conservation-oriented messages printed on customer bills 6  
23 times per year.  
24 • The Company's website ([www.azwater.com](http://www.azwater.com)) contains current conservation  
25 publications and information.

- 1 • The Company distributes 27 conservation publications, children-oriented  
2 conservation books and other free conservation materials available to all  
3 customers through their local Division offices.

4 **RESIDENTIAL AUDIT PROGRAM**

- 5 • Water audits are available free of charge to all residential customers. Notices  
6 of the availability of water audits are included on customer bills.
- 7 • Internal and external audits.
- 8 • Written conservation recommendation.
- 9 • Selected applicable conservation publications are provided to the customer.
- 10 • The Company's conservation technicians also schedule visits with customers  
11 during which they are informed about Company-provided services such as  
12 those included in an audit.

13 **CUSTOMER HIGH WATER USE INQUIRY RESOLUTION**

- 14 • Prompt investigation of all high water use inquiries.
- 15 • Re-check the meter read.
- 16 • Instruct customers how to read their meter, check for leaks and compare  
17 usage with previous years.

18 **WATER WASTE INVESTIGATIONS AND INFORMATION**

- 19 • Timely response to potential instances of water waste.
- 20 • Water is shut off and the customer is notified.
- 21 • Customer is provided with information on ways to correct the problem.
- 22 • Follow-up visit scheduled for the following month.

23 **Q. IN ADDITION TO THE COMPANY'S CONSERVATION EFFORTS, WHAT**  
24 **DOES THE COMPANY DO TO MANAGE WATER LOSS IN ITS SYSTEMS?**

25 **A.** Water loss within the Company's eighteen systems is an ongoing and concerted  
26 effort by the Company. Water loss for each system is tracked monthly and  
27 reviewed by each local manager. Local managers track their employees' time  
28

1 monitoring and repairing leaks utilizing the Company's leak detection equipment.  
2 Water loss reports, efforts expended to repair located leaks and monitoring  
3 results for undetected leaks are reviewed monthly by the Company's upper  
4 management. This information is closely monitored and highly scrutinized to  
5 ensure that water loss is kept to a cost-effective minimum.

6 **Q. WHAT DO YOU MEAN BY "COST-EFFECTIVE MINIMUM"?**

7 A. By "cost-effective minimum", I am referring to a level of water loss that is  
8 maintained without (1) having to divert capital resources away from projects that  
9 are more urgent and necessary to ensure the provision of safe and reliable  
10 service, and (2) requiring a level of investment that would have a detrimental  
11 effect on the Company's financial condition and ultimately customers' rates, as  
12 explained in more detail by Mr. Harris in his rebuttal testimony.

13 **Q. YOU ALSO MENTIONED THAT THE COMPANY UTILIZES LEAK DETECTION  
14 EQUIPMENT. IS THE EQUIPMENT USED THROUGHOUT THE COMPANY?**

15 A. Yes. In the past, the Company has contracted with leak survey professionals to  
16 perform system-wide leak surveys. Although successful in locating leaks, the  
17 cost of the leak surveys was generally not offset by cost savings. Therefore, the  
18 Company purchased leak detection equipment so it can self-perform the required  
19 leak surveys, as further described below. In 2003, the Company purchased a  
20 leak correlator and a data logger for use and testing by the Company's field  
21 technicians. Based on the initial success of this equipment, the Company  
22 purchased a second set of each type of equipment. This equipment was used  
23 throughout the Company. As the Company realized the benefits of using this  
24 equipment and as its employees became more experienced with its use, the  
25 Company purchased additional leak correlators. Currently, each Division has  
26 and utilizes at least one set of leak correlators. In systems where additional  
27 correlators were required, managers have two units. Currently, the Company  
28

1 has eight leak correlators and two data loggers, which are used throughout the  
2 eighteen systems. The Company's success in managing water loss is due in  
3 part to ongoing water loss monitoring and the continued use of these leak  
4 detection units. The Company intends to purchase additional correlators and  
5 data loggers in the future.

6 **Q. WHAT ELSE IS THE COMPANY DOING TO MONITOR AND MANAGE**  
7 **WATER LOSS?**

8 A. The Company manages water loss through efforts as identified by the following  
9 four categories. The first being water main and service line maintenance, the  
10 second is the use of leak detection equipment, the third is the Company's meter  
11 application program and the fourth is the Company's meter maintenance  
12 program.

13 **Q. CAN YOU DESCRIBE THESE CATEGORIES IN MORE DETAIL?**

14 A. Yes. I will summarize the Company's efforts for each category.

15 **WATER MAIN AND SERVICE LINE MAINTENANCE PROGRAM**

16 The Company has reduced lost water due to water main leaks, breaks,  
17 and service line leaks through timely repairs and replacements. The Company  
18 schedules repairs of minor water main and service line leaks as soon as  
19 possible, but in the case of main breaks, the Company makes repairs  
20 immediately. Sources of lost water due to unidentified water main and service  
21 line leaks are more problematic as they are not always easily identifiable except  
22 through more advanced methods of detection, such as through the use of leak  
23 detection equipment and by conducting leak surveys. Although smaller service  
24 leaks can be extremely difficult to identify, meter readers report observed service  
25 leaks in their normal course of reading meters. The meter readers are essential  
26 to system monitoring as they visually inspect the entire system monthly.

1           **LEAK DETECTION**

2           As discussed, the Company relies upon two complimentary types of leak  
3           detection equipment purchased for its water systems. These systems allow us to  
4           identify the location of water leaks without the need for more labor-intensive  
5           methods to inspect each section of a distribution system. One type of leak  
6           detection equipment, the digital leak detection logger (i.e., data logger), is used  
7           to survey a larger area of the distribution systems to locate potential leaks that  
8           would not otherwise be located by visual inspection/observation techniques. A  
9           second type of leak detection equipment, the digital leak correlator, is used to  
10          assist in determining the location of potential leaks as well as pinpoint specific  
11          locations of leaks identified through surveys conducted by the digital leak  
12          detection logger. Company employees are professionally trained on the  
13          operation of the leak detection equipment and it has been a valuable resource  
14          and a cost-effective method of reducing lost water.

15          **METER APPLICATION PROGRAM**

16          The Company's Engineering Department, utilizing information provided by  
17          the Company's Meter Shop in Coolidge, reviews new meter applications prior to  
18          establishing water service. Typically, 5/8" X 3/4" water meters are installed for  
19          most new residential subdivisions. Both residential and non-residential meter  
20          applications that require 1" or larger water meters result in wide ranges of flows,  
21          and include applications that may include fire flows. The Company's Engineering  
22          Department chooses the most appropriate meter for the application that meets  
23          the expected range of anticipated customer flows. All water meters have  
24          inherent ranges of accuracies through various ranges of flows. Even though  
25          meters cannot be 100% accurate at all rates of flow, they are designed to provide  
26          a high level of accuracy throughout such ranges of flows according to AWWA  
27          and other water industry standards.

1           **METER MAINTENANCE PROGRAM**

2           The Company's meter maintenance program establishes the criteria upon  
3           which meters are removed for repairs or replacement. The Company's Meter  
4           Shop has established change-out criteria based on total gallons and length of  
5           time in service for each water system. In addition, the Meter Shop performs  
6           periodic tests on each water system's meters to provide an ongoing assessment  
7           of the suitability of meter change-out criteria for each system. In this manner, the  
8           Company ensures that meter accuracy is maintained within industry standard  
9           limits and confirmed through meter testing. The Company's eighteen water  
10          systems are up-to-date with their meter maintenance program and ongoing meter  
11          testing program.

12 **Q.    ARE THESE TYPICAL CATEGORIES THAT WATER COMPANIES USE?**

13 A.    Yes. The water main service line programs and the use of leak detection  
14          equipment are standard water industry practices. Even so, I am not aware of  
15          another private water utility in Arizona that manages their meter program as  
16          aggressively as the Company. In fact, our meter repair and maintenance  
17          technicians train other utility personnel such advanced practices routinely at  
18          utility conferences. The Company is a leader within the water industry in this  
19          regard. In addition, the Company's President, Mr. Garfield, serves on AWWA's  
20          Water Meter Standards Committee, which establishes water meter accuracy and  
21          repair standards in addition to other meter standards for the water industry.

22 **Q.    WHAT ARE THE PRIMARY FACTORS THAT AFFECT WATER LOSS WITHIN**  
23 **THE COMPANY'S EIGHTEEN WATER SYSTEMS?**

24 A.    There are seven primary factors that affect water loss within the Company's  
25          eighteen water systems. Those factors are (1) age of water mains, (2) system  
26          pressures, (3) length and diameter of pipelines, (4) soil composition, (5) non-

1 surfacing leaks, (6) seasonal population increases/decreases and (7) economic  
2 barriers.

3 **Q. PLEASE DISCUSS THESE FACTORS IN MORE DETAIL.**

4 A. Each of the seven factors are discussed in detail below.

5 **AGE OF WATER MAINS**

6 The Company has over 1,700 miles of water mains. In some of the  
7 Company's water systems, water mains were installed in the early 1900s and are  
8 still in service today. Some of the oldest mains date back to 1904, remaining in  
9 service for 105 years. The maximum useful life of most water mains has been  
10 determined to be approximately 100 years. Water mains are replaced and  
11 repaired on a continual basis, but not at the frequency to complete a 100-year  
12 replacement cycle, because it is simply not cost-effective or economical. As a  
13 result, there is a higher frequency of water main breaks in systems with water  
14 mains nearing or surpassing the end of their useful life. The Company is not  
15 alone in this problem of aging infrastructure. Aging infrastructure is affecting  
16 water utilities nationwide and even worldwide. Water main replacement, its cost,  
17 and effect on customers are discussed further in the *Economic Barriers* section  
18 below.

19 **SYSTEM PRESSURE**

20 Several of the Company's water systems have well fields located many  
21 miles from the actual service area. As a result, water pressure in the  
22 transmission mains from some of these well fields approach 900 pounds per  
23 square inch gauge ("psig"), which is significantly higher than what is usually  
24 encountered in a typical municipal water distribution main. Higher pressure on  
25 transmission lines leads to higher pressure in certain areas of a water system,  
26 with some pressures higher than the 75 psig, a pressure that the Company would  
27 ideally maintain. Increased system operating pressures greatly increase water  
28

1 leakage in water mains and service lines, even those small, difficult to detect  
2 leaks.

3 To depict impact on the increased water loss due specifically to increased  
4 pressure in the distribution system, I have summarized in the table below the rate  
5 of flow of water through a ¼-inch diameter hole in a waterline.

6

7 Pressure (psig)	Diameter of Hole (in)	Flow Rate (gpm)	Flow Rate (gpd)
8 40	0.25	8.5	12,224
9 60	0.25	14.9	14,972
10 100	0.25	19.2	19,328
11 200	0.25	27.2	27,334
12 500	0.25	42.9	43,219
13 900	0.25	57.6	57,984

14 in – Inches

15 gpm – Gallons per minute

16 gpd – Gallons per day

17 If the diameter of the hole doubled to ½-inch the flow of water through the  
18 hole increases by 400%. The flow of lost water through a small leak does not  
19 substantially change with usage which can have a substantial impact on smaller  
20 water systems. This impact can be substantial if the system has significant  
21 seasonal usage.

22 The Company understands the importance of pressure management and  
23 makes every effort to control the pressure of the water systems. But we realize  
24 that the flow of water that leaks from a hole on a higher pressure line is greater  
25 than the same diameter hole on a line with lower pressure.

1           **LENGTH AND DIAMETER OF PIPE**

2           The 1,700 miles of Company water mains equates to approximately 107  
3 feet of pipe per customer. The Company's water systems range from a low of 59  
4 to a high of 197 feet of pipe per customer. The Company's water systems that  
5 have an above-average amount of pipe per customer, as well as those with  
6 larger pipe diameters, will experience more water loss than water systems with a  
7 similar number of customers and less than average pipe per customer.

8           **SOIL COMPOSITION**

9           Some Company water systems experience accelerated corrosion of their  
10 water mains due to the soil composition in which the water main is located.  
11 Additionally, six of the Company's water systems are located in areas where  
12 mining activity was, or is, still present. The mining residuals, combined with the  
13 soil characteristics of the area accelerate or promote corrosion of the Company's  
14 water mains. Furthermore, certain pipe material is more suitable for direct  
15 contact with rocks and larger cinders without compromising the pipe and leading  
16 to water leaks. For all water systems, proper bedding, shading, and backfilling of  
17 repaired or replaced water mains are critical.

18           **NON-SURFACING LEAKS**

19           The Company's water systems in the mountainous regions of Arizona  
20 frequently have leaks that do not immediately surface, or surface at a different  
21 location. A comparable leak in the Company's other water systems where the  
22 water leaks surface is usually identified and repaired quicker, resulting in less  
23 water loss. Use of the digital leak detection equipment in areas where the leaks  
24 do not immediately surface has been a valuable management tool.

25           **SEASONAL POPULATION INCREASES/DECREASES**

26           Several of the Company's water systems are affected by seasonal  
27 population fluctuations, where annual water sales are artificially low compared to  
28

1 systems with the same number of service connections but with higher  
2 percentages of year-round occupancies. These systems still experience the  
3 same number of leaks, yet their water loss appears greater due to lower overall  
4 sales. A water system will have a "given leakage" per foot of pipe for a specific  
5 pipe diameter. This amount of water leakage will occur regardless of customer  
6 usage as long as the system remains pressurized. Regardless of monthly  
7 consumption, the water system will lose the same volume of water each month.  
8 With customer sales at a minimum, however, the percentage of lost water will  
9 appear very high. During the time of year with higher sales, the same volume of  
10 lost water will appear lower. This illustrates the impact of seasonal fluctuations of  
11 usage.

## 12 **ECONOMIC BARRIERS**

13 Steps taken beyond the Company's current efforts to reduce lost water  
14 would include the implementation of main and/or service replacement programs  
15 in systems which would benefit from such programs. However, the water  
16 savings achieved by this approach must be weighed against the costs that would  
17 be incurred by the Company and ultimately its customers. The costs incurred by  
18 the Company include unrecovered capital costs. Although this problem can be  
19 mitigated through ACRM-like surcharges, the effect of replacing even 10 percent  
20 of the Company's water mains will increase customer bills by an average of 19  
21 percent Company-wide (refer to Exhibit JDH-RB1 to Mr. Harris' rebuttal  
22 testimony).

23 **Q. PLEASE DISCUSS BY SYSTEM, FOR THOSE SYSTEMS HAVING WATER**  
24 **LOSS ABOVE 10%, THE COMPANY'S PROGRESS AND CHALLENGES IN**  
25 **MANAGING LOST AND UNACCOUNTED FOR WATER.**

26 **A.** A water system is comprised of pipe that has an allowable leakage when newly  
27 installed. The total amount of leakage is a function of the factors previously  
28

1 described. Consequently, water systems with one or more of these  
2 characteristics will be subject to more water loss than a comparable water  
3 system where these factors are not present. I will address the systems in  
4 alphabetical order.

5 **Bisbee**

6 Many waterlines within the Bisbee system date back to the early 1900s,  
7 predating Arizona's statehood. The Bisbee water system is experiencing the  
8 same challenges as much of the country — its infrastructure is aging.  
9 Replacement of miles of waterline nearing or at the end of its useful life would  
10 require a significant capital investment and cause tremendous strain on the  
11 Company and ultimately its customers. The estimated cost to replace 60 percent  
12 of the waterlines in the Bisbee water system is more than \$23,500,000. As a  
13 comparison of the size of this investment needed, the current rate base for  
14 Bisbee is approximately \$5,000,000 (refer to Exhibit JDH-RB1 of Mr. Harris'  
15 rebuttal testimony).

16 In addition to the aging waterline infrastructure and the significant cost of  
17 replacement, locating waterline leaks within Bisbee is extremely difficult. Many of  
18 the leaks never reach the surface due to the extremely thick street sections  
19 comprising brick roads, which were subsequently overlaid with concrete and  
20 then paved over more recently. In many instances, the roadway section is over  
21 12-inches thick. Due to the significant elevation changes and distance from the  
22 well field to the northern-most portion of town, system pressures routinely exceed  
23 100 psig. The transmission line from the Company's well field to the City of  
24 Bisbee is nearly six miles long and begins at the well field with pressures around  
25 600 psig. To minimize lost water along the aging, above ground, six-mile long  
26 transmission line, the Company has increased its efforts in monitoring the  
27  
28

1 transmission line for leaks. As a result of these efforts, water loss within this  
2 system has remained stable.

3 **Pinetop Lakes**

4 Much of the water loss in the Pinetop Lakes water system is due to non-  
5 surfacing leaks, seasonal consumption and weather-related water loss from  
6 freezing water meters and service lines. In the cold winter months, with little  
7 snow to insulate the ground as has been the case during the current drought  
8 conditions in Arizona, the freeze depth increases thereby increasing the number  
9 of service line breaks and water loss. Another impact from cold weather is meter  
10 freezing. These types of leaks can lead to significant water loss that may go  
11 unnoticed for a month before the next meter reading. The Company actively  
12 monitors system losses and repairs all system leaks. In light of these efforts,  
13 water loss within this system has remained stable.

14 **Pinewood**

15 Essentially, the Pinewood system serves Munds Park south of Flagstaff.  
16 A portion of the water loss is caused by weather-related water loss from freezing  
17 water meters and service lines similar to the Pinetop Lakes water system  
18 discussed above. However, a significant amount of the water loss in this system  
19 is due to pipeline construction methods and pipeline material used. Soil  
20 conditions are also a factor. At the time of construction, the pipeline material was  
21 considered acceptable. However, as it is now known, the installation of transite  
22 pipe in rocky conditions results in numerous pipeline breaks. Identification of  
23 leaks within the Pinewood system is more difficult due to local soil conditions,  
24 which allows for the rapid percolation of water at shallow depths. The infiltrated  
25 water migrates laterally away from the waterline and remains largely undetected.  
26 Similar to the conditions in Bisbee, a significant portion of the system will require  
27 replacement in order to address water loss. The Company has analyzed the  
28

1 costs to replace the transite waterlines, a significant cause of lost water, with  
2 stronger ductile iron waterlines. Replacement of 60 percent of the waterlines is  
3 estimated to cost \$7,350,000, As a comparison of the size of this investment  
4 needed, the current rate base for Pinewood is approximately \$1,900,000 (refer to  
5 Exhibit JDH-RB1 of Mr. Harris' rebuttal testimony). Due to low year-round  
6 occupancy rates and overall lower water use, water losses appear higher than  
7 the average water system and will always be a challenge to find and repair. As a  
8 result of the Company's continuing efforts, it has reduced water loss by an  
9 additional 3 percent to 22.6 percent as of May 2009.

#### 10 **Rimrock**

11 Water loss in Rimrock is from a variety of sources including older  
12 waterlines and difficult to locate leaks. However, with the Company's increased  
13 efforts in managing water loss and the purchase of additional leak detection  
14 equipment, the Company has been able to stabilize water loss in Rimrock. To  
15 further reduce lost water, however, a portion of the existing waterlines would  
16 require replacement. In lieu of a detailed analysis of the system, it is estimated  
17 that replacement of 35 percent of the waterlines would cost approximately  
18 \$3,800,000. As a comparison of the size of the investment needed, the current  
19 rate base for Rimrock is approximately \$2,300,000 (refer to Exhibit JDH-RB1 of  
20 Mr. Harris' rebuttal testimony).

#### 21 **San Manuel**

22 Lost water in San Manuel is due to a variety of factors including older  
23 water mains, problematic service lines and holes in the system's above-ground  
24 steel water storage tanks. However, due to the Company's efforts in using and  
25 managing the leak detection equipment, the aggressive meter replacement  
26 program, increased system monitoring and the replacement of a problematic  
27 section of antiquated spiral-welded steel water line in 2008, water loss has been  
28

1 trending downward. To date, water loss has dropped 0.5 percent to 10.2 percent  
2 as of May 2009. With these continuing efforts, the Company expects to reduce  
3 lost water to less than 10 percent.

#### 4 **Superior**

5 The Superior water system presents unique water loss challenges, and  
6 has been the subject of presentations by various Commissioners regarding the  
7 need for exceptions to the 10 percent water loss yardstick. One recent  
8 presentation was given by Commissioner Mayes as part of her presentation to  
9 the Investor Owned Water Utility Association on May 18, 2005. Reasons given  
10 for the "exception to the rule" were travel distance from the source of supply to  
11 the town of Superior, evaporative cooling required due to naturally high water  
12 temperatures, and the costs associated with resolving the water loss. With the  
13 Company's increased efforts in utilizing its leak detection equipment and  
14 increased monitoring of the 23-mile long above ground transmission pipeline,  
15 water loss has been declining. Water loss is approximately 10.7 percent as of  
16 May 2009. With transmission pipeline operating pressures exceeding 900 psig  
17 and the additional cooling requirement, this system is one example of the  
18 "Exception to the Rule".

#### 19 **Tierra Grande**

20 The Tierra Grande system has experienced an increase in water loss over  
21 the past few years. The Company has increased its efforts in monitoring this  
22 system and has been able to reduce the water loss percentage. The water loss  
23 for 2008 was 10.2 percent. With these continuing efforts, the Company expects  
24 to reduce lost water to less than 10 percent.

#### 25 **Winkelman**

26 The Winkelman water system experienced a significant loss in the number  
27 of customers due to the large storm event of 1993, which caused a large amount  
28

1 of runoff on the Gila River. The river overflowed its banks and destroyed a  
2 significant number of homes belonging to approximately 30 percent of the  
3 Company's Winkelman water system customers. The lines that served these  
4 homes remain pressurized and in service providing service to the few homes left  
5 near the end of those lines. Over the past 12 months, the Company recognized  
6 a steady increase in water loss. The local staff increased their leak monitoring  
7 efforts and a few smaller leaks were located and repaired; however, no large  
8 leaks were located. In August 2008, through the use of advanced leak detection  
9 equipment, a leak was detected and located in very sandy soils. The sandy soils  
10 allowed the leak to go undetected. Following the subsequent leak repair, water  
11 loss in the Winkelman system has been on steady decline and the Company is  
12 on track to reduce lost water to less than 10 percent.

13 **Q. CAN THE COMPANY FUND THE TYPES OF IMPROVEMENTS REQUIRED**  
14 **TO REPLACE THE AGING INFRASTRUCTURE?**

15 A. Not in my view. Investments of these magnitudes are greater in scale than the  
16 federally mandated arsenic treatment plants the Company constructed totaling  
17 more than \$34 million. Mr. Joseph Harris discusses limitations on the Company's  
18 ability to fund these types of improvements on pages 4-5 of his rebuttal  
19 testimony.

20 **Q. WHAT MECHANISM DO UTILITIES IN OTHER STATES HAVE TO DEAL**  
21 **WITH THE REPLACEMENT OF AGING INFRASTRUCTURE?**

22 A. Several other states and Public Utility Commissions have implemented a  
23 Distribution System Improvement Charge, commonly referred to as a DSIC  
24 program. Benefits of the program include more efficient and timely investment of  
25 capital, significant progress in replacing aging infrastructure, enhanced service  
26 quality, and reduction of water lost through leaks. As water supplies become  
27 more stressed in the future, which is expected to happen due to many factors,  
28

1 reducing water loss through the replacement of aging infrastructure will be  
2 necessary. Such programs typically include protections for customers such as  
3 limits on the amount of incremental revenues that can be collected, exclusion of  
4 capital projects that are revenue producing, and true-up mechanisms. A DSIC  
5 program typically covers non-revenue producing investments to replace aging  
6 infrastructure. For more on the details of this program, please refer to Mr.  
7 Joseph Harris' Rebuttal Testimony, pages 5-6.

8 **IV Plant Held for Future Use**

9 **Q. DO YOU AGREE WITH STAFF WITNESS BOZZO'S RECOMMENDATION AT**  
10 **PP. 9-10 OF HIS DIRECT TESTIMONY THAT \$5,437,842 SHOULD BE**  
11 **REMOVED FROM RATE BASE BECAUSE IT IS NOT USED AND USEFUL?**

12 A. No, I do not. This plant is plant held for future use and, as I describe in detail  
13 below, the Company has specific plans for putting the plant in service in the near  
14 future, and valid financial and operating reasons why it is not currently in service.  
15 As explained by Mr. Reiker on pages 12-15 of his rebuttal testimony, the  
16 Company only accepts the removal of those plant items that should have been  
17 retired, as well as the Carroll Canyon well located in the Sedona system which  
18 was included in the Company's application as post-test year plant. With the  
19 exception of an electrical panel included as post-test year plant in the Pinewood  
20 system, the remaining plant items are accounted for as plant held for future use  
21 as I describe in detail below.

22 **Q. WHAT REASON DOES STAFF PROVIDE FOR RECOMMENDING THAT**  
23 **THESE ITEMS BE REMOVED FROM RATE BASE?**

24 A. According to the direct testimony of Mr. Bozzo (pp. 8-10), Ms. Stukov identified  
25 various plant items that she concluded (incorrectly) were inactive or not in  
26 service, and Staff further determined (again incorrectly) through the Company's  
27 response to Staff data request 11.16 that these items are not used and useful.

1 Q. DOES THE COMPANY'S RESPONSE TO STAFF DATA REQUEST 11.16  
2 INDICATE THAT ALL OF THE ITEMS THAT STAFF RECOMMENDS BE  
3 DISALLOWED ARE NOT USED AND USEFUL?

4 A. No. In fact, several of the items Staff recommends be disallowed were identified  
5 by the Company as plant held for future use in its response to Staff data request  
6 11.16. Although these items are not currently in use, they are planned for use  
7 and are useful, and therefore meet the Commission's criteria, as outlined in  
8 A.A.C. R14-2-103(a)(3)(h), for being included in rate base.

9 Q. WHY IS THIS PLANT HELD FOR FUTURE USE NOT IN SERVICE TODAY?

10 A. With limited financial options, the Company cannot complete the projects  
11 described below until the Company's earnings improve. Due to the Company's  
12 deteriorated earnings, the Company's 2008 capital budget was drastically  
13 reduced from the original \$18.9 million to \$8.1 million. Additional reductions were  
14 approved by the Company's Board of Directors, further reducing the Company's  
15 2009 capital budget to \$5.0 million.

16 Q. WHAT IS THE COMPANY'S PLAN FOR THE INFRASTRUCTURE FACILITIES  
17 LISTED AS PLANT HELD FOR FUTURE USE?

18 A. Plans are listed in detail for each plant description below:

19 **Superstition Ranch 160 Wells #1 and #2** – The Ranch 160 Wells #1 and #2 are  
20 facilities contributed by the developer. These two wells are planned for use when  
21 the pipeline connection is completed to the Superstition system. The Company  
22 is working with the State Land Department to obtain the final segment of right-of-  
23 way. The Company and developer will then coordinate the design completion  
24 and commissioning of the two wells. These wells will be placed in service once  
25 the housing market improves.

26 **Superstition; Queen Creek Pump Station - 5 Pumps/Panel** – The pumps and  
27 electrical panels are slated to be relocated to the Coolidge Airport location where  
28

1 a new storage tank and booster station is planned. For the reasons stated, this  
2 project has been postponed. The Company plans to move forward to complete  
3 this project in 2010.

4 **Miami; Well #23** – This well is out of service due to required repairs and  
5 replacements. Due to the Company's deteriorated earnings, this project has  
6 been temporarily delayed. The Company plans to complete the required repairs  
7 and replacements and use this well in 2011.

8 **Miami; Bandy Heights 2 Booster Pumps 100HP/Panel** – The Booster Pump  
9 Station ("BPS") was completed on June 14, 2004 and placed in service on  
10 December 31, 2004 and is part of this rate case application. This BPS is a  
11 critical part of the Miami water system. The newly constructed BPS moves water  
12 into the Miami water system from 3 of the 4 largest wells. The Company believes  
13 that Staff made a mistake when it concluded that the new BPS is not in service.  
14 Perhaps Staff's confusion arose because the old BPS is listed as out of service  
15 and has since been retired.

16 **Casa Grande; Well #34** – Well #34 was acquired as part of the Arizona City  
17 water system acquisition and is planned to be an additional source of supply for  
18 the Arizona City portion of the Casa Grande water system. Water produced by  
19 the well currently exceeds the arsenic MCL and requires treatment prior to its  
20 use. This portion of the Casa Grande system has experienced significant  
21 growth. The existing well (Well #28) is the single source of supply located in the  
22 Arizona City portion of the Casa Grande water system, with the remaining source  
23 of supply being provided by a single five mile long 12-inch waterline from the  
24 central Casa Grande system. In 2008, the Company successfully acquired a  
25 parcel of land to construct a new storage tank, booster station and ultimately a  
26 new arsenic treatment plant to treat water produced from Well #34. The new  
27 plant facilities are scheduled to begin design in late 2009 and construction in  
28

1 2010-2011. However, as discussed previously, due to the Company's financial  
2 condition, this project has been temporarily delayed. The Company anticipates  
3 its completion in 2012.

4 **Casa Grande; Well #9** – Based on water quality results taken from Well #9, the  
5 groundwater arsenic levels exceed the new MCL. Well #9 is remote from the  
6 rest of the Casa Grande well field and existing arsenic treatment plants. The  
7 Company determined that constructing a transmission line from Well #9 to one of  
8 the existing arsenic treatment plants was not cost-effective. Instead, removal of  
9 arsenic will occur on-site with a wellhead arsenic treatment plant. Due to the  
10 current level of investment in arsenic treatment plants Company-wide and  
11 specifically in Casa Grande, and the Company's deteriorated earnings, the  
12 Company decided to temporarily delay wellhead arsenic treatment until the  
13 financial performance of the Company improves. The Company plans to move  
14 forward with this project and anticipates its completion in 2012.

15 **Casa Grande; Well #12 (ADWR 55-616597)** – Water produced from this well  
16 has elevated levels of nitrates and the well was temporarily removed from service  
17 for that reason. The levels of nitrate were high enough that it was difficult to  
18 blend water from this well with other wells, and the Company did not believe it  
19 was cost-effective to construct a nitrate treatment plant at this time. Instead, with  
20 the construction of the Company's centralized Cottonwood Lane arsenic  
21 treatment plant, water from Well #12 can be blended with water from the wells  
22 supplying the Cottonwood Lane plant to a level below the MCL. The combined  
23 flows from the wells contributing to the Cottonwood Lane plant are approximately  
24 5,500 gallons per minute compared to the capacity of Well #12 of approximately  
25 800 gpm. Again, the larger flow rate at the Cottonwood Lane plant will allow  
26 water produced by Well #12 to be blended with the other wells to a point below  
27 the nitrate MCL thereby facilitating its use. The Company intends to complete  
28

1 the construction of the required pipeline and related equipment and  
2 programming. However, due to the current level of investment in arsenic  
3 treatment plants in Casa Grande and the Company's deteriorated earnings the  
4 Company decided to temporarily delay the construction until the financial  
5 performance of the Company improves. The Company plans to move forward  
6 with this project and anticipates its completion in 2010.

7 **Stanfield; Table Top Well #3 6,000 Gallon Pressure Tank** – The pressure tank  
8 at this site is planned to be relocated to the Coolidge Airport location where a  
9 new storage tank and booster station are also planned. Due to the Company's  
10 deteriorated earnings, this project has been temporarily delayed. The Company  
11 plans to move forward with this project and anticipates its completion in 2010.

12 **Stanfield; Table Top Well #3 Liquid Chlorinator & Building** – The Company is  
13 currently using the chlorinator at this site, although it was temporarily out of  
14 service for a few months while some repairs were being made.

15 **White Tank; Mar West Well #5 – 5,000 Gallon Pressure Tank** – The Company  
16 plans to place this facility in service and utilize it to supplement its supply to the  
17 White Tank water system. Currently, the well is over the MCL for nitrates. With  
18 the recent construction of a new nitrate treatment plant at Well #7, which is part  
19 of this rate case application, the Company intends to utilize the new nitrate  
20 treatment plant to treat water produced from this well. The Mar West facility will  
21 be used in conjunction with Well #7 as a supplemental supply. The White Tank  
22 water system has source of supply constraints and the Company envisions this  
23 facility as being a key part of the source of supply solution. Due to the  
24 Company's deteriorated earnings, this project has been temporarily delayed.  
25 The Company plans to move forward with this project and anticipates its  
26 completion in 2012.

1 **White Tank; Mar West Well #5, 2 Booster Pumps/Panel** – Key component of  
2 the Mar West facility operation discussed above.

3 **White Tank; Well #8 Hypochlorinator Cabinet** – This cabinet is no longer  
4 being used to house chlorination equipment, but is being used as a cabinet for  
5 the storage of miscellaneous parts and equipment. In lieu of purchasing a new  
6 on-site storage building, the Company decided to utilize an existing cabinet  
7 avoiding the additional costs of a new storage building.

8 **White Tank; Well #7 Hypochlorinator Cabinet** – This cabinet is no longer  
9 being used to house chlorination equipment, but is being used as a cabinet for  
10 the storage of miscellaneous parts and equipment. In lieu of purchasing a new  
11 on-site storage building, the Company decided to utilize an existing cabinet  
12 avoiding the additional costs of a new storage building.

13 **Coolidge; Well #1** – Well #1 (Valley Farms) is located on the same property as  
14 the Company's Valley Farms Well #2 and the storage tank and booster station  
15 which are currently under construction. With the customer growth in this portion  
16 of the Coolidge water system, additional source of supply, storage and booster  
17 capacity are required. Additionally, water produced by Well #2 is high in arsenic  
18 and would otherwise require treatment. In lieu of constructing an arsenic  
19 treatment plant for Well #2, the Company plans to place Well #1 in service. Well  
20 #1 will add additional source of supply at this site and it will allow the two wells to  
21 be blended together to reduce the arsenic levels below 10 ppb. The Company  
22 has completed the construction of the storage tank (which is not part of this rate  
23 case application) and anticipates the completion of the booster station later this  
24 year. The Company is currently developing the detailed blending plan report,  
25 which will be submitted to ADEQ for its review and approval. The Company  
26 intends to have the blending plan approved and Well #1 placed in service prior to  
27 summer of 2010.

1 **Coolidge; Well #11** – The groundwater produced by this well exceeds the new  
2 MCL for arsenic and will require wellhead treatment. This well is located in the  
3 area of Coolidge that has experienced significant growth over the past 3-5 years.  
4 When economic conditions improve, new home construction will place significant  
5 pressure on the Coolidge system. The placement of this well into service is a  
6 key part of the Company maintaining the required source of supply in Coolidge.  
7 Due to the Company's deteriorated earnings, this project has been temporarily  
8 delayed. The Company plans to move forward with this project in the future  
9 when earnings and the housing market improve.

10 **Lakeside; Well #1** – This well was removed from service due to high turbidity.  
11 The Company's solution to address the high turbidity is to construct an above-  
12 ground filter system to remove these small particulates. The existing site is of  
13 sufficient size to accommodate the construction of the necessary filter vessels.  
14 However, due to the Company's deteriorated earnings, this project has been  
15 temporarily delayed. The Company plans to move forward with this project and  
16 anticipates its completion in 2012.

17 **Sedona; Well #6** – Well #6 (the Rainbow Well) has been in continuous service  
18 since it was acquired as part of the Oak Creek Heights Water Association, Inc.  
19 water system acquisition in 1963. The well is a critical source of supply for the  
20 Sedona system. Historical arsenic sample results indicate elevated levels of  
21 arsenic in this well, at times exceeding 10 ppb. Although the well is in  
22 compliance with the current arsenic MCL, results from the most recent arsenic  
23 water quality results indicate that wellhead arsenic treatment will be required.  
24 The Company has contracted with Layne Christensen to design and construct  
25 the required arsenic treatment plant at this site. The Company has obtained the  
26 required building permit for the construction of the arsenic treatment plant and  
27 will begin construction in late 2009 with construction completion scheduled for  
28

1 late 2010. Based on the latest water quality testing, this well will continue  
2 operating both now and after the treatment plant is commissioned. Therefore,  
3 this well should continue to be included in rate base.

4 **V. Post Test Year Plant**

5 **Q. Pinewood Well #10**

6 A. As a result of the Company's continued persistence, the electrical panels are  
7 complete. Although construction has been approved by APS and a request for  
8 service has been repeatedly made by the Company, APS continues to  
9 unreasonably delay establishing service. As explained the Company's response  
10 to Staff's informal data request dated May 5, 2009, delays in placing the Well #10  
11 electrical panels in service are outside the Company's control. In fact, if it were  
12 not for the unfortunate and untimely actions of APS, I am confident the electrical  
13 panel in question would have been placed in service before the end of the test  
14 year. For the last 12 months, APS has delayed energizing the electrical panels.  
15 The Company has continuously contacted APS during this time and APS set the  
16 electric meter July 8, 2009. APS has informed the Company that the new panels  
17 will be energized by July 20, 2009.

18 **Q. DOES THAT CONCLUDE YOUR REBUTTAL TESTIMONY?**

19 A. Yes.



Groundwater transportation restrictions				X
Approval of deliveries of groundwater to other providers within AMAs				X

*Comments:* Subsequent to the initial Water Provider Compliance Status Report issued on 12/12/08, Arizona Water Company – Superior (ADWR #56-002002.0000; PWS #11-021), met with Department staff on 1/13/09 to discuss lost and unaccounted for water compliance status. At the meeting, Arizona Water Company presented information detailing increased measures and oversight undertaken to address their lost and unaccounted for water non-compliance. The Department anticipates a complete and satisfactory resolution regarding this matter in the near future. If you have any questions please contact Andrew Craddock, ADWR Compliance Manager, at (602) 771-8615.

**Completed by:**

<b>Program</b>	<b>Reviewed</b>	<b>Not applicable</b>	<b>Name</b>	<b>Phone</b>	<b>Date</b>
<b>AMA Office</b>	X		Sandra House	602-771-8585	12/5/08 Revised: 6/23/09
<b>Office of Assured &amp; Adequate Water Supply</b>		X	Rick Obenshain	602-771-8622	12/5/08 Revised: 6/23/09

<b>Community Water Planning</b>	X		Melanie Ford	602-771-8442	12/12/08 Revised: 6/23/09
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*This compliance status report does not guarantee the water availability for this system, nor does it reflect the status of any other water system owned by this utility company.*

**Arizona Department of Water Resources  
Water Provider Compliance Status Report**

**Water System Name: ARIZONA WATER COMPANY – ORACLE**

**Water System ID #: ADWR #56-000016.0000; PWS #11-019**

**Compliance Status:**

<i>Requirement</i>	<i>In compliance</i>	<i>Not in Compliance</i>	<i>Not yet determined</i>	<i>Not Applicable</i>
Annual water use reports within AMAs and INAs (if using non-exempt wells)	X			
Annual report for community water systems outside of AMAs				X
Annual assured or adequate water supply reports for designated providers				X (Undesignated provider)
Designation of assured or adequate water supply in good standing for designated providers				X
System water plan	X			
Management plan requirements within AMAs 1) Lost and unaccounted for water <10% of total use for large providers <15% of total use for small providers 2) Annual submittal of updated service area and distribution maps 3) NPCCP requirements are met 4) GPCD requirements are met 5) ACP requirements are met 6) Individual user requirements are met	2:X	1: X SEE COMMENT BELOW		3 – 6: X
Well permit volumes within AMAs	X			
Type I and II grandfathered right limits within AMAs				X
Maintenance of accurate measuring devices within AMAs and INAs	X			

Groundwater transportation restrictions	X			
Approval of deliveries of groundwater to other providers within AMAs				X

*Comments:* Subsequent to the initial Water Provider Compliance Status Report issued on 12/12/08, Arizona Water Company – Oracle (ADWR #56-000016.0000; PWS #11-019), met with Department staff on 1/13/09 to discuss lost and unaccounted for water compliance status. At the meeting, Arizona Water Company presented information detailing increased measures and oversight undertaken to address their lost and unaccounted for water non-compliance. The Department anticipates a complete and satisfactory resolution regarding this matter in the near future. If you have any questions please contact Andrew Craddock, ADWR Compliance Manager, at (602) 771-8615.

**Completed by:**

<b>Program</b>	<b>Reviewed</b>	<b>Not applicable</b>	<b>Name</b>	<b>Phone</b>	<b>Date</b>
<b>AMA Office</b>	X		Jeff Tannler	520-770-3800	12/12/08 <b>Revised: 6/23/09</b>
<b>Office of Assured &amp; Adequate Water Supply</b>		X	Rick Obenshain	602-771-8622	12/5/08 <b>Revised: 6/23/09</b>
<b>Community Water Planning</b>	X		Melanie Ford	602-771-8442	12/12/08 <b>Revised: 6/23/09</b>

*This compliance status report does not guarantee the water availability for this system, nor does it reflect the status of any other water system owned by this utility company.*

*ARIZONA WATER COMPANY*



Docket No. W-01445A-08-0440

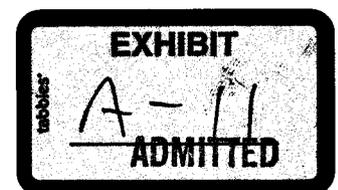
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**2008 RATE HEARING**  
**For Test Year Ending 12/31/07**

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**PREPARED**  
**REJOINDER TESTIMONY & EXHIBIT**  
**OF**  
**Fredrick K. Schneider**

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1 **ARIZONA WATER COMPANY**

2  
3 **Rejoinder Testimony of**  
4 **Fredrick K. Schneider**

5  
6 **I. Introduction and Purpose of Testimony**

7 **Q. PLEASE STATE YOUR NAME, EMPLOYER, AND OCCUPATION?**

8 A. My name is Fredrick K. Schneider. I am employed by Arizona Water Company  
9 (the "Company") as Vice President of Engineering. My business address is 3805  
10 N. Black Canyon Highway, Phoenix, Arizona 85015.

11 **Q. ARE YOU THE SAME FREDRICK K. SCHNEIDER THAT PREVIOUSLY**  
12 **PROVIDED DIRECT AND REBUTTAL TESTIMONY IN THIS MATTER?**

13 A. Yes.

14 **Q. HAVE YOU REVIEWED THE SURREBUTTAL TESTIMONY FILED BY THE**  
15 **OTHER PARTIES TO THIS PROCEEDING?**

16 A. Yes, I have reviewed the testimony of each of the witnesses of the Commission's  
17 Utilities Division Staff ("Staff") and the Residential Utility Consumer Office  
18 ("RUCO").

19 **Q. WHAT IS THE PURPOSE AND EXTENT OF YOUR REJOINER**  
20 **TESTIMONY?**

21 A. The purpose of my rejoinder testimony is to respond to the surrebuttal testimony  
22 by Staff witnesses, Katrin Stukov and Brian K. Bozzo, and RUCO witness,  
23 Timothy Coley.

24 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

25 A. Following this introduction, I present the Company's rejoinder to Staff witness  
26 Stukov's surrebuttal testimony specifically related to Arizona Department of  
27 Water Resources ("ADWR") compliance in the Company's Oracle and Superior  
28

1 systems in Section II. In Section III, I address Ms. Stukov's surrebuttal testimony  
2 specifically related to lost and unaccounted water for the Company's systems. In  
3 Section IV, I provide rejoinder testimony to Staff witness Bozzo and RUCO  
4 witness Coley related to their continued recommendations to disallow certain  
5 plant facilities. In Section V, I respond to Ms. Stukov's direct testimony regarding  
6 approval of construction for the arsenic treatment plant for Valley Vista System,  
7 DWR Well No. 55-212110.

8 **Q. DID YOU ADDRESS THE ARSENIC TREATMENT PLANT ISSUE FROM**  
9 **STAFF WITNESS STUKOV'S TESTIMONY IN YOUR REBUTTAL?**

10 A. No, however, certain conditions have changed as I explain below in the last two  
11 sections of this rejoinder.

12 **Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR REJOINDER**  
13 **TESTIMONY?**

14 A. Yes, I am sponsoring the following exhibit:  
15 FKS - RJ1 – Cost of lost and unaccounted for water.

16 **II. ADWR Compliance**

17 **Q. HAVE YOU REVIEWED THE SURREBUTTAL TESTIMONY OF MS. STUKOV**  
18 **REGARDING THE COMPANY'S ADWR COMPLIANCE?**

19 A. Yes.

20 **Q. DO YOU AGREE WITH MS. STUKOV'S POSITION THAT THE COMPLIANCE**  
21 **ISSUE IS NOT RESOLVED?**

22 A. No, I do not. The document which we provided to Staff and Ms. Stukov clearly  
23 states that ADWR "anticipates a complete and satisfactory resolution regarding  
24 this matter in the near future. In full, the document actually states:

25  
26 "Subsequent to the initial Water Provider Compliance Status Report  
27 issued on 12/12/08, Arizona Water Company – Superior (ADWR  
28 #56-002002.0000; PWS #11-021), met with Department staff on  
1/13/09 to discuss lost and unaccounted for water compliance

1 status. At the meeting, Arizona Water Company presented  
2 information detailing increased measures and oversight undertaken  
3 to address their lost and unaccounted for water non-compliance.  
4 The Department anticipates a complete and satisfactory resolution  
5 regarding this matter in the near future. If you have any questions  
6 please contact Andrew Craddock, ADWR Compliance Manager, at  
7 (602) 771-8615.”

8 The same language is provided within the ADWR status report for the  
9 Company's Oracle system. ADWR has not expressed or implied that these  
10 compliance items are not satisfactorily resolved. Although the Company has  
11 satisfactorily completed all required items, we have no control over the timeframe  
12 in which ADWR issues its final finding of compliance.

13 **III. Lost and Unaccounted for Water**

14 **Q. HAVE YOU REVIEWED THE SURREBUTTAL TESTIMONY OF MS. STUKOV  
15 REGARDING WATER LOSS?**

16 **A. Yes.**

17 **Q. DO YOU AGREE WITH MS. STUKOV'S STATEMENT THAT THE COMPANY  
18 HAS NOT THOROUGHLY EVALAUTED THE SOURCE OF WATER LOSS  
19 FOR EACH SYSTEM?**

20 **A. Absolutely not. Ms. Stukov has not provided any details to support her claim. In  
21 addition, it would appear that she has not acknowledged or addressed the  
22 detailed system-by-system evaluation I provided in my rebuttal testimony.  
23 Specifically, I addressed the reasons for water loss, the challenges we face in  
24 further reducing stated water loss, including the unique circumstances of each  
25 system with water loss above 10 percent.**

26 **Q. DID THE COMPANY ALSO PROVIDE A SUMMARY OF THE ESTIMATED  
27 COSTS REQUIRED TO REPLACE PROBLEMATIC INFRASTRUCTURE  
28 WITHIN THOSE SYSTEMS WITH HIGH WATER LOSS?**

**A. Yes this information was provided in Mr. Harris' rebuttal testimony, and was  
apparently ignored by Ms. Stukov. She also did not acknowledge the Company's**

1 estimate of the rate impact that would be the result of making the needed  
2 improvements to its systems to address water loss.

3 **Q. DID THE COMPANY ALSO PERFORM AN ANALYSIS OF THE ESTIMATED**  
4 **MONITARY VALUE OF ITS WATER LOSSES?**

5 A. Yes, however the information was not previously provided in a single tabulated  
6 exhibit. This information is now compiled and provided with this rejoinder  
7 testimony as Exhibit FKS - RJ1. Unit production costs are based on source of  
8 supply expense, pumping expense and water treatment expense derived from  
9 Schedule E-7, pages 1-6 of the Company's application.

10 **Q. WILL THE COMPANY PROVIDE STAFF WITH WATER LOSS REPORTS?**

11 A. Yes, the Company will provide water loss summary reports to Staff for systems  
12 with water loss greater than 15 percent and a progress report for those systems  
13 with water loss greater than 10 percent if the Commission feels they will be  
14 useful. However, it is important to note that the time and effort to prepare these  
15 reports will take away from the Company's time and effort to manage lost water.  
16 The Company believes that its manpower and financial expenditures could be  
17 better spent managing and reducing system water loss in lieu of preparing  
18 reports.

19 **Q. WHAT INFORMATION WILL BE CONTAINED IN THE REPORTS FOR**  
20 **SYSTEMS THAT HAVE WATER LOSS ABOVE 15 PERCENT?**

21 A. The Company will prepare an analysis of those systems with water loss greater  
22 than 15 percent outlining:

- 23 • Categorization of water losses for maintenance, water main, and  
24 service line breaks and water lost and unaccounted for.
- 25 • Volumes of water lost in each category.
- 26 • Where losses are occurring.
- 27 • Why losses are occurring.

- Cost of lost water based on source of supply expense, pumping expense and water treatment expense derived from Schedule E-7, pages 1-6 of the Company's application, or updated costs derived for this rate case proceeding.
- Estimated costs to reduce water loss to a percentage less than 10 percent and the cost analysis to implement these improvements.

**Q. SHOULD THE COMPANY CONSTRUCT THE REQUIRED INFRASTRUCTURE TO REDUCE SYSTEM WATER LOSS TO BELOW 10 PERCENT?**

A. No. Not if it is not economically feasible. As detailed in Mr. Garfield's and Mr. Harris' direct and rebuttal testimonies, the Company's earnings have deteriorated to a point where the Company can no longer secure additional long-term debt. Without the ability to secure debt financing the Company cannot fund needed improvements not to mention the extensive capital improvements of the magnitude necessary to reduce system-wide water loss to below 10 percent.

As discussed in Mr. Harris' and my rebuttal testimonies, the required infrastructure improvements needed to reduce water loss to a level less than 10 percent in all of the Company's divisions is on the same order of magnitude as the Company's investment to meet federally mandated arsenic treatment requirements. On the other hand, given a cost recovery mechanism for service and water main replacement similar to the Company's current Arsenic Cost Recovery Mechanism, these types of investments may be possible. In addition, as discussed by Mr. Reiker on pages 36 and 37 of his revenue requirement rebuttal testimony, Staff proposes to reduce the amount of expense related to the repair of main leaks. It is unlikely that the Company can reduce water loss by spending less money.

1           The stabilization and in many cases reduction in lost water within these  
2 systems clearly and indisputably shows the Company is doing an excellent job in  
3 its management of lost and unaccounted for water.

4 **IV. Plant Held for Future Use**

5 **Q. IN MR. BOZZO'S REBUTTAL TESTIMONY PAGE 10, LINES 21-26 AND PAGE**  
6 **11, LINES 1-8, HE STATES THAT THE COMPANY HAS NOT PROVIDED ANY**  
7 **WRITTEN ARGUMENT THAT SEVERAL FENCES, DWR WELL #55-613443**  
8 **AND AN 8' X 12' BLOCK BUILDING IN SEDONA ARE CURRENTLY IN**  
9 **SERVICE. DO YOU AGREE?**

10 **A.** No. The Company has provided written confirmation depicting these facilities as  
11 being in service. This information is, again, provided in Mr. Reiker's rejoinder  
12 testimony on page 9, line 17 through page 12, line 28.

13 **Q. IN YOUR REBUTTAL TESTIMONY, YOU PROVIDED A DETAILED**  
14 **DISCUSSION OF THE STATUS OF SEVERAL PLANT ITEMS DESCRIBED AS**  
15 **"HELD FOR FUTURE USE". WERE THE PLANT ITEMS PREVIOUSLY IN**  
16 **SERVICE?**

17 **A.** Yes. Several of the plant items described were historically in service and  
18 subsequently removed from service for various reasons. The plans to place  
19 these plant items back in service were described in detail in my rebuttal  
20 testimony. Those specific plant items, which were previously in service, are  
21 listed in Mr. Reiker's rejoinder testimony on Schedule JMR - RJ2.

22 **V. Arsenic Treatment Plant for Valley Vista Water System Well No. 55-212110**

23 **Q. CAN YOU PROVIDE AN UPDATE REGARDING THE VALLEY VISTA**  
24 **SYSTEM?**

25 **A.** Yes. In her direct testimony, Ms. Stukov recommends that the Company docket,  
26 as a compliance item, the Approval of Construction ("AOC") for the arsenic  
27 treatment plant being designed and constructed by the Company for DWR Well  
28

1 #55-212110 in the Valley Vista water system. The arsenic treatment plant was  
2 to be constructed by Basin Water. However, on July 20, 2009, Basin Water filed  
3 for Chapter 11 Bankruptcy protection. The impact to the arsenic project and  
4 Basin Water's ability to complete the construction of this project are not known.  
5 For this reason, the Company requests the compliance deadline be extended  
6 from May 31, 2010 to September 30, 2010.

7 **Q. DOES BASIN WATER PROVIDE ANY OTHER SERVICES TO THE**  
8 **COMPANY?**

9 A. Yes, the Company leases 10 arsenic treatment facilities from Basin Water and  
10 they operate these treatment facilities under contracts with the Company.

11 **Q. WILL THE BASIN WATER BANKRUPTCY HAVE AN IMPACT ON THE**  
12 **COMPANY'S EXISTING ARSENIC TREATMENT PLANTS?**

13 A. At this time, we do not know what the impact will be. Basin Water has indicated  
14 it would like to significantly increase the cost of the operations services under the  
15 contracts. There may be more significant developments in the Basin Water  
16 bankruptcy before the hearings in this matter begin on August 31, 2009.  
17 However, for now, all of the facilities that have already been installed are  
18 operating as planned, and all of the operations services are being provided under  
19 our contracts. Of course, we are monitoring the situation closely and doing  
20 everything we can to ensure that there is no disruption in our provision of safe  
21 and reliable water utility service to our customers.

22 **Q. DOES THAT CONCLUDE YOUR REJOINDER TESTIMONY?**

23 A. Yes.

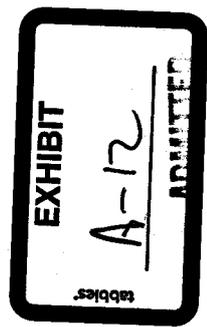
**COST OF LOST AND UNACCOUNTED FOR WATER**

System Name	Production (M gal)	Sales (M gal)	Used but Unbilled (M gal)	Percent Lost & Unaccounted for Water	Volume of Lost & Unaccounted for Water (M gal)	Volume of Lost Water over 10% (M gal)	Source of Supply <sup>1</sup>	Pumping Expense <sup>1</sup>	Water Treatment Expense <sup>1</sup>	Cost of Lost Water above 10%
BISBEE	350,021.0	294,235.3	1,547.60	15.50%	54,238	21,373	0.01	0.87	0.14	\$21,801
TIERRA GRANDE	56,133.5	50,100.7	120.76	10.53%	5,912	332	0.10	0.41	0.06	\$189
PINETOP LAKES	61,970.0	50,387.2	3,436.75	13.15%	8,146	2,166	0.02	0.73	0.10	\$1,841
SAN MANUEL	178,465.0	162,187.0	443.00	8.87%	15,835	-	1.31	0.37	0.11	\$0
WINKELMAN	39,276.0	34,312.5	157.00	12.24%	4,807	977	0.02	0.30	0.06	\$371
PINEWOOD	107,906.0	84,828.5	1,171.00	20.30%	21,907	12,351	0.03	1.46	0.45	\$23,961
RIMROCK	93,963.0	80,947.8	455.00	13.37%	12,560	3,515	0.01	0.66	1.83	\$8,789
SUPERIOR	151,328.0	130,650.6	4,322.30	10.81%	16,355	1,358	0.36	0.49	0.09	\$1,277

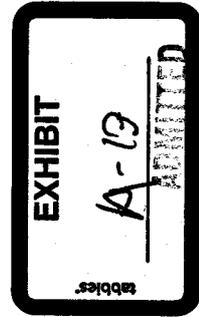
<sup>1</sup> - From the Company's Rate Application, Schedule E-7, pages 1-6 (cost per M gal)

[A] [B] [C] [D] [E] [F] [G] [H]

Line No.	System	Description	DWR Well No.	Original Cost	Accumulated Depreciation At 12/31/2007	CIAC Amt	NARUC Acct.	Notes
1	Superstition	Ranch 160 Well #1	55-583450	\$ 316,447	\$ 60,109	n/a	314	Plant held for future use - CWIP
2	Superstition	Ranch 160 Well #2	55-588620	\$ 484,606	\$ 79,500	\$ 484,606	314	Plant held for future use - CWIP
3	Superstition	Fence - Queen Creek Pump Station		\$ 7,306	\$ 2,255	n/a	321	Currently in use
4	Superstition	5 Pumps/Panel - Queen Creek Pump Station		\$ 57,030	\$ 80,620	n/a	325	Plant held for future use - was previously in use
5				\$ 865,389	\$ 222,484	\$ 484,606		
7	Miami	Well #23	55-528283	\$ 77,542	\$ 34,813	n/a	314	Plant held for future use - was previously in use
8	Miami	2 Booster Pumps(100 hp)/Panel - Bandy Heights Well #17		\$ 201,695	\$ 41,509	n/a	325	Currently in use
9				\$ 279,237	\$ 76,321	\$ -		
11	Casa Grande	Well #34	55-616588	\$ 22,742	\$ 22,923	n/a	314	Plant held for future use - was previously in use
12	Casa Grande	Well #9	55-616584	\$ 136,862	\$ 173,397	n/a	314	Plant held for future use - was previously in use
13	Casa Grande	Well #14	55-616598	\$ 159,393	\$ 135,923	n/a	314	Currently in use - Co. originally provided incorrect DWR No. 55-613443
14	Casa Grande	Inactive	55-616597	\$ 248,844	\$ 187,037	n/a	314	Plant held for future use - was previously in use
15				\$ 567,841	\$ 489,279	\$ -		
17	Stanfield	6,000 Gallon Pressure Tank - Table Top Well #3		\$ 2,500	\$ 2,960	n/a	321	Plant held for future use - was previously in use
18	Stanfield	Liquid Chlorinator & Building - Table Top Well #3		\$ 35,041	\$ 7,904	n/a	332	Plant held for future use - was previously in use - Currently in Use
19				\$ 37,541	\$ 10,863	\$ -		
21	White Tank	Fence - Mar West Well #5		\$ 2,430	\$ 1,757	n/a	314	Currently in use
22	White Tank	5,000 Gallon Pressure Tank - Mar West Well #5		\$ 1,752	\$ 1,257	n/a	321	Plant held for future use - was previously in use
23	White Tank	2 Booster Pumps (20 hp & 10 hp)/Panels - Mar West Well #5		\$ 33,352	\$ 25,950	n/a	325	Plant held for future use - was previously in use
24	White Tank	Hypochlorinator Cabinet - Well #8		\$ 746	\$ 130	n/a	331	Plant held for future use - was previously in use - Currently in Use
25	White Tank	Hypochlorinator Cabinet - Well #7 - Warehouse		\$ 158	\$ 154	n/a	331	Plant held for future use - was previously in use - Currently in Use
26				\$ 38,438	\$ 29,248	\$ -		
28	Coolidge	Well #1	55-616686	\$ 16,588	\$ 33,046	n/a	314	Plant held for future use - was previously in use
29	Coolidge	Well #11	55-210293	\$ 839,736	\$ 13,142	\$ 839,736	314	Plant held for future use - CWIP
30				\$ 856,324	\$ 46,188	\$ 839,736		
32	Lakeside	Well #1	55-616581	\$ 313,824	\$ 207,265	n/a	314	Plant held for future use - was previously in use
33				\$ 313,824	\$ 207,265	\$ -		
35	Sedona	Sedona Golf Resort Well	55-518969	\$ 973,264	\$ 441,132	n/a	314	Currently in use - Co. originally provided incorrect DWR No. 55-516201
36	Sedona	Well #6	55-616662	\$ 103,222	\$ 153,723	n/a	314	Currently in use
37	Sedona	8' x 12' Block Building - Sunup Well Site		\$ 469	\$ 310	n/a	314	Currently in use
38	Sedona	Fence - Sunup Well Site		\$ 11,689	\$ 5,601	n/a	314	Currently in use
39	Sedona	5 hp Pump/Panel - Sunup Well Site		\$ 6,761	\$ 2,889	n/a	325	Plant held for future use - was previously in use - Retire
40				\$ 1,095,405	\$ 603,655	\$ -		
42	Pinewood	Electrical Panel (WA 1-4308 - Post Test Year) - Well No. 10		\$ 40,553	\$ 1,191	n/a	325	Placed in service on July 10, 2009
43				\$ 40,553	\$ 1,191	\$ -		
44				\$ 4,094,552	\$ 1,696,494	\$ 1,324,342		
45	Totals							



Line No.	System	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
		Description	DWR Well No.	NARUC Acct.	Original Cost	Accumulated Depreciation At 12/31/2007	CIAC Amt.	Company Position	Staff Position	RUCO Position	
1	Superstition	Ranch 160 Well #1	55-583450	314	\$ 316,447	\$ 60,109	n/a	CWIP (Not in Rate Base)	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
2	Superstition	Ranch 160 Well #2	55-588620	314	\$ 484,606	\$ 79,500	\$ 484,606	CWIP (Not in Rate Base)	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
3	Superstition	Fence - Queen Creek Pump Station		321	\$ 7,306	\$ 2,255	n/a	Currently in use - Include in rate base	Disallow - Not Used/Useful	Currently in Use - Include in rate base	
4	Superstition	10x10 Block Bldg - Queen Creek Pump Station		321	\$ 1,173	\$ 1,486	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
5	Superstition	5 Pumps/Panel - Queen Creek Pump Station		325	\$ 57,030	\$ 80,620	n/a	Plant held for future use - was previously in use	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
6	Superstition	Automatic Controls - Queen Creek Pump Station		325	\$ 7,684	\$ 6,329	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
7	Superstition	Filter System - Queen Creek Pump Station		332	\$ 3,057	\$ 1,973	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
8	Superstition	20'x10' Storage Tank - Desert Wells 1-3		342	\$ 500	\$ 655	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
9	Superstition	Mobile Radio Base Station - Office/Warehouse		397	\$ 7,088	\$ 4,553	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
					\$ 884,891	\$ 237,480	\$ 484,606				
10	Bisbee	5x8' Metal Bldg. - Black Gap Repeater Station		397	\$ 704	\$ 746	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
					\$ 704	\$ 746	\$ -				
11	Winkelman	Well #2	55-6156694	314	\$ 66,360	\$ 79,635	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
					\$ 66,360	\$ 79,635	\$ -				
12	Miami	Well #23	55-528263	314	\$ 77,542	\$ 34,813	n/a	Plant held for future use - was previously in use	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
13	Miami	2 Booster Pumps(100 hp)/Panel - Bandy Heights Well #17		325	\$ 201,695	\$ 41,509	n/a	Currently in use	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
					\$ 279,237	\$ 76,321	\$ -				
14	Casa Grande	Well #34	55-616588	314	\$ 22,742	\$ 22,923	n/a	Plant held for future use - was previously in use	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
15	Casa Grande	Well #9	55-616594	314	\$ 136,862	\$ 173,397	n/a	Plant held for future use - was previously in use	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
16	Casa Grande	Inactive	55-616583	314	\$ 115,205	\$ 101,202	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
17	Casa Grande	Well #14	55-616598	314	\$ 159,393	\$ 135,923	n/a	Currently in use - Co. originally provided incorrect DWR No. 55-613443	Disallow - Not Used/Useful	Currently in Use - Include in rate base	
18	Casa Grande	Inactive	55-616597	314	\$ 248,844	\$ 167,037	n/a	Plant held for future use - was previously in use	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
19	Casa Grande	Inactive	55-616602	314	\$ 373,272	\$ 211,888	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
					\$ 1,056,318	\$ 812,369	\$ -				



Line No.	System	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
		Description	DWR Well No.	NARUC Acct.	Original Cost	Accumulated Depreciation At 12/31/2007	CIAC Amt	Company Position	Staff Position	RUCO Position	
1	Stanfield	6,000 Gallon Pressure Tank - Table Top Well #3		321	\$ 2,500	\$ 2,960	n/a	Plant held for future use - was previously in use	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
2	Stanfield	Liquid Chlorinator & Building - Table Top Well #3		332	\$ 35,041	\$ 7,904	n/a	Currently in use - Include in rate base	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
3	Stanfield	16,000 Gallon Storage Tank - Table Top Well #3		342	\$ 5,100	\$ 6,214	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
					\$ 42,641	\$ 17,077	\$ -				
4	White Tank	Fence - Mar West Well #5		314	\$ 2,430	\$ 1,757	n/a	Currently in use - Include in rate base	Disallow - Not Used/Useful	Currently in use - Include in rate base	
5	White Tank	5,000 Gallon Pressure Tank - Mar West Well #5		321	\$ 1,752	\$ 1,257	n/a	Plant held for future use - was previously in use	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
6	White Tank	2 Booster Pumps (20 hp & 10 hp)/Panels - Mar West Well #5		325	\$ 33,352	\$ 25,950	n/a	Plant held for future use - was previously in use	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
7	White Tank	Hypochlorinator Cabinet - Well #8		331	\$ 746	\$ 130	n/a	Currently in use - Include in rate base	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
8	White Tank	Hypochlorinator Cabinet - Well #7 - Warehouse		331	\$ 158	\$ 154	n/a	Plant held for future use - was previously in use	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
					\$ 38,438	\$ 29,248	\$ -				
9	Coolidge	Well #1		314	\$ 16,588	\$ 33,046	n/a	Plant held for future use - was previously in use	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
10	Coolidge	Well #11		314	\$ 839,736	\$ 13,142	\$ 839,736	Plant held for future use - was previously in use	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
					\$ 856,324	\$ 46,188	\$ 839,736				
11	Lakeside	Well #1		314	\$ 313,824	\$ 207,265	n/a	Plant held for future use - was previously in use	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
					\$ 313,824	\$ 207,265	\$ -				
12	Sedona	Sedona Golf Resort Well		314	\$ 973,264	\$ 441,132	n/a	Currently in use - Co. originally provided incorrect DWR No. 55-516201	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
13	Sedona	Inactive		314	\$ 45,969	\$ 56,553	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
14	Sedona	Well #6		314	\$ 103,222	\$ 153,723	n/a	Currently in use	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
15	Sedona	Post Test Year Plant - WA 1-4011 - Carroll Canyon Well		314	\$ 413,817	\$ 1,249	n/a	Not used & Useful - Remove from Rate Base	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
16	Sedona	Valley Vista Well #1		314	\$ 184,328	\$ 159,932	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
17	Sedona	Sunup Well		314	\$ 78,804	\$ 111,236	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
18	Sedona	8' x 12' Block Building - Sunup Well Site		314	\$ 469	\$ 310	n/a	Currently in use - Include in rate base	Disallow - Not Used/Useful	Currently in use - Include in rate base	
19	Sedona	Automatic Controls - Sunup Well Site		314	\$ 555	\$ 640	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
20	Sedona	Fence - Sunup Well Site		314	\$ 11,689	\$ 5,601	n/a	Currently in use - Include in rate base	Disallow - Not Used/Useful	Currently in use - Include in rate base	
21	Sedona	5 hp Pump/Panel - Sunup Well Site		325	\$ 6,761	\$ 2,889	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful	
22	Sedona	Well #13 - Valley Vista		314	\$ 1,597,759	\$ 20,691	n/a	Currently in use - Include in rate base	Currently in use - Include in rate base	Disallow - Not Used/Useful - Post test year plant	

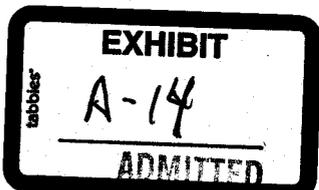
[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	
Line No.	System	Description	DWR Well No.	NARUC Acct.	Original Cost	Accumulated Depreciation At 12/31/2007	CIAC Amt	Company Position	Staff Position	RUCO Position
1	Sedona	Post Test Year Plant - WA 1-4267b - ADOT Hwy 179 project		343	\$ 1,890,680	\$ 16,922	n/a	Currently in use - Include in rate base	Currently in use - Include in rate base	Disallow 35% as not used/useful - Post test year plant
					\$ 5,307,317	\$ 970,878	\$ -			
2	Pinewood	Inactive	55-616650	314	\$ 13,512	\$ 10,674	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful
3	Pinewood	Post Test Year Plant - Electrical Panel (WA 1-4308 - Post Test Year) - Well No. 10		325	\$ 40,553	\$ 1,191	n/a	Post-Test Year Plant - Placed in service on July 10, 2009	Disallow - Not Used/Useful	Disallow - Not Used/Useful
					\$ 54,065	\$ 11,865	\$ -			
4	Rimrock	Montezuma Haven Well #1	55-803289	314	\$ 62,097	\$ 60,312	n/a	Retire - Remove Original Cost from UPIS & Accum. Depr.	Disallow - Not Used/Useful	Disallow - Not Used/Useful
					\$ 62,097	\$ 60,312	\$ -			
5	Totals				\$ 8,962,216	\$ 2,549,384	\$ 1,324,342			



**ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY**  
*Certificate of Approval of Construction*  
*For a Water Distribution System*

<b>Applicant Information</b>				<b>ADEQ File Number</b>	20060510, LTF 45510, Place ID 114203	
<b>Name</b>	Arizona Water Company			<b>Project Name</b>	Valley Vista Well well #13	
<b>Mail Address 1</b>	3805 Black Canyon Hwy.,				DWR ID #55-212110	
<b>Mail Address 2</b>	P.O. Box 29006			<b>Project Location</b>	Off Deer Pass Dr. in Village of Oak Creek, Sedona, AZ	
<b>City / State / Zip</b>	Phoenix, AZ 85038-9006					
<b>Project Type</b>				<b>Project Description</b>		
<input type="checkbox"/>	<b>Pressure Main</b>	<input type="checkbox"/>	<b>Storage Tank</b>	New well, ADWR #55-212110. Installed pipe and fittings include 25 LF of 6-inch DIP, four 6-inch gate valves, three 6-inch Tee's, one 6-inch CLA-valve and approximately 40 LF of 2-inch PVC, and related fittings.		
<input type="checkbox"/>	<b>Hydro Tank</b>	<input checked="" type="checkbox"/>	<b>Other</b>			
<b>Facility Name</b>	Arizona Water Company			<b>Facility Capacity</b>		
<b>Street Address 1</b>	65 Coffee Pot Dr., Suite 7					
<b>Street Address 2</b>						
<b>City / State / Zip</b>	Sedona, AZ 86336					
<b>PWSID</b>	13-114			<b>Facility Capacity Affirmation By</b>	<b>Date</b>	
<b>County</b>	Yavapai			N/A		
<b>Design Documents Approved</b>	<b>Date</b>			<b>Site Information</b>		
<b>Engineers Certificate of Completion</b>	5/12/08			<b>Location of Distribution System</b>		
<b>As-Built Site Plan</b>				<b>Township</b>	T16N	<b>Range</b> 05E
<b>As-Built Drawings and Specifications</b>	1/21/08			<b>Section</b>	14	<b>Quarter Section</b> SE
<b>Operations &amp; Maintenance Plan</b>				<b>Latitude</b>	34° 46' 36.6" <b>North</b>	
<b>Response Letter</b>	4/22/08			<b>Longitude</b>	111° 46' 59.4" <b>West</b>	
<b>Other (Pressure / Leak test)</b>	7/31/07 Keith Self					
<b>Variations Granted</b>						
This well is approved to pump up to 50 gpm through the existing arsenic treatment unit.						
 For <b>Marti Blad, Ph.D., P.E.</b> <b>Engineering Services Manager</b> <b>Date</b> 5/23/08						

Cc: AWC, Attn: James Wilson, P.E., 20410 N. 19<sup>th</sup> Avenue, Suite 110, Phoenix, AZ 85027



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY  
NORTHERN REGIONAL OFFICE  
1801 W. Route 66 Suite 117. Flagstaff AZ. 86001

ATTACHMENT C  
APPROVAL OF CONSTRUCTION  
(APPROVAL TO OPERATE)

1. This approval is based solely on the engineer's certification in the Engineer's Certificate of Completion that construction of this system complies with the key elements of the approved plans and the ADEQ minimum design and construction standards contained in statute, rule or referenced codes.
2. The Department cannot assure that conditions and requirements specified by state regulations, guidelines, or in the approved plans have been met. This Approval should not be construed or implied as a guarantee or warranty of the quality of construction or accuracy of dimensions nor does this Approval in any way relieve any other party from meeting requirements or obligations imposed by contract or any other means, including commonly accepted industry practices.

The Department or its employees assume no responsibility for, nor is the owner, contractor or any other party relieved of any legal obligations or responsibility for compliance with applicable laws or the Approval to Construct by virtue of this Approval.

This approval shall be null and void if an undiscovered defect or omission in manufacturing, design, installation or operation is in violation of the key elements of the approved as-built plans, applicable laws, rules, regulations, bulletins, or the Approval to Construct. Upon discovery of said defect, the Department may require the project owner to submit plans to correct the defect, and then correction.

3. Project Storm Water Pollution Prevention Plan (SWPPP) shall remain operational until all areas of the construction site, not otherwise covered by permanent pavement or structure, have been stabilized with a uniform perennial vegetative cover with a density of 70% (of ambient) or equivalent measures have been employed (final stabilization & Notice of Termination).

System No: 13-114  
File No. 20060510 (LTF 45510)

# The Regulation of Public Utilities Theory and Practice

**CHARLES F. PHILLIPS, JR.**

Robert G. Brown  
Professor of Economics  
Washington and Lee University

1993  
PUBLIC UTILITIES REPORTS, INC.  
Arlington, Virginia



A-15

Table 8-2

## Working Capital Allowance

Cash Component	
One-eighth of Adjusted Operation and Maintenance Expense, Excluding Fuel and Purchased Power	\$ 43,106,000
Fuel Lag	5,145,000
<b>TOTAL CASH COMPONENT</b>	<b>\$ 48,251,000</b>
<b>PLUS: Materials And Supplies</b>	<b>\$ 35,369,000</b>
Fossil Fuel Inventory	59,679,000
Deferred Nuclear Fuel (net of tax)	6,544,000
Deferred Quarto Coal (net of tax)	\$ 23,289,000
<b>TOTAL</b>	<b>\$ 124,881,000</b>
<b>LESS: Customer Deposits</b>	<b>\$ 3,734,000</b>
Tax Offset	
One-fourth of Adjusted Taxes, Excluding FICA, Deferred Taxes, and ODOE	31,638,000
<b>TOTAL</b>	<b>\$ 35,372,000</b>
<b>WORKING CAPITAL ALLOWANCE</b>	<b>\$137,760,000</b>

Source: *In re Ohio Edison Co.*, 61 PUR4th 241, 258 (Ohio, 1984).

difference between a utility's current assets and current liabilities.<sup>152</sup> The allowance for materials and supplies is based upon a utility's inventories that are held for future operation and use.<sup>153</sup> In addition to these two items, a credit is frequently made for accrued taxes<sup>154</sup> and/or customer deposits,<sup>155</sup> while an allowance may be made for fuel (such as coal or oil inventories, gas storage underground, unrecovered fuel costs)<sup>156</sup> and for compensating balances.<sup>157</sup>

### *Property Held for Future Use*

Property held for future use is the amount of investment in property and plant that is not being used currently by a utility to provide service. Generally, such property is land, purchased when available, for potential future use (such as an office building, a generating site or transmission lines). The rule

~~that most commissions follow in deciding whether to include or exclude such property is one based upon a time limitation, that is, if the property has an expected in-service date within a reasonable time period (commonly two to ten years),<sup>158</sup> it is included in the rate base.~~ As the District of Columbia commission noted in a 1979 case, suitable generating sites in the Washington metropolitan area were scarce and rapidly increasing in value. Inclusion in the rate base would provide an incentive to the utility to acquire suitable sites as soon as possible.<sup>159</sup>

### *Land*

Except for natural gas utilities, the valuation of land is of little importance in rate-making cases. Unlike most other items in the rate base, land represents a small portion of total property, has no cost of production and tends to appreciate in value. Generally, commissions value land on an original cost basis, although an estimate of its current value is used when fair value property valuations are made.<sup>160</sup>

The Supreme Court approved the FPC's procedure of valuing natural gas land on an original cost basis in 1934.<sup>161</sup> Troxel has argued that this is the proper measure:

The market price of gas land is not altogether independent of utility service prices: utility consumers buy most of the gas of Appalachian fields, and they buy much of the natural gas output in other areas. If circular reasoning is avoided, a property value cannot be based on the prices that are subject to public control. Another consideration goes against a return on the market price of natural gas land. Gas companies obtain revenue from consumers that is used to cover the gas exploration costs. Since buyers pay some or all of the costs of gas discoveries, they should not pay a return, too, on increases in land prices.<sup>162</sup>

### *Intangibles*

It will be recalled that the Supreme Court, in the *Smyth* case, listed six specific measures of value and then added: "We do not say that there may not be other matters to be regarded in estimating the value of the property."<sup>163</sup> Almost immediately, public utilities claimed allowances for several intangibles, the most important being good will, franchise value, water rights, leaseholds and going concern value. These items should properly be included in the rate base, they argued, because the value of a utility is more than just the value of its physical property. While the commissions and courts have often supported this contention and have made allowances for these items in the past, few are currently included in rate bases.

<sup>144</sup> In the *Hope* case, to illustrate, the commission found that the utility had an excessive reserve and deducted a reserve requirement of approximately \$22 million, nearly \$18 million less than the actual reserve of \$50 million. *Cleveland v. Hope Natural Gas Co.*, 44 PUR(NS) 1.

<sup>145</sup> See Troxel, *Economics of Public Utilities*, 348-51; "Accrued Depreciation Not Measured by Accounting Computations," *Public Utilities Fortnightly* 66 (7 July 1960): 60-1.

Some have argued that the depreciation reserve should not be deducted from the property value when a utility has failed to earn a fair rate of return, since its customers have not provided all the depreciation accruals. But see Bonbright (*Public Utility Rates*, 211-2) for an argument that the full reserve should be deducted even if it is not earned.

<sup>146</sup> *Ohio Edison Co. v. Mansfield*, 41 PUR3d 452, 456 (Ohio 1961).

<sup>147</sup> 41 PUR3d at 457. See "Accrued Depreciation."

<sup>148</sup> *In re Citizens Tel. Co.*, 43 PUR3d 471, 474 (Ohio 1962).

<sup>149</sup> Bonbright, *Public Utility Rates*, 193, n.2.

<sup>150</sup> *Ibid.*, 195.

<sup>151</sup> The formula approach was used in *In re Oklahoma Gas & Elec. Co.*, 26 PUR4th 123 (Ark. 1978), but rejected in *In re Hudson Water Co.*, 28 PUR4th 617 (N.H. 1979).

<sup>152</sup> The balance sheet approach was utilized in *In re Granite State Elec. Co.*, 28 PUR4th 240 (N.H. 1978), but rejected in *In re Peoples Gas Light & Coke Co.*, 27 PUR3d 209 (Ill. 1959). See also *In re Working Capital Allowances of Gas, Electric, and Telephone Utilities*, 68 PUR4th 177 (Mich. 1985).

<sup>153</sup> See, e.g., *In re Nat'l Fuel Gas Distrib. Corp.*, 28 PUR4th 42 (N.Y. 1978); *In re Southwestern Bell Tel. Co.*, 28 PUR4th 519 (Kan. 1979); *In re Intermountain Gas Co.*, 30 PUR4th 231 (Idaho 1979).

<sup>154</sup> See "Tax Offsets against Working Capital," *Public Utilities Fortnightly* 79 (16 March 1967): 59-61; *Re Iowa Pub. Serv. Co.*, 74 PUR4th 405 (Iowa 1986).

<sup>155</sup> Because of the procedure of using accrued taxes and customers' deposits to offset cash requirements, it is possible to have a *negative* working capital allowance. In such cases, some commissions have deducted this amount from the rate base. See, e.g., *In re Pacific Tel. & Tel. Co.*, 53 PUR3d 513 (Cal. 1964); *In re Southern Bell Tel. & Tel. Co.*, 66 PUR3d 1 (Fla. 1966); *In re Georgia Power Co.*, 120 PUR4th 621 (Ga. 1989). See also *In re American Tel. & Tel. Co.*, 70 PUR3d 129 (FCC 1967).

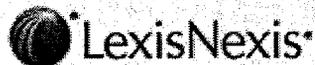
<sup>156</sup> See, e.g., *In re Pacific Tel. & Tel. Co.*, 63 PUR4th 13; *In re Piedmont Natural Gas Co., Inc.*, 71 PUR4th 531 (N.C. 1985).

<sup>157</sup> Compensating balances were included in *In re Citizens Utils. Co.*, 26 PUR4th 553 (Idaho 1978), but excluded in *Pennsylvania Pub. Util. Comm'n v. Pennsylvania Power Co.*, 27 PUR4th 426 (Pa. 1978). See "Compensating Bank Balances Discussed," *Public Utilities Fortnightly* 99 (20 January 1977): 48-49.

<sup>158</sup> *In re Northwestern Bell Tel. Co.*, 29 PUR4th 7 (Minn. 1978); *In re Interstate Power Co.*, Dkt. No. 78-0161 (Ill. 1979); *In re Georgia Power Co.*, 88 PUR4th 479 (Ga. 1987). But see *Barasch v. Pennsylvania Pub. Util. Comm'n*, 532 A.2d 325, 95 PUR4th 521 (1987) (holding that Pennsylvania statute bars inclusion, even when actual use within a reasonable time period is anticipated).

<sup>159</sup> *In re Potomac Elec. Power Co.*, 29 PUR4th 517 (D.C. 1979). The commission added, however, that should such property subsequently be sold, any gain would be reflected as an above-the-line item, thereby benefiting ratepayers.

<sup>160</sup> Welch has argued that all land should be valued at its present value regardless of the measure used for other property items.



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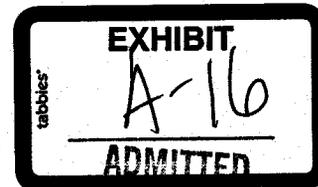
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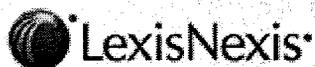
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## Accounting for Public Utilities

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II RATEMAKING CONCEPT  
CHAPTER 4 Determination of Utility Rate Base

*1-4 Accounting for Public Utilities § 4.03*

**§ 4.03 Criteria for Inclusion of Items in Rate Base**

Considerable controversy exists over the appropriate methods and time periods used to measure (value) the rate base (with the potential for significant differences in the rate base valuation depending upon the approach utilized). Differences of opinion and policy also exist as to what items of investment should properly earn a rate of return. Two general tests are commonly applied by regulatory commissions in determining the propriety of including specific items in the rate base.

(1) *"Used and useful" concept*-- ~~Only plant currently providing or capable of providing utility service to the consuming public is allowed in the rate base.~~ As will soon be apparent, this criterion is interpreted differently by the various regulatory commissions and also applied differently under varying circumstances. This is especially true for items such as construction work in progress, uncommitted and reserve capacity, and plant held for future use.

(2) *"Prudent investment" concept*-- Only plant prudently purchased or constructed is allowed in the rate base, or, to put it another way, any amounts determined to be acquired or constructed with either:

(a) fraudulent intentions; or

(b) in a manner that is obviously wasteful are excluded from the rate base.

Depending on the policy of the various regulatory bodies, this concept may entail a formal analysis of rate base components or may only be considered when particular situations warrant.

The central issue arising when restricted-use debt is issued is how to account for the interest earned on the unexpended funds because it affects the capitalization of AFUDC. A variety of approaches were being followed, including:

- (1) reflecting the earnings in the calculation of the AFUDC rate;
- (2) crediting the earnings against the CWIP financed by the restricted-use debt;
- (3) lowering the cost of the long-term debt in the capital structure to reflect a "net" interest expense (i.e., the rate of return is affected, but not AFUDC); and
- (4) recognizing the earnings currently in the income statement.

As a result of the divergent practices, the FERC, in 1983, issued Accounting Release AR-13 to provide for consistent treatment. Generally, AR-13 requires that restricted-use debt be included with other debt and that the average balance of the unexpended funds held in trust (or other special funds) be included in the computation of average CWIP when calculating AFUDC rates. Also, AFUDC should be capitalized on a CWIP balance that includes the unused funds balance. All earnings on the unused funds during construction are then credited to the cost of constructing the related facilities. (See § 4.06, below, for the complete text of Accounting Release AR-13.)

#### [6] Plant Held for Future Use

As distinguished from construction work in progress, ~~plant held for future use (PHFU) either represents plant acquired and basically ready for use in the utility function under a definite plan or land and land rights owned and held for future use.~~ With the exception of land and land rights, PHFU is similar to the category of fixed assets known as "completed construction not classified," and no AFUDC is normally capitalized on PHFU. For this reason, assets falling in the PHFU category are generally segregated and accounted for separately. For instance, the FERC requires electric utilities to account for these assets in Account 105--Electric Plant Held for Future Use.

Considerable disagreement exists over the proper treatment of PHFU for ratemaking purposes. ~~On one hand, it appears appropriate to include PHFU in the rate base and to permit the utility to earn a return on property that has been prudently acquired and set aside for future operations (particularly since AFUDC is normally not allowed).~~ On the other hand, ratepayers do not relish the idea of paying the carrying costs for assets that are not presently providing any service. The most common argument offered by commissions rejecting rate base treatment for PHFU is that only plant presently used and useful in providing service should be allowed in the rate base.

A number of regulatory commissions have, however, from time to time allowed portions of PHFU in the rate base for a variety of reasons. The two general criteria for allowing rate base treatment are the following:

(1) *Imminent use*-- The utility is able to demonstrate that certain PHFU will be used and useful within a short period of time.

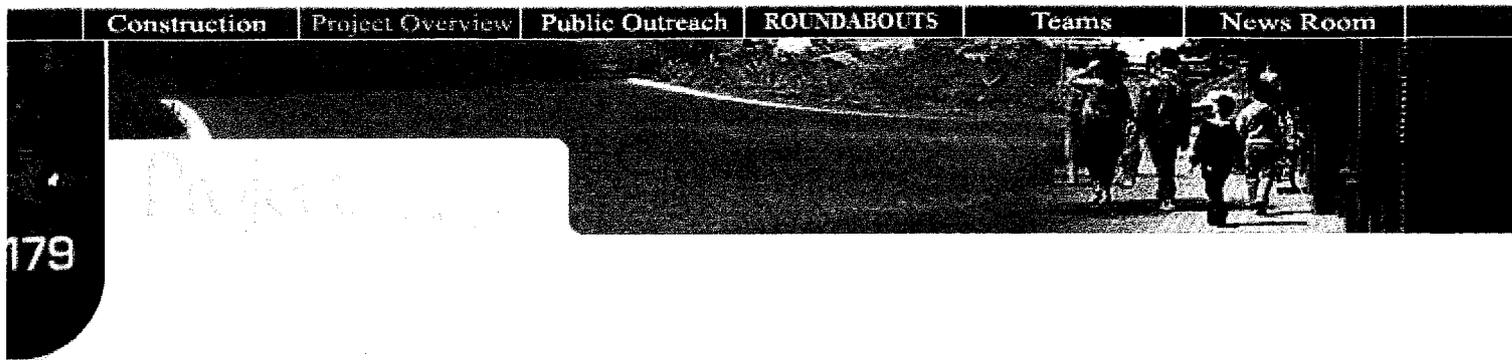
(2) *Definite plan for use*-- The utility is able to demonstrate that the purchase of certain PHFU is associated with a definite plan for use in the foreseeable future and will result in benefits to ratepayers.

The "imminent use" criterion is most clearly demonstrated where the subject PHFU is actually in service before the rate order or will be in the immediate future. On the other hand, the "definite plan for use" criterion is usually more difficult to prove, since the time frame generally extends further into the future. An important question raised in this respect is what period into the future constitutes a definite plan. While there is no clear-cut trend in this area, several commissions allowing PHFU in the rate base under the definite plan criterion have used three years as an upper limit for a definite plan.<sup>n21</sup>

In addition to the general criteria described above, some regulatory authorities consider other factors before allowing PHFU in the rate base. The various circumstances sometimes resulting in rate base treatment include:

(1) *Environmental factors*-- Environmental restrictions (safety, aesthetics, etc.) on site locations for new construction have sometimes required utilities to purchase several potential land sites well in advance. The extended time frame is necessary in order to perform required environmental studies and to obtain the required regulatory approvals, with the purchase of several potential sites considered necessary to reduce the possibility that no site will be available due to a failure to pass environmental tests. In these situations, commissions sometimes extend the time frame of the definite plan and allow the various land purchases in the rate base as prudent purchases under the circumstances. When allowed in the rate base, any gains on the subsequent sales of alternative sites may be passed on to the ratepayers, while any transfers to nonutility operations are closely scrutinized as to their ultimate disposition.

(2) *Economic factors*-- Overall economic conditions or specific conditions in the area where a utility operates may make it prudent to invest in land in order to secure future plant sites. This may well be the case where land is extremely scarce (especially for urban utilities) and/or when the price of real estate is steadily increasing. Under these situations, some commissions deem these land purchases as good management decisions for the benefit of ratepayers and thus allow rate base treatment. Again, the treatment of gain or loss from any subsequent sale or transfer of the property may take into consideration whether ratepayers have previously paid a return on these investments.



The Arizona Department of Transportation (ADOT) worked with the community to design and is currently constructing improvements from Back O' Beyond to the "Y" intersection on SR 179. This road carries millions of tourists each year through one of the most pristine and unique areas of the world. The road is also the only route connecting the business and residential communities of the greater Sedona area. While there have been past improvements to SR 179, continuing traffic build up will continue to exacerbate the capacity and safety issues of the road over the next 20 years.

The central goal of the project is to develop a transportation corridor that addresses safety, mobility and preservation of scenic, aesthetics, historic, environmental and other community values and reach consensus on the planning, design and construction of SR 179.

A collaborative community-based process was conducted between August 2003 and December 2004 to plan corridor improvements. To accomplish this, ADOT used an innovative process called the Needs Based Implementation Plan (NBIP). The NBIP used the existing highway configuration as its initial baseline. This process depended on the community to actively participate and provide input throughout the NBIP process. December 2004 marked the end of the NBIP Process.

**Aerial Maps:**  
[Village of Oak Creek](#)  
[Bell Rock Blvd. to Back O' Beyond](#)  
[Back O' Beyond to The "Y"](#)



*ARIZONA WATER COMPANY*



Docket No. W-01445A-08-\_\_\_\_\_

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**2008 RATE HEARING**  
**For Test Year Ending 12/31/07**

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**PREPARED**  
**DIRECT TESTIMONY & EXHIBITS**  
**OF**  
**Joel M. Reiker**

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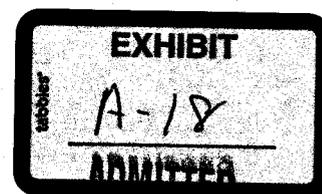


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1 **ARIZONA WATER COMPANY**

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2

3 **Direct Testimony of**

4 **Joel M. Reiker**

5

6 **I. Introduction and Qualifications**

7 **Q. PLEASE STATE YOUR NAME, EMPLOYER, AND OCCUPATION.**

8 A. My name is Joel M. Reiker. I am employed by Arizona Water Company (the  
9 "Company") as Manager of Rates and Regulatory Accounting.

10 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK**  
11 **EXPERIENCE.**

12 A. In 1998, I graduated from the Arizona State University School of Management,  
13 receiving a Bachelor of Science degree in global business with a specialization in  
14 financial management. I have since attended various educational programs and  
15 classes on public utility and regulatory issues, including the National Association of  
16 Regulatory Utility Commissioners ("NARUC") and the Institute of Public Utilities'  
17 Regulatory Studies program at Michigan State University. From 1999 to 2005, I  
18 was employed by the Arizona Corporation Commission ("Commission") as a Staff  
19 Rate Analyst in the Utilities Division. During my employment with the Commission  
20 my responsibilities included providing recommendations on behalf of Staff  
21 regarding rate of return, mergers and acquisitions, divestitures, financings,  
22 affiliated interests issues, and I occasionally acted as arbitrator in disputes brought  
23 before the Utilities Division. Subsequent to my employment with the Commission,  
24 I was employed by the American Water Works Service Company ("American  
25 Water") as Senior Regulatory Analyst. My responsibilities with American Water  
26 included the preparation and support of regulatory filings, including rate cases, on  
27 behalf of utility subsidiaries in the states of Arizona, California, New Mexico, and  
28 Hawaii. In 2007, I joined the Company in my current position as Manager of Rates

1 and Regulatory Accounting. I am a member of the Society of Utility and  
2 Regulatory Financial Analysts and I am a Certified Rate of Return Analyst.  
3 Appendix A contains a listing of my regulatory experience.

4 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE COMMISSION?**

5 A. Yes. I have testified before the Commission in cases involving rates, mergers and  
6 acquisitions, financings, complaints, and the affiliated interests rules. I have also  
7 testified in California before the California Public Utilities Commission on issues  
8 regarding rate of return and revenue decoupling, and I have prepared pre-filed  
9 testimony on marginal cost-based special contracts with the New Mexico Public  
10 Regulation Commission.

11 **II. Purpose and Scope of Testimony**

12 **Q. WHAT IS THE SCOPE OF YOUR TESTIMONY IN THIS PROCEEDING?**

13 A. I address several issues and specific adjustments in this general rate case  
14 application, including the development of rate base, working capital requirement,  
15 and net operating income for the Company for the historical twelve month period  
16 ending December 31, 2007 ("Test Year"). I also sponsor the calculation of the  
17 associated increase in gross revenue requirement, as well as the Company's cost  
18 of service study, and proposed rate design for each system. Additionally, I  
19 address the Company's need for purchased power and purchased water adjuster  
20 mechanisms, or in the alternative, an attrition adjuster mechanism.

21 **Q. DOES YOUR TESTIMONY IN THIS PROCEEDING INCORPORATE THE**  
22 **RECOMMENDATIONS OF OTHER COMPANY WITNESSES?**

23 A. Yes. My testimony in this proceeding incorporates recommendations sponsored in  
24 the direct testimonies of William M. Garfield, Joseph D. Harris, Fredrick K.  
25 Schneider, and Thomas M. Zepp.

26 **Q. WHICH OF THE COMPANY'S SYSTEMS ARE INCLUDED IN THIS GENERAL**  
27 **RATE CASE APPLICATION?**

1 A. This application includes all of the Company's water systems that were providing  
2 service at the end of Test Year. These water systems are separated into three  
3 operating groups, as follows:

4 Eastern Group	Western Group	Northern Group
5 Superstition	Casa Grande	Lakeside
6 Bisbee	Stanfield	Overgaard
7 Sierra Vista	White Tank	Sedona
8 San Manuel	Ajo	Pinewood
9 Oracle	Coolidge	Rimrock
Winkelman		
Miami		

10 The Superstition system was formed as a result of consolidating the water  
11 systems formerly known as Apache Junction and Superior. Decision No. 66849,  
12 (March 19, 2004) consolidated the Apache Junction and Superior systems into the  
13 Superstition system for purposes of ratemaking and accounting in the first step of  
14 a two-step process that concludes with the filing of this general rate case  
15 application. The first step resulted in the adoption of a single, uniform basic  
16 service charge across the two systems and the consolidation of all financial and  
17 operating data. The filing of this general rate case represents the second step,  
18 culminating with the adoption of a common commodity charge and the  
19 consolidation of customer billing data upon the conclusion of this proceeding.

20 **Q. PLEASE IDENTIFY THE EXHIBITS AND ASSOCIATED SCHEDULES YOU ARE**  
21 **SPONSORING.**

22 A. I sponsor the rate case exhibits and schedules marked A through C and E through  
23 H, accompanying the Company's application in this proceeding. These schedules  
24 constitute all of the information required from Class A utilities pursuant to A.A.C.  
25 R14-2-103.B. I also sponsor Exhibits JMR-1 through JMR-8, attached to this pre-  
26 filed testimony.

27 **Q. MR. REIKER, WERE THESE EXHIBITS PREPARED BY YOU OR UNDER**  
28 **YOUR DIRECTION AND SUPERVISION?**

1 A. Yes, they were.

2 **Q. DID THE COMPANY FILE THE ADDITIONAL INFORMATION REQUIRED FOR**  
3 **CLASS A, B AND C UTILITIES PURSUANT TO A.A.C. R14-2-103.B.5?**

4 A. Yes. These additional filing requirements are attached to the Company's  
5 application.

6 **III. Compliance with Decision No. 68302**

7 **Q. IS THE COMPANY UNDER COMMISSION ORDER TO ADDRESS ANY ISSUES**  
8 **IN THIS CASE?**

9 A. Yes. In Decision No. 68302 (November 14, 2005), the most recent rate decision  
10 for the Western group, the Commission approved the Company's Central Arizona  
11 Project ("CAP") Hook-Up Fee tariff subject to the conditions recommended by Staff  
12 in that docket (Docket No. W-01445A-04-0650). Among the nine conditions  
13 recommended by Staff and adopted by the Commission, was the specification that  
14 in the Company's next rate case for the Western group, the Commission shall  
15 reevaluate the CAP Hook-Up Fees to determine if they should be continued,  
16 eliminated, or modified. In order to facilitate the Commission's reevaluation of the  
17 CAP Hook-Up Fees in this case, the Company has prepared a true-up of the CAP  
18 Hook-up Fees for the Casa Grande, Coolidge, and White Tank systems (attached  
19 hereto as Exhibits JMR-1, JMR-2, and JMR-3). As shown on page 1 of the  
20 respective exhibits, at the end of the Test Year the amount of deferred CAP  
21 Municipal & Industrial ("M&I") capital charges recovered via the CAP Hook-up  
22 Fees were in line with the projections set forth in Decision No. 68302 for the Casa  
23 Grande, Coolidge, and White Tank systems.

24 **Q. IS THE COMPANY REQUESTING CONTINUATION OF THE CURRENT CAP**  
25 **HOOK-UP FEES FOR THE CASA GRANDE, COOLIDGE, AND WHITE TANK**  
26 **SYSTEMS IN THIS PROCEEDING?**

27 A. Yes. The Company is requesting continuation of the current CAP Hook-Up Fees.  
28 The recent slowdown in the housing market, uncertainty related to customer

1 growth projections utilized in the development of the current fees, and the fact that  
2 the fees have only been in place since December 2005, lead the Company to  
3 believe that a more meaningful evaluation of the CAP Hook-Up Fees can be  
4 undertaken in the Company's next general rate case for the Western group. It  
5 should also be noted that to the extent previously deferred CAP M&I capital  
6 charges and ongoing charges are not included in base rates in this proceeding,  
7 the CAP Hook-up Fees provide a means of recovering these ongoing costs.

8 **Q. HAS THE COMPANY COMPLIED WITH THE REMAINDER OF THE**  
9 **CONDITIONS ADOPTED IN DECISION NO. 68302?**

10 A. Yes. The Company has complied with the remainder of the conditions set forth in  
11 Decision No. 68302 with respect to the CAP Hook-Up Fees, including the filing of  
12 a detailed CAP Water Use Plan for the Western group. Mr. Garfield and Mr.  
13 Schneider both address this issue in further detail in their testimony.

14 **IV. Summary of Revenue Requirement**

15 **Q. PLEASE EXPLAIN SCHEDULE A-1.**

16 A. Schedule A-1 is titled "Computation of Increase in Gross Revenue Requirement".  
17 The increase in gross revenue for each system represents the change in gross  
18 revenues that the Company has determined is necessary to recover the cost,  
19 including the cost of capital, of providing safe and reliable service to its customers.  
20 Schedule A-1 is summarized by operating group and total company. As shown on  
21 page 1, line 23, the total required increase in gross revenues for the Company  
22 based on the historical Test Year ended December 31, 2007 is \$15,441,290, or  
23 35.61% over current base rates.

24 **Q. DOES THE REQUIRED INCREASE IN GROSS REVENUES OF \$15,441,290**  
25 **SHOWN ON SCHEDULE A-1 REFLECT THE ACTUAL NET INCREASE IN**  
26 **REVENUES?**

27 A. No, it does not. Customers served by various systems are currently paying the  
28 purchased power adjuster mechanism ("PPAM") and/or arsenic cost recovery

1 mechanism ("ACRM") surcharges which, at the conclusion of this proceeding, will  
2 be reset to zero. The Test Year 2007 annualized level of PPAM and ACRM  
3 surcharge revenue that customers are currently providing is \$4,401,942. Thus,  
4 the actual increase over current revenues is \$11,039,348, (\$15,441,290 -  
5 \$4,401,942), or 25.46% over current rates, rather than 35.61%.

6 **Q. WILL THE COMPANY IMPLEMENT ADDITIONAL SURCHARGES PRIOR TO**  
7 **THE TIME NEW BASE RATES ARE DETERMINED IN THIS PROCEEDING?**

8 A. Yes. The Company has Step-2 ACRM surcharges for the Sedona, Rimrock and  
9 Casa Grande systems, and Step-1 ACRM surcharges for the Stanfield and White  
10 Tank systems, as well as a PPAM filing for the Northern group, pending before the  
11 Commission at this time. These pending surcharges collectively represent an  
12 additional \$971,659 in annualized revenue in the form of additional "step"  
13 increases in rates. These step increases will serve to mitigate the effect of future  
14 increases in base rates.

15 **Q. WHAT IS THE CONSOLIDATED REVENUE ADJUSTMENT SHOWN ON LINE**  
16 **21 OF SCHEDULE A-1?**

17 A. The consolidated revenue adjustment represents the increase/(decrease) in the  
18 revenue requirement of a particular water system resulting from the Company's  
19 proposed rate design. In systems where the Company is proposing partial or  
20 full rate consolidation, the adjustment will be positive or negative. The total  
21 (net) consolidated revenue adjustment for each group and the total Company is  
22 zero. As shown on Schedules A through H, the Company has provided revenue  
23 requirement data for each water system included in this filing. As explained by Mr.  
24 Harris in Section V of his testimony, the Company proposes to consolidate the  
25 financial and operating data of those systems where the Company proposes  
26 partial rate consolidation, and the financial, operating and billing data of those  
27 systems where the Company proposes full rate consolidation.  
28

1 **V. Rate Base and Rate Base Adjustments**

2 **A. Rate Base**

3 **Q. HOW DID YOU ARRIVE AT THE TEST YEAR ORIGINAL COST RATE BASE**  
4 **SHOWN ON SCHEDULE B-1, LINE 23?**

5 A. The original cost rate base was calculated by establishing the balance of utility  
6 plant in service at the end of the Test Year, per the Company's books, as shown in  
7 column A, lines 3 – 9 of Schedule B-2. Typical rate base deductions (accumulated  
8 depreciation, advances for construction, etc.) and additions (working capital, etc.)  
9 were then calculated to arrive at the actual end-of-Test Year rate base shown in  
10 column A, line 30 of Schedule B-2. Finally, the Company made various pro forma  
11 adjustments (columns B through J of Schedule B-2) to the actual end-of-Test Year  
12 rate base to arrive at the adjusted end-of-Test Year rate base shown in column L  
13 of Schedule B-2. As shown in column L, line 30 of Schedule B-2, and summarized  
14 on Schedule B-1, the Company's total adjusted end-of-Test Year rate base is  
15 \$147,744,646. The Company's original cost rate base is used as its fair value rate  
16 base for the purposes of this proceeding.

17 **Q. HOW DID YOU ESTIMATE THE WORKING CASH COMPONENT OF WORKING**  
18 **CAPITAL SHOWN ON SCHEDULE B-5, LINE 3?**

19 A. The working cash component of working capital required was estimated using the  
20 "lead/lag study" methodology. A lead/lag study examines the net lag days  
21 between (1) the time lag between services rendered and the receipt of revenues  
22 for such services and (2) the time lag between the recording of costs and the  
23 payment of such costs. The lead/lag study submitted by the Company in the most  
24 recent Northern group rate case was used as a starting point to estimate the  
25 working cash requirement in this case.

1 Q. PLEASE RECONCILE THE REMAINING WORKING CAPITAL  
2 COMPONENTS LISTED ON LINES 5 – 9 OF SCHEDULE B-5 WITH THE  
3 COMPANY'S COMPARATIVE BALANCE SHEET SHOWN ON SCHEDULE  
4 E-1.

5 A. The amount of materials and supplies inventories, required bank balances, and  
6 prepayments included in the working capital allowance shown on Schedule B-5  
7 represent a thirteen-month average, whereas the balance sheet shown on  
8 Schedule E-1 represents a single point in time. A thirteen-month average balance  
9 of the aforementioned working capital components eliminates daily fluctuations  
10 and more accurately reflects ongoing balances.

11 B. Rate Base Adjustments

12 Q. PLEASE EXPLAIN RATE BASE ADJUSTMENT JMR-1 – INCREASE RATE  
13 BASE TO REFLECT POST-TEST YEAR PLANT.

14 A. Rate base adjustment JMR-1, detailed on pages 1 – 7 of the appendix to Schedule  
15 B-2, increases the end-of-test year plant and accumulated depreciation to reflect  
16 revenue-neutral plant additions placed into service after the end of the Test Year.  
17 This adjustment also reflects additional accounts payable invoices related to  
18 arsenic treatment projects placed into service during the Test Year, but recorded  
19 after December 31, 2007.

20 Rate base adjustment JMR-1 increases gross plant in service by  
21 \$3,383,122 and \$3,178,714 in the Western and Northern groups, respectively, and  
22 increases accumulated depreciation by \$49,678 and \$29,538 in the Western and  
23 Northern groups, respectively. To remain consistent with the matching principle,  
24 this adjustment assumes that post-Test Year plant additions were placed into  
25 service on December 31, 2007, and assumes for ratemaking purposes that the  
26 Company recorded a half-year of depreciation on these additions.

1 Q. PLEASE EXPLAIN RATE BASE ADJUSTMENT JMR-2 – AMORTIZE  
2 REGULATORY ASSETS AND LIABILITIES APPROVED IN PRIOR RATE  
3 CASES.

4 A. Rate base adjustment JMR-2, detailed on page 8 of the appendix to Schedule B-2,  
5 is the adjustment necessary to amortize regulatory assets and liabilities approved  
6 in Decision Nos. 66849 and 68302, the most recent rate cases for the Eastern and  
7 Western groups. Adjustment JMR-2 amortizes these items through the end of the  
8 Test Year, resulting in a regulatory liability of \$532,000 in the Miami system  
9 (Eastern group) and a regulatory asset of \$128,606 in the Casa Grande system  
10 (Western group).

11 Q. PLEASE EXPLAIN RATE BASE ADJUSTMENT JMR-3 – INCREASE  
12 REGULATORY ASSET TO REFLECT ADDITIONAL DEFERRED CAP M&I  
13 CHARGES NOW USED AND USEFUL.

14 A. Rate base adjustment JMR-3, detailed on page 9 of the appendix to Schedule B-2,  
15 increases the regulatory asset discussed above for the Casa Grande system to  
16 reflect additional deferred CAP M&I capital charges that were used and useful at  
17 the end of the 2007 Test Year. During 2003, the most recent Test Year for the  
18 Western group, 279 acre feet (“AF”) of untreated CAP water were sold to golf  
19 courses that were not contractually obligated to reimburse the Company for a  
20 portion of previously deferred CAP M&I charges. Per Decision No. 68302, this  
21 279 AF was deemed used and useful, and a related \$142,896 in previously  
22 deferred CAP M&I charges was included in rate base as a regulatory asset  
23 (Decision 68302 at pages 6-7). In 2007, 1,003 AF of untreated CAP water were  
24 sold to golf courses that were not contractually obligated to reimburse the  
25 Company for a portion of previously deferred CAP M&I charges. Therefore, the  
26 deferred CAP M&I charges related to this additional 724 AF (1,003 AF minus 279  
27 AF) that is now used and useful should be included in rate base at this time. Rate  
28

1 base adjustment JMR-3 increases rate base in the Western group to reflect an  
2 additional \$447,197 in deferred CAP M&I charges.

3 **Q. PLEASE EXPLAIN RATE BASE ADJUSTMENT JMR-4 – ADJUST RATE BASE**  
4 **TO CORRECT SADDLEBROOKE PROJECTS ERRONEOUSLY BOOKED TO**  
5 **ORACLE SYSTEM.**

6 A. Rate base adjustment JMR-4, detailed on page 10 of the appendix to Schedule B-  
7 2, is an adjustment to remove from the Oracle system's rate base plant,  
8 accumulated depreciation, and related advances that should have been booked to  
9 the SaddleBrooke system. As I explain below, the SaddleBrooke system is not  
10 included in this rate application. Rate base adjustment JMR-4 reduces the Oracle  
11 system's rate base by \$136,729.

12 **Q. PLEASE EXPLAIN RATE BASE ADJUSTMENT JMR-5 – ALLOCATE PHOENIX**  
13 **OFFICE AND METER SHOP.**

14 A. Rate base adjustment JMR-5, detailed on pages 11 – 12 of the appendix to  
15 Schedule B-2, is the adjustment necessary to allocate plant and accumulated  
16 depreciation related to the Phoenix office and meter shop to each system,  
17 consistent with prior approved allocation methods. Phoenix office and meter shop  
18 net plant is allocated using the three-factor formula. The three-factor formula is  
19 based on the ratios of each system's number of customers, gross plant less  
20 intangibles, and payroll to total-company customers, gross plant less intangibles,  
21 and payroll.

22 **Q. PLEASE EXPLAIN RATE BASE ADJUSTMENT JMR-6 – REMOVE**  
23 **SADDLEBROOKE RATE BASE.**

24 A. Rate base adjustment JMR-6, detailed on page 13 of the appendix to Schedule  
25 B-2, is a "housekeeping" adjustment necessary to remove rate base amounts  
26 related to the Company's SaddleBrooke water system. Rate base adjustment  
27 JMR-6 is required in order for the Eastern group and total Company summary data  
28 to reconcile to that of the individual systems included in this filing.

1 Per a condition of Decision No. 62754, the Order granting the Company a  
2 Certificate of Convenience and Necessity to serve the SaddleBrooke  
3 development, the Company is required to file a rate application within 36 months  
4 of the date it first provides service to a permanent residential customer. The  
5 Company does not currently serve permanent residential customers in  
6 SaddleBrooke. Because the SaddleBrooke system is not included in this rate  
7 case filing, all rate base assets and liabilities related to the SaddleBrooke system  
8 have been removed from the Eastern group and total Company summary data.

9 **VI. Income Statement**

10 **A. Test Year Revenues and Revenue-Based Adjustments**

11 **Q. DID YOU VERIFY AND PROVE THE TEST YEAR REVENUES?**

12 A. Yes. Schedule H-5 shows the Company's bill count. The bill count lists the  
13 number of bills by thousand-gallon block and the cumulative consumption by rate  
14 block for each rate schedule in each water system. The bill count was prepared  
15 using the methodology described in Appendix C of the American Water Works  
16 Association's Manual of Water Supply Practices M1, and it is presented in a format  
17 consistent with A.A.C. R14-2-103 (appendix), as well as prior Company rate case  
18 filings.

19 As shown on page 1 of Schedule H-2, column E, line 43, the Company's  
20 total billed water revenues at present rates for the Test Year (inclusive of customer  
21 growth and the elimination of SaddleBrooke) were \$41,810,625, compared to total  
22 adjusted general ledger ("GL") water revenues of \$41,811,305, shown on page 1  
23 of Schedule H-2, column K, line 43. The unreconciled difference of negative \$680  
24 (\$41,810,625 - \$41,811,305) represents 0.002% of adjusted GL water revenues.  
25 Each operating group and water system is reconciled to within  $\pm 0.07\%$  of adjusted  
26 GL water revenues on the remaining pages of Schedule H-2.<sup>1</sup>

27  
28 <sup>1</sup> A correlation of bill count revenue to actual billed revenue of 3 percent or less generally indicates that the bill tabulation is sufficiently accurate for rate-design purposes.

1 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-1 – ELIMINATE**  
2 **SALES TAX FROM REVENUES AND EXPENSES.**

3 A. Income statement adjustment JMR-1 is a pro forma adjustment to remove  
4 revenue-based taxes from operating revenues and expenses. The purpose of the  
5 adjustment is to segregate revenues billed pursuant to the Company's tariffs,  
6 which *exclude* sales taxes and regulatory assessments, from total operating  
7 revenues, which *include* sales taxes and regulatory assessments. Because the  
8 Company's tariff rate for coin-operated water machines *includes* sales tax, sales  
9 taxes on coin machine revenues were not eliminated. Income statement  
10 adjustment JMR-1 reduces revenues and expenses by \$1,607,328, \$1,512,907  
11 and \$840,107 in the Eastern, Western and Northern groups, respectively, and has  
12 no effect on the Company's adjusted Test Year operating income. Adjustment  
13 JMR-1 is detailed on page 1 of the appendix to Schedule C-2.

14 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-2 – ELIMINATE**  
15 **PURCHASED POWER ADJUSTMENT MECHANISM (“PPAM”) REVENUES.**

16 A. Income statement adjustment JMR-2, detailed on page 2 of the appendix to  
17 Schedule C-2, is a pro forma adjustment to remove the revenues collected  
18 pursuant to the Company's purchased power adjustment mechanism which  
19 currently exists in the Northern group. The adjustment increases revenues by  
20 \$39,446. These revenues reflect changes in purchased power costs from base  
21 levels established in Decision No. 64282 (December 28, 2001), the most recent  
22 rate decision for the Northern group. The Company proposes that the PPAM be  
23 reset to zero with new base levels established in this proceeding at the current  
24 level of expense. As explained by Mr. Garfield in Section IV of his direct  
25 testimony, and in Section VII below, the Company also requests that PPAMs be  
26 established in its Eastern and Western groups with initial rates set at \$0.00 per  
27 1,000 gallons in each system. In the alternative, the Company requests that the  
28

1 Commission approve an attrition adjuster mechanism ("AAM") in this proceeding. I  
2 address the AAM in more detail in section VIII.

3 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-3 – ELIMINATE**  
4 **NET UNBILLED REVENUES AND EXPENSES.**

5 A. Income statement adjustment JMR-3, detailed on page 3 of the appendix to  
6 Schedule C-2, removes the effect of the year-end accounting requirement to  
7 accrue revenues earned but not yet billed and expenses incurred but not yet  
8 invoiced. In January of each year, the prior year's unbilled revenue and expense  
9 accounting adjustments recorded in December are reversed. In December of  
10 each year, the revenues earned but not yet billed to customers and expenses  
11 incurred but not yet invoiced by suppliers are quantified and recorded as a year-  
12 end accounting adjustment. The net effect of the January and December  
13 accounting adjustments are removed from the adjusted operating income by  
14 including this pro forma adjustment. The adjustment to revenues is \$69,777,  
15 \$156,469 and (\$13,745), and the adjustment to expenses is (\$343), \$1,443 and  
16 (\$5,220) in the Eastern, Western and Northern groups, respectively.

17 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-4 – ELIMINATE**  
18 **MONITORING ASSISTANCE PROGRAM ("MAP") REVENUES AND**  
19 **EXPENSES.**

20 A. Income statement adjustment JMR-4, detailed on page 4 of the appendix to  
21 Schedule C-2, removes the surcharge revenues and Test Year expenses  
22 associated with the Arizona Department of Environmental Quality's ("ADEQ")  
23 MAP. The MAP initially provided the required testing for three categories of  
24 constituents: inorganic, synthetic organic chemicals, and volatile organic  
25 chemicals. In 2003, testing for asbestos, radionuclides, and nitrite was added to  
26 the list of chemicals monitored under the program.

27 For each system that is required to participate in the MAP, the Company  
28 must pay an annual fee to ADEQ based on a formula in that agency's regulations

1 which covers the normal testing requirements. Pursuant to the Company's MAP  
2 Surcharge Tariff, MA-262, a filing is made with the Director of the Utilities Division  
3 in October of each year to establish the surcharge to be effective beginning the  
4 following January. The MAP surcharge revenues of \$32,909, \$6,609 and \$24,585  
5 collected in 2007 and the MAP expenses of \$33,504, \$6,548 and \$26,940  
6 recorded in 2007 for the Eastern, Western and Northern groups, respectively,  
7 should be removed from the Test Year operating income to determine new base  
8 rates in this proceeding.

9 **Q. WHAT ARE THE ADVANTAGES OF RETAINING THIS RATEMAKING**  
10 **PROCEDURE FOR MAP COSTS?**

11 A. There are several benefits to retaining the procedure as currently designed. For  
12 instance, because the testing costs are outside the control of the Company and  
13 set by another State agency independent of the Commission, it is beneficial to  
14 inform customers on their bills that participation in MAP testing is required by the  
15 ADEQ and not the Commission. Additionally, the MAP surcharge procedure  
16 provides a direct benefit to customers when MAP program cost reductions realized  
17 in the past are passed on to customers by way of a reduced MAP surcharge, or a  
18 water system's requirement to participate in the MAP is eliminated altogether as a  
19 result of customer growth.

20 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-5 – ELIMINATE**  
21 **ARSENIC COST RECOVERY MECHANISM (“ACRM”) REVENUES.**

22 A. Adjustment JMR-5, detailed on page 5 of the appendix to Schedule B-2, removes  
23 the Test Year surcharge revenues collected pursuant to the Company's ACRM. In  
24 the Test Year, the Company had ACRMs approved for its Sedona and Rimrock  
25 systems in the Northern Group. This adjustment reduces revenues by \$120,061.  
26 These revenues reflect the recovery of capital costs (return and depreciation) and  
27 the capital portion of operating lease charges related to arsenic treatment facilities.  
28 Because the capital and operating costs associated with these facilities are

1 reflected in the adjusted Test Year operating income, the Test Year revenue  
2 collected pursuant to the ACRM should be eliminated, and the surcharges related  
3 to these facilities should be reset to zero. Upon the issuance of a final order in this  
4 proceeding, the Company will begin to recover in base rates the costs associated  
5 with those arsenic treatment facilities that are included in this filing.

6 **Q. IS THE COMPANY REQUESTING AUTHORITY TO FILE ADDITIONAL ACRMS**  
7 **IN THE FUTURE?**

8 A. Yes. As explained by Mr. Harris and Mr. Schneider, the Company will be  
9 designing and constructing additional arsenic treatment facilities in the  
10 Superstition and Sedona systems. These arsenic treatment facilities are separate  
11 from the facilities covered by the Step-1 ACRM surcharges currently in effect for  
12 the Superstition and Sedona systems, which were approved in Decision Nos.  
13 70169 and 69883. Without the continued authority to file future ACRMs, the  
14 capital and operating costs related to these federally-mandated projects will go  
15 unrecovered until at least 2012. It is for this reason that the Company requests  
16 the authority to file additional ACRMs in this docket, to be "trued-up" in a future  
17 general rate case application.

18 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-6 – INCREASE**  
19 **COIN MACHINE REVENUES TO REFLECT AMOUNT OF WATER ACTUALLY**  
20 **DISPENSED FROM MACHINES.**

21 A. Income statement adjustment JMR-6, detailed on page 6 of the appendix to  
22 Schedule C-2, increases Test Year revenues to reflect the amount of water  
23 actually dispensed from the Company's coin-operated machines. The coin-  
24 operated machines are designed to dispense a minimum quantity of water  
25 established pursuant to the Company's tariff, but they generally dispense a small  
26 quantity in excess of the minimum amount. This adjustment corrects for these  
27 differences by increasing Test Year revenues by \$2,102 in the Eastern group and  
28 \$729 in the Western group, and decreasing revenues by \$23 in the Northern

1 group. Because the coin-operated machines' tariff rate includes sales tax,  
2 operating expense adjustments in the amount of \$221, \$50 and (\$3) were made to  
3 reflect a corresponding change in sales taxes. Although the adjustment is de  
4 minimis, it is included as a housekeeping adjustment for purposes of reconciling  
5 GL revenues to the bill count.

6 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-7 – ANNUALIZE**  
7 **REVENUES AND EXPENSES TO REFLECT END-OF-TEST YEAR**  
8 **CUSTOMERS.**

9 A. Income statement adjustment JMR-7, detailed on pages 7 – 27 of the appendix to  
10 Schedule C-2, adjusts revenues and expenses to reflect the number of customers  
11 served by the Company on December 31, 2007. The adjustment to revenues of  
12 \$100,467, \$285,943 and \$70,205 in the Eastern, Western and Northern groups,  
13 respectively, is the difference between the revenues generated by the Test Year  
14 2007 bill count, shown on Schedule H-5, and a pro forma bill count that reflects the  
15 number of residential and commercial customers served on December 31, 2007.

16 Additional source of supply, pumping, and water treatment expenses of  
17 \$17,827, \$70,150 and \$8,325 in the Eastern, Western, and Northern groups,  
18 respectively, were calculated by multiplying the difference between the number of  
19 gallons sold per the Test Year bill count, shown on Schedule H-5, and a pro forma  
20 bill count that reflects the number of residential and commercial customers served  
21 on December 31, 2007, by the average costs shown on lines 28 – 30 of Schedule  
22 E-7.

23 Additional transmission, distribution, and customer accounting expenses of  
24 \$21,576, \$60,700 and \$18,281 in the Eastern, Western, and Northern groups,  
25 respectively, were calculated by multiplying the difference between the number of  
26 customers reflected in the Test Year bill count, shown on Schedule H-5, and a pro  
27 forma bill count reflecting the number of residential and commercial customers  
28

1 served on December 31, 2007, by the average costs shown on lines 33 – 34 of  
2 Schedule E-7.

3 **Q. DOES THE COMPANY'S CUSTOMER GROWTH ANNUALIZATION SATISFY**  
4 **THE COMMISSION'S DIRECTIVE IN DECISION NO. 68302 (THE COMPANY'S**  
5 **MOST RECENT RATE DECISION) THAT THE COMPANY USE END-OF-TEST**  
6 **YEAR CUSTOMER COUNTS IN ITS NEXT RATE CASE FOR ANNUALIZATION**  
7 **PURPOSES?**

8 A. Yes. As explained in the previous answer, the Company's adjusted Test Year  
9 operating income (revenues and expenses) reflects the number of customers  
10 served on December 31, 2007. An operating income adjustment to reflect the  
11 number of customers served on the last day of the Test Year appropriately  
12 matches revenues and expenses with an end-of-Test Year rate base.

13 **Q. WHAT IS THE ADJUSTMENT TO ADMINISTRATIVE & GENERAL EXPENSE**  
14 **INCLUDED IN INCOME STATEMENT ADJUSTMENT JMR-7?**

15 A. This adjustment increases administrative and general expense by \$308,701 in the  
16 Northern group, and represents an operating expense line-item designed to  
17 recover revenues lost as a result of implementing a water conservation-oriented,  
18 three-tiered inverted block rate design in this proceeding. This adjustment for  
19 conservation-related revenue reductions is in lieu of adjusting customer  
20 consumption data as reflected in the Test Year and pro forma bill counts, thereby  
21 simplifying determination of the revenue requirement. The adjustment is  
22 calculated on line 48 of pages 22 – 26 of the appendix to Schedule C-2.

23 **Q. WHAT IS THE BASIS FOR THIS ADJUSTMENT?**

24 A. The basis for this adjustment is presented in the study attached hereto as Exhibit  
25 JMR-4. In the months following the transition from a single "flat" commodity rate  
26 structure to the conservation-oriented rate design approved for the Western group  
27 in Decision No. 68302, the Company witnessed a decline in the average monthly  
28 usage per residential customer. In preparing the instant case, the Company

1 sought to examine whether this decline was related to, or otherwise was a result  
2 of, the implementation of a conservation-oriented rate design in the Western  
3 group. If so, one can reasonably expect the transition from a flat commodity rate  
4 to a conservation-oriented rate design, such as that proposed for the Northern  
5 group in this case, to likewise result in a decrease in the average monthly usage of  
6 residential customers. A result would be a reduction in revenues and under-  
7 recovery of the Company's cost of service. Exhibit JMR-4 examines the effect of  
8 tiered rates on residential consumption while controlling for both temperature and  
9 precipitation. Exhibit JMR-4 shows that, while controlling for temperature and  
10 precipitation, residential consumption will decline by 8.7% per month with the  
11 introduction of a conservation-oriented rate design.

12 **Q. PLEASE DESCRIBE THE ANALYSIS SHOWN IN EXHIBIT JMR-4.**

13 A. Exhibit JMR-4 is a multiple regression analysis. A multiple regression analysis  
14 simultaneously examines the effect of several independent variables ( $x_1$ ,  $x_2$ ,  $x_3$ ,  
15 etc.) on one dependent variable ( $y$ ). The result is a set of statistics such as those  
16 shown on Exhibit JMR-4. In the Exhibit, I simultaneously examined the effects of  
17 average monthly temperature ( $x_1$ ), total precipitation ( $x_2$ ), and tiered rates ( $x_3$ ) on  
18 the average number of gallons (in thousands) sold per residential customer per  
19 month ( $y$ ) in the Casa Grande system. Adding temperature and precipitation ( $x_1$   
20 and  $x_2$  respectively) to the multiple regression analysis holds these variables  
21 constant, and allows a more accurate determination of the effect of tiered rates on  
22 residential consumption. Based on past observation, residential consumption  
23 decreases when tiered rates are put in effect. As shown on Exhibit JMR-4, the  
24 coefficient for tiered rates ( $x_3$ ) is negative, thus proving that residential  
25 consumption does in fact decrease when tiered rates are in effect. The t-statistic  
26 for tiered rates is -2.64, indicating that the result is statistically significant at the  
27 95% confidence level. Based on the analysis, residential consumption is predicted  
28 to decrease by 8.7% with the introduction of tiered rates.

1 Q. IS EXHIBIT JMR-4 A STUDY OF PRICE ELASTICITY?

2 A. No. My analysis examines the effect of going from flat rates to tiered rates on  
3 residential consumption. It is not a study of the responsiveness in the quantity  
4 demanded to a change in price.

5 C. Expense-Based Adjustments

6 Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-8 – ANNUALIZE  
7 PAYROLL EXPENSE.

8 A. Income statement adjustment JMR-8, detailed on page 28 of the appendix to  
9 Schedule C-2, increases payroll expense to reflect known and measurable  
10 increases to hourly pay rates. This adjustment is intended to recognize currently  
11 known and measurable pay rates as though they were in effect during the Test  
12 Year. The adjustment to annualize payroll expense is \$222,939, \$181,674 and  
13 \$119,307 in the Eastern, Western and Northern groups, respectively.

14 Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-9 – ANNUALIZE  
15 PAYROLL TAXES.

16 A. Income statement adjustment JMR-9, detailed on page 29 of the appendix to  
17 Schedule C-2, adjusts payroll-related taxes to correspond to the pro forma payroll  
18 expense annualized in income statement adjustment JMR-8. The adjustment to  
19 annualize payroll taxes is \$16,658, \$21,162, and \$18,968 in the Eastern, Western,  
20 and Northern groups, respectively.

21 Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-10 –  
22 ANNUALIZE 401(K) EXPENSE.

23 A. Income statement adjustment JMR-10, detailed on page 30 of the appendix to  
24 Schedule C-2, adjusts the Company's 401(k) expense to incorporate the pro forma  
25 payroll expense annualized in income statement adjustment JMR-8. The  
26 adjustment to annualize 401(k) expense is \$18,713, \$15,353 and \$9,687 in the  
27 Eastern, Western and Northern groups, respectively.

28

1 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-11 – ADJUST**  
2 **INSURANCE EXPENSE.**

3 A. Income statement adjustment JMR-11, detailed on page 31 of the appendix to  
4 Schedule C-2 adjusts medical, dental, long-term disability, life and property, and  
5 liability insurance expenses to reflect the most recent premiums in effect. The  
6 total increases in premiums are \$186,383, \$153,410 and \$97,214 in the Eastern,  
7 Western and Northern Groups, respectively.

8 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-12 – ADJUST**  
9 **PURCHASED POWER AND WATER EXPENSE.**

10 A. Income statement adjustment JMR-12, detailed on page 32 of the appendix to  
11 Schedule C-2, adjusts purchased power and water expense to reflect the most  
12 recent known and measurable rates for all of the Company's power and water  
13 providers.

14 The total increase in purchased power expense of \$140,562, \$40,812 and  
15 \$49,142 in the Eastern, Western and Northern groups, respectively, is the  
16 difference between the total actual expense per the Test Year power bills and the  
17 total expense resulting from applying the Test Year billing determinants, per each  
18 power bill, to the most recent known and measurable tariff rates for each power  
19 provider.

20 **Q. PLEASE EXPLAIN THE ADJUSTMENT TO INCREASE PURCHASED WATER**  
21 **EXPENSE BY \$63,696 IN THE SUPERSTITION SYSTEM.**

22 A. The adjustment to increase purchased water expense by \$63,696 in the  
23 Superstition system reflects a \$44,874 increase in CAP M&I delivery charges and  
24 an \$18,822 increase in Reserve Capacity charges related to the treatment of water  
25 at the City of Mesa water treatment plant in which the Company is a partner.

26 To calculate the increase in purchased water expense related to increases  
27 in CAP M&I delivery charges, the Company first determined the amount of water  
28 (in acre feet) delivered to and processed through the City of Mesa water treatment

1 plant, and ultimately sold by the Company. This amount, 2,493 AF, was then  
2 multiplied by the 2007 CAP M&I delivery rate of \$87/AF to determine the actual  
3 Test Year CAP M&I delivery charges of \$216,891 for water sold pursuant to the  
4 Company's General Service tariff. The 2009 CAP M&I delivery rate of \$105/AF  
5 was then applied to calculate pro forma CAP M&I delivery charges of \$261,765,  
6 the difference being the increase in Test Year CAP M&I delivery charges of  
7 \$44,874. The remaining CAP water not treated by the City of Mesa water  
8 treatment plant is sold pursuant to the Company's Non-Potable Central Arizona  
9 Project Water ("NP-274") tariff, which allows the Company to pass on CAP M&I  
10 charges to its non-potable CAP customers. Thus, no adjustment is required to  
11 reflect increases in CAP M&I delivery charges related to sales made pursuant to  
12 the NP-274 tariff.

13 The remaining amount of the \$63,696 increase in purchased water expense  
14 in the Superstition system, \$18,822, is based on the terms of a revised agreement  
15 between the Company and the City of Mesa for the treatment of CAP water at the  
16 City of Mesa water treatment plant. Under the terms of the original agreement, the  
17 Company paid the City of Mesa a monthly "reserve capacity" charge of \$11,480  
18 through April 2007. Beginning in December 2007, the reserve capacity charge  
19 increased to \$13,049. Adjustment JMR-12 adjusts the Test Year amount actually  
20 recorded to reflect 12 months of the new reserve capacity charge. Mr. Garfield  
21 discusses the City of Mesa agreement in further detail in Section VIII of his direct  
22 testimony.

23 **Q. PLEASE EXPLAIN THE ADJUSTMENT TO DECREASE PURCHASED WATER**  
24 **EXPENSE BY \$29,314 IN THE WHITE TANK SYSTEM.**

25 **A.** The purpose of this adjustment is to reflect the actual cost of water purchased  
26 from Arizona-American Water Company ("Arizona-American") during the Test  
27 Year. The Company did not receive a water bill from Arizona-American from  
28 February through September of the Test Year, even though Arizona-American

1 delivered 56,148,700 gallons. In the absence of a bill, the Company accrued  
2 \$125,294.61 in estimated charges related to water purchased from Arizona-  
3 American. When the Company did receive a bill for that period, it was \$29,314  
4 less than the amount accrued. Income statement adjustment JMR-12 is the  
5 difference between Test Year purchased water expenses booked for the White  
6 Tank system and the actual amount paid to Arizona-American for the water  
7 received.

8 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-13 – ADJUST**  
9 **ANNUAL TANK MAINTENANCE ACCRUAL.**

10 A. Income statement adjustment JMR-13, detailed on page 33 of the appendix to  
11 Schedule C-2, is the pro forma adjustment necessary to reflect the changes in  
12 costs associated with the Company's tank maintenance program since the most  
13 recent rate cases for the Eastern, Western and Northern groups. The benefits of  
14 the Company's tank maintenance program are discussed by Mr. Schneider in  
15 Section XI of his testimony. Income statement adjustment JMR-13 increases  
16 operating expenses by \$37,671 and \$133,810 in the Eastern and Western groups,  
17 respectively, and decreases operating expenses by \$7,513 in the Northern group.

18 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-14 –**  
19 **ADJUST WATER TREATMENT EXPENSE.**

20 A. Income statement adjustment JMR-14, summarized on page 34 of the appendix to  
21 Schedule C-2, is the adjustment necessary to reflect operating expenses related to  
22 the treatment and removal of arsenic. The Company's arsenic removal facilities  
23 consist of both Company-owned and leased facilities. The leased facilities are  
24 owned by Basin Water ("Basin"), and the Company-owned facilities were  
25 constructed by Layne Christensen ("Layne"). The Company has executed water  
26 service agreements with Basin and Layne whereby both companies will provide  
27 services related to four categories of operating and maintenance costs at each of  
28 their respective plants. These categories include; (1) media/coagulant replacement

1 or regeneration, (2) media/coagulant service costs, (3) waste media/coagulant  
2 disposal costs, and (4) other operation and maintenance costs. Adjustment JMR-  
3 14 annualizes operating lease payments related to arsenic treatment plants leased  
4 from Basin, operating and maintenance costs pursuant to the water service  
5 agreements discussed above, and water chlorination costs incurred in the  
6 Superstition and San Manuel systems.

7 **Q. WHY DID YOU ADJUST WATER CHLORINATION COSTS IN THE**  
8 **SUPERSTITION AND SAN MANUEL SYSTEMS?**

9 A. Water that is treated at the Layne arsenic treatment plants is chlorinated by Layne  
10 after being treated for arsenic. Because the cost of water chlorination is not  
11 included in the water service agreements, an adjustment is necessary to reflect  
12 the cost of chlorinating water that was treated for arsenic and chlorinated by Layne  
13 during the Test Year at the arsenic treatment plants operated by Layne.

14 **Q. IS A CHLORINATION COST ADJUSTMENT NECESSARY IN THE CASA**  
15 **GRANDE SYSTEM?**

16 A. No. An adjustment is not necessary in the Casa Grande system because prepaid  
17 chlorination costs were amortized through the end of the Test Year in that system.  
18 Thus, the adjusted Test Year operating results for the Casa Grande system  
19 already include a reasonable estimate of future chlorination costs.

20 **Q. WHAT IS THE EFFECT OF INCOME STATEMENT ADJUSTMENT JMR-14 ON**  
21 **OPERATING EXPENSES?**

22 A. Income Statement adjustment JMR-14 increases water treatment expense by  
23 \$177,210, \$325,253 and 95,022 in the Eastern, Western and Northern groups,  
24 respectively.

25 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-15 – ADJUST**  
26 **RATE CASE EXPENSE.**

27 A. Income statement adjustment JMR-15 is the pro forma adjustment necessary to  
28 recover the cost of preparing this rate case. The Company requests recovery of

1 rate case expense currently estimated at \$500,000, amortized over three years.  
2 This adjustment decreases operating expenses by \$13,895 and \$24,557 in the  
3 Eastern and Western groups, respectively, and increases operating expenses by  
4 \$38,450 in the Northern group.

5 **Q. HOW DID THE COMPANY ARRIVE AT ITS ESTIMATED RATE CASE**  
6 **EXPENSE OF \$500,000?**

7 A. The Company's estimated rate case expense is based on a comparison of the  
8 amount of rate case expense actually incurred in the most recent rate cases for  
9 the Eastern, Western and Northern groups in the total amount of \$1,025,345.  
10 Consideration was given to the relative sizes of the prior cases in terms of the  
11 number of systems included and their total operating revenues and expenses, as  
12 well as the number and complexity of the issues involved.

13 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-16 – ADJUST**  
14 **DEPRECIATION EXPENSE.**

15 A. Income statement adjustment JMR-16, detailed on pages 36 – 55 of the appendix  
16 to Schedule C-2, adjusts depreciation and amortization expense to reflect the  
17 depreciation rates proposed by the Company in this proceeding. Adjustment JMR-  
18 16 increases depreciation and amortization expense by \$363,694, \$611,577 and  
19 \$227,341 in the Eastern, Western and Northern groups, respectively. Mr. Harris  
20 discusses the Company's proposed depreciation rates in detail in Section VI of his  
21 direct testimony.

22 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-17 –**  
23 **SYNCHRONIZE INTEREST EXPENSE WITH RATE BASE.**

24 A. Income statement adjustment JMR-17, detailed on page 56 of the appendix to  
25 Schedule C-2, is the adjustment required to synchronize interest expense with the  
26 Test Year adjusted rate base. Although this adjustment is "below-the-line", it is  
27 required in order to properly calculate the adjustment to federal and state income  
28 taxes (income statement adjustment JMR-20), as well as illustrate the effect of all

1 other pro forma adjustments and the required increase in gross revenues on net  
2 income. Income statement adjustment JMR-17 increases interest expense by  
3 \$1,360,237, \$1,099,017 and \$673,005 in the Eastern, Western and Northern  
4 Groups, respectively.

5 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-18 – REMOVE**  
6 **OTHER INCOME AND DEDUCTIONS.**

7 A. Income statement adjustment JMR-18, detailed on page 57 of the appendix to  
8 Schedule C-2 is another below-the-line adjustment required to properly illustrate  
9 the effect of all other pro forma adjustments and the required increase in gross  
10 revenues on net income. Income statement adjustment JMR-18 decreases other  
11 income by \$148,088, \$125,374 and \$82,006 in the Eastern, Western and Northern  
12 groups, respectively.

13 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-19 – ADJUST**  
14 **PROPERTY TAXES.**

15 A. Income statement adjustment JMR-19, detailed on pages 58 – 59 of the appendix  
16 to Schedule C-2, adjusts property taxes to reflect the effect of known and  
17 measurable changes in revenues, as reflected in the Company's rate application.  
18 The pro forma adjustment utilizes the current methodology used by the Arizona  
19 Department of Revenue to determine an amount that is referred to as "full cash  
20 value" for each of the Company's water systems. The 2009 assessment ratio of  
21 23.0%, and the effective Test Year property tax rate for each water system were  
22 applied to calculate pro forma property tax increases of \$172,624, \$349,967 and  
23 \$53,368 in the Eastern, Western and Northern groups, respectively.

24 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-20 – ADJUST**  
25 **INCOME TAXES.**

26 A. Income statement adjustment JMR-20, detailed on pages 60 – 67 of the appendix  
27 to Schedule C-2, adjusts Federal and state income taxes to reflect the tax effect of  
28 all other pro forma adjustments. Income statement adjustment JMR-20 decreases

1 income tax expense by \$1,087,743, \$1,163,740 and \$690,522 in the Eastern,  
2 Western, and Northern groups, respectively.

3 **Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT JMR-21 – REMOVE**  
4 **SADDLEBROOKE REVENUES AND EXPENSES.**

5 A. Income Statement adjustment JMR-21, detailed on page 68 of the appendix to  
6 Schedule C-2, is the housekeeping adjustment necessary to remove revenues and  
7 expenses incurred by the Company's SaddleBrooke water system in order for the  
8 Eastern group and total Company summary data to reconcile to that of the  
9 individual systems included in this filing. As previously discussed in Section IV  
10 above, the Company is required to file a rate application for the SaddleBrooke  
11 system within 36 months of the date it provides service to the first permanent  
12 residential customer. The Company does not currently serve permanent  
13 residential customers in SaddleBrooke. Because the SaddleBrooke system is not  
14 included in this rate filing, all revenues and expenses incurred by this system  
15 should be removed from the Eastern group and total Company summary data.

16 **VII. Purchased Power and Purchased Water Adjuster Mechanisms**

17 **Q. IS THE COMPANY REQUESTING APPROVAL OF A PURCHASED POWER**  
18 **ADJUSTER MECHANISM?**

19 A. Yes. The Company is requesting that the PPAM currently approved for the  
20 Northern group be extended to include both the Eastern and Western groups in  
21 this proceeding. Mr. Garfield and Mr. Harris both address the PPAM further in  
22 Sections IV and II of their respective direct testimony. In the alternative, and as  
23 explained in Section VIII below, the Company requests that the Commission  
24 approve an AAM.

25 **Q. WHY DOES THE COMPANY REQUIRE A PPAM?**

26 A. The Company requires a PPAM because purchased power represents a  
27 significant portion of total operating expenses, and the cost of electric power has  
28 become increasingly volatile in recent years. Purchased power accounted for

1 approximately 18% of total operation and maintenance expense during the Test  
2 Year. In the time period since the elimination of the Company's Eastern group  
3 PPAM in March 2004 (Decision No. 66849), Arizona Public Service Company  
4 ("APS") and the Salt River Project ("SRP"), the Company's two largest power  
5 providers, have implemented thirteen different electric rate adjustments. Eight of  
6 these rate increases were the result of APS' and SRP's own ability to pass on  
7 increases in the cost of producing, purchasing, and transmitting power, or to  
8 recover the cost of Commission-authorized renewable energy programs<sup>2</sup>. As a  
9 result, the adjusted 2001 purchased power "base" costs approved in the  
10 Company's most recent Eastern group rate case, the same case in which the  
11 Commission eliminated the Eastern group PPAM, have increased by nearly  
12 \$225,000, or 15% annually. The Company has been unable to recover this annual  
13 increased cost of service in the interim through an adjuster mechanism.

14 **Q. IS THE ADMINISTRATION OF A PPAM FOR THE COMPANY ALREADY SET**  
15 **FORTH IN A COMMISSION-APPROVED TARIFF?**

16 A. Yes. The administration of the Northern group PPAM is spelled out in the  
17 Company's current AM-253 tariff. The AM-253 tariff sets forth all calculations and  
18 requirements of the Company, and provides a threshold increase or decrease in  
19 rates that must be met in order for a PPAM adjustment to be made. As a result of  
20 the simplicity of the current PPAM, the average processing time from the date of  
21 filing for a PPAM rate change to Commission approval has been just 55 days  
22 based on the Company's last nine PPAM filings.

23 **Q. IS THE COMPANY REQUESTING APPROVAL OF A PURCHASED WATER**  
24 **ADJUSTER MECHANISM ("PWAM")?**

25  
26  
27  
28 <sup>2</sup> see Decision No. 67744, dated April 7, 2005; Decision No. 68437, dated February 2, 2006; Decision No. 68685, dated  
May 5, 2006; Decision No. 69663, dated June 28, 2007; Decision No. 70179, dated February 27, 2008; and Decision  
No. 70313, dated April 28, 2008

1 A. Yes. The Company is requesting approval of a PWAM for those systems where  
2 the Company purchases water. As described in Section VI of this testimony, the  
3 Company's purchased water expense for the Superstition system includes reserve  
4 capacity charges related to the treatment of CAP water at the City of Mesa water  
5 treatment plant. In addition to the reserve capacity charge, the Company pays a  
6 pro-rata portion of the operations and maintenance costs associated with the City  
7 of Mesa water treatment plant. These O&M costs vary from month to month and  
8 will likely continue to increase in the future. Altogether, the cost of purchased  
9 water represents approximately 17% of total operating expenses in the  
10 Superstition system.

11 In the White Tank system, where the Company purchases water from  
12 Arizona-American, purchased water expense accounted for approximately 30% of  
13 total Test Year operating expenses. Arizona-American recently filed an  
14 application with the Commission seeking a 48% revenue increase in its Agua Fria  
15 district (the district which serves the White Tank system), which the Commission  
16 may not finalize until after the close of this proceeding. In such a case, the  
17 Company would be unable to recover the additional expense (which results from a  
18 Commission-approved rate increase) until 2012 at the earliest, absent the  
19 establishment of a PWAM. Mr. Garfield and Mr. Harris discuss the need for a  
20 PWAM in more detail in Section IV and Section II of their respective testimony.

21 **Q. HAS THE ADMINISTRATION OF A PWAM ALREADY BEEN SET FORTH IN A**  
22 **COMMISSION-APPROVED TARIFF?**

23 A. Yes. The administration of a PWAM was outlined in the Company's former PWAM  
24 tariff (Tariff AM-254). This tariff set forth all calculations and requirements of the  
25 Company and provided a threshold increase or decrease in rates that must be met  
26 in order for a PWAM adjustment to be made. These PWAM applications also  
27 were administratively efficient. The Company requests that this tariff, attached  
28

1 hereto as Exhibit JMR-5, be approved for the Superstition, San Manuel, White  
2 Tank and Ajo systems.

3 **VIII. Attrition Adjuster Mechanism**

4 **Q. WHAT IS EARNINGS ATTRITION AND HOW HAS IT AFFECTED THE**  
5 **COMPANY?**

6 A. Strictly defined, earnings attrition is the inability of revenues and earnings to keep  
7 up with increases in capital costs that result from plant additions and the  
8 replacement of plant and equipment at increasingly higher costs. Additionally,  
9 attrition results from a general increase in operating expenses due to rising  
10 inflation. The result of earnings attrition is a sustained inability of a utility to  
11 achieve its allowed rate of return. Despite the fact that the State of Arizona has  
12 experienced significant population growth and new rates have been set for each of  
13 the Company's three operating groups, increases in the cost and amount of  
14 Company-funded plant required to serve customers and the need to comply with  
15 increasingly stringent drinking water standards, has caused the Company to  
16 experience an economic loss of over \$16 million over the last ten years. This  
17 result can be seen graphically in the chart shown in Section I of Mr. Harris'  
18 testimony. The inability of the Company to earn its authorized return is discussed  
19 in more detail by both Mr. Garfield and Mr. Harris in Section III and Section I of  
20 their respective direct testimony.

21 **Q. CAN THE PROBLEM OF EARNINGS ATTRITION BE EFFECTIVELY**  
22 **ADDRESSED UNDER THE CURRENT REGULATORY FRAMEWORK IN**  
23 **ARIZONA?**

24 A. Yes. Although, I do not believe the problem of earnings attrition can be effectively  
25 addressed by historical Test Year rate-setting alone. Even with the ability to make  
26 known and measurable adjustments, the use of an historic Test Year wrongly  
27 assumes that the relationship between revenues and expenses during the  
28 adjusted Test Year will continue into the future. Thus, rates will fail to reflect the

1 cost of service in periods of increasing price levels or much-needed replacement  
2 and additions to utility plant. For example, in the Eastern and Western groups  
3 where the Company has experienced rapid customer growth and the need to  
4 increase the amount of company-funded utility plant that is serving customers, the  
5 Company failed to earn its authorized rate of return during the first full year of new  
6 rates being in effect, or in each subsequent year, after the most recent rate cases.

7 **Q. HAS THE ACRM FULLY ADDRESSED THE PROBLEM OF EARNINGS**  
8 **ATTRITION?**

9 A. The ACRM is a step in the right direction, but unfortunately, as discussed in more  
10 detail by Mr. Garfield in Section III of his direct testimony, it does not fully address  
11 the issue of earnings attrition.

12 **Q. WHY HAS THE ACRM NOT FULLY ADDRESSED THE PROBLEM OF**  
13 **EARNINGS ATTRITION?**

14 A. The Company currently has \$71 million in assets not yet included in rate base. Of  
15 this \$71 million investment, only \$27 million is related to the removal of arsenic.  
16 The capital charges related to the remaining \$44.0 million investment in utility plant  
17 are currently only recoverable under the traditional historical test year regulatory  
18 framework. Under this framework, the Company is guaranteed to never recover  
19 roughly \$14 million<sup>3</sup> in capital charges related to this investment as a direct result  
20 of the traditional, historical test year regulatory lag, even assuming there are no  
21 unusual delays in this proceeding. This example does not take into account  
22 increases in the ratio of expenses to revenues and the level of utility plant  
23 investment that is necessary to provide service.

24 **Q. WHAT DOES THE COMPANY PROPOSE AS A METHOD OF ADDRESSING**  
25 **THE PROBLEM OF EARNINGS ATTRITION?**

26  
27  
28 <sup>3</sup> \$44.0 million times 9.81% required return times 1.62 tax multiplier equals \$7.0 million, plus \$1.1 million in depreciation, equals \$8.1 million in annual capital costs. Assuming 20 months from the end of the Test Year until rates going into effect equals \$14.1 million in total capital costs.

1 A. As discussed in section VII above, the Company requests that the PPAM be  
2 reestablished in its Eastern and Western groups and that the PWAM be  
3 reestablished in those systems where the Company purchases water for resale.  
4 The Company is also requesting the establishment of a Purchased Fuel Adjuster  
5 Mechanism ("PFAM") discussed in Section IV of Mr. Garfield's direct testimony. In  
6 the alternative, the Company proposes an AAM as a method of more effectively  
7 addressing the problem of earnings attrition. Mr. Garfield discusses the AAM in  
8 more detail on pages 21-22 of his testimony.

9 **Q. CAN YOU PROVIDE AN EXAMPLE OF THE SURCHARGE THAT WOULD**  
10 **FOLLOW THE IMPLEMENTATION OF AN AAM?**

11 A. Yes. An example of a typical AAM surcharge is shown on Exhibit JMR-6. The  
12 calculations shown on Exhibit JMR-6 are based on a similar adjuster mechanism  
13 approved by the Florida Public Service Commission. As shown in the exhibit, the  
14 AAM surcharge excludes operating expenses that are recovered through existing  
15 adjuster mechanisms and those subject to Commission-approved amortization  
16 schedules and amounts. The inflation index factor is based on the annual change  
17 in the Consumer Price Index ("CPI"), or some other mutually agreed-upon price  
18 deflator. Finally, the calculated annual attrition revenue adjustment is recovered  
19 through commodity rate surcharge calculated in the same manner as the ACRM  
20 commodity surcharge. As discussed by Mr. Garfield, the AAM would include an  
21 earnings test which limits amount of the attrition adjustment to a level that  
22 produces pro forma rate of return no higher than the Company's authorized rate.

23 **IX. Cost of Service Study and Rate Design**

24 **Q. WHAT IS A COST OF SERVICE STUDY?**

25 A. A cost of service study is a study which allocates a utility's investment and  
26 expenses to different classes of customers and provides a basis for allocating  
27 future revenues to customer classes via the rate design. Under cost of service  
28 ratemaking, each customer class should pay rates that are commensurate with the

1 cost of providing water service to that class. In reality, rates are often designed to  
2 achieve outcomes that are not always consistent with cost of service principles.  
3 These outcomes may include the subsidization of one particular class of  
4 customers by another class of customers, subsidization within a customer class  
5 via a lifeline rate, and the subsidization of smaller volume users by larger volume  
6 users via a conservation-oriented rate design.

7 **Q. WHY DID YOU PREPARE A COST OF SERVICE STUDY IN THIS**  
8 **PROCEEDING?**

9 A. I prepared a cost of service study in this proceeding to provide a basis for creating  
10 separate and distinct rate schedules for different classes of customers. Under the  
11 Company's current rate designs for the Eastern, Western and Northern groups,  
12 customer classes are determined by meter size only. Under the Company's  
13 proposed rate design, customers are further grouped into residential, commercial  
14 and industrial classes. The cost of service study shown in Schedules G-1 through  
15 G-7 of the Company's application provides a starting point for determining how  
16 proposed revenues should be allocated to the residential, commercial and  
17 industrial customer classes.

18 **Q. IN SECTION IV OF YOUR TESTIMONY YOU MENTIONED THAT THE**  
19 **COMPANY IS PROPOSING PARTIAL OR FULL RATE**  
20 **CONSOLIDATION IN SOME OF ITS WATER SYSTEMS. IS THE COMPANY'S**  
21 **PROPOSED RATE CONSOLIDATION SUPPORTED BY ITS COST OF**  
22 **SERVICE STUDY WITH RESPECT TO RESIDENTIAL CUSTOMERS?**

23 A. Yes. In addition to providing a basis for creating separate rate schedules for  
24 residential, commercial and industrial customers, the cost of service study shown  
25 in Schedules G-1 through G-7 provides the information necessary to design a  
26 consolidated water rate structure that protects residential customers located in  
27 systems where the Company is proposing partial or full rate consolidation from  
28 paying any more than the cost of providing service on a stand-alone

1 (unconsolidated) basis. As a result, the Company's proposed residential rate  
2 structure in each water system, including those systems where the Company is  
3 proposing partial or full rate consolidation, produces revenues that are *equal to* or  
4 *below* the residential cost of service. This result is shown in Schedule G-2, column  
5 B, line 20.

6 **Q. HOW DID YOU PREPARE THE COMPANY'S COST OF SERVICE STUDY?**

7 A. I prepared the cost of service study using the "commodity demand" method,  
8 whereby costs (both capital-related and operating) are separated into four  
9 functions; commodity, demand, customer and direct private fire. Commodity costs  
10 are costs that tend to vary with the quantity of water produced, demand costs are  
11 associated with providing facilities to meet peak demands placed on the system by  
12 customers, and customer costs comprise those costs associated with serving  
13 customers regardless of the amount of water they use. These cost functions are  
14 then distributed to the residential, commercial and industrial customer classes to  
15 derive an estimate of the cost of providing service to each class. In separating the  
16 various costs into functions (Schedule G-7), I relied on factors utilized in cost of  
17 service studies previously submitted before the Commission and found to be  
18 reasonable by its Engineering Staff. The Company's cost of service study at  
19 present and proposed rates is summarized in Schedules G-1 and G-2,  
20 respectively.

21 **Q. HOW DID YOU APPROACH THE COMPANY'S PROPOSED RATE DESIGN?**

22 A. As stated above, the cost of service study provides a basis for designing separate  
23 rate schedules for the residential, commercial and industrial customer classes.  
24 Once a target revenue requirement was determined for each customer class and  
25 certain policy issues were taken into account, rates were developed to provide the  
26 revenue requirement. For water systems where the Company is proposing partial  
27 or full rate consolidation, as discussed by Mr. Harris in Section V of his direct  
28 testimony, rates were developed to provide the total revenue requirement of the

1 combined systems. The consolidated revenue adjustment shown in column F, line  
2 49, of Schedule H-2 represents the level of revenue shifting between systems that  
3 the Company proposes to consolidate. The Company's rate design for each water  
4 system is shown in Schedule H-3 and a typical bill analysis is shown in Schedule  
5 H-4.

6 **Q. WHAT POLICY ISSUES WERE CONSIDERED WHEN DEVELOPING THE**  
7 **COMPANY'S PROPOSED RATES?**

8 A. The first policy issue considered when developing the Company's proposed rate  
9 design was gradualism. As shown on line 26 of Schedule G-1, the revenue  
10 deficiency is negative for both the commercial and industrial customer classes in  
11 the Eastern, Western and Northern groups, indicating that revenues from these  
12 classes on average, might be somewhat greater than the cost of service allocated  
13 to these classes. However, the Company chose not to reduce the level of  
14 revenues allocated to these classes. Because this is the first proceeding where  
15 different rate schedules will be developed for residential, commercial and industrial  
16 customers, and costs are expected to continue to increase in the future, the  
17 Company instead proposes to bring rates closer to the cost of service by gradual  
18 steps rather than by drastic change. Further, the Company is concerned with the  
19 conflicting signal that it may be sending to commercial and industrial customers  
20 who could receive a significant rate decrease at the same time the Company is  
21 actively promoting water conservation through an inverted tier rate design. Finally,  
22 inter-system subsidies have long been a concern preventing the consolidation of  
23 water systems with disproportionate costs of service. The approach described  
24 above allows for a residential rate design which avoids inter-system subsidies in  
25 those systems where the Company is proposing partial or full rate consolidation.

26 The second policy issue considered when developing the Company's  
27 proposed rate design was affordability. The Commission has become increasingly  
28 concerned with affordability and as a result has authorized low-income assistance

1 programs. The Company's proposed rate design includes a lifeline rate identical  
2 to that previously proposed by Staff and approved by the Commission in the  
3 Company's previous Western Group rate decision. The Company's proposed  
4 lifeline rate provides a minimal amount of water at an average cost discount of  
5 25% to all residential 5/8-inch customers independent of income level or ability to  
6 pay, thus helping to keep water bills affordable for basic needs.

7 **Q. PLEASE DESCRIBE THE COMPANY'S PROPOSED RATE DESIGN.**

8 A. The Company's proposed rate design incorporates the same basic principles in  
9 each of the Company's three operating groups. The basic service charge for  
10 residential 5/8-inch customers was set at a level designed to produce the same  
11 general percentage of total revenues as the current basic service charge. Basic  
12 service charges for larger meter sizes are based on the volumetric capacity of  
13 each size relative to a 5/8-inch meter, for all customer classes. The residential  
14 5/8-inch commodity rate is a three-tiered increasing block structure with break-  
15 over points set at 3,000 and 10,000 gallons. The first tier commodity rate was set  
16 at a 25% discount to the second tier rate and the third tier rate was set at a 25%  
17 premium. For residential meters larger than 5/8-inch, a two-tiered structure was  
18 used with the break-over point set at 10,000 gallons for a 1-inch meter and scaled  
19 higher based on meter size for larger meters. The commercial rate design  
20 incorporates two tiers with the break-over point set at 10,000 gallons for a 5/8-inch  
21 meter and scaled higher based on meter size for larger meters. The Company  
22 proposes a single "flat" commodity rate for industrial customers and customers  
23 purchasing water for resale.

24 **Q. HOW IS THE COMPANY PROPOSING TO TREAT CUSTOMERS**  
25 **PURCHASING WATER FOR CONSTRUCTION?**

26 A. Although a separate tariff schedule is shown on Schedule H-3 for construction  
27 water sales, the Company proposes to charge the same rates for construction  
28

1 water as those proposed for commercial customers at the corresponding meter  
2 size.

3 **Q. IS THE COMPANY PROPOSING ANY CHANGES TO ITS COMPANY-WIDE**  
4 **PRIVATE FIRE SERVICE TARIFF?**

5 A. Yes. In order to bring rates for private fire service closer the cost of service, the  
6 Company is proposing to eliminate the tariff provision allowing for a charge of 1%  
7 of the minimum charge for the corresponding size meter connection or \$5.00 per  
8 month, whichever is greater. Instead, the Company proposes a standardized  
9 uniform monthly charge of \$25.00 for all meter connection sizes in all systems and  
10 operating groups.

11 **Q. IS THE COMPANY PROPOSING ANY CHANGES TO ITS COMPANY-WIDE**  
12 **SERVICE CHARGE TARIFF?**

13 A. Yes. The Company is proposing changes to its service line and meter installation  
14 charges, which are shown on page 41 of Schedule H-3. The proposed service line  
15 and meter installation charges are the same as those recommended by Staff  
16 engineer Marlin Scott, Jr. in his memo of February 21, 2008 (attached hereto as  
17 Exhibit JMR-7). Per Commission rule, service line and meter installation charges  
18 are treated as refundable advances and have no effect on operating revenue. The  
19 Company will submit its revised Terms and Conditions (TC-243) tariff reflecting  
20 these proposed service charges after the close of this proceeding.

21 **Q. IS THE COMPANY PROPOSING TO CHANGE THE FORMAT OF ITS**  
22 **GENERAL SERVICE TARIFF?**

23 A. Yes. The Company is proposing to change the format of its General Service tariff  
24 to accommodate separate rate schedules for residential, commercial and industrial  
25 customers, as well as provisions for ¾-inch and 1½-inch meter sizes (in each  
26 customer class).<sup>4</sup> The Company's proposed General Service tariff format is  
27

28 <sup>4</sup> The Company currently has no tariff for ¾-inch and 1½-inch meters, and is not currently serving any customers on ¾-inch and 1½-inch meter sizes.

1 attached hereto as Exhibit JMR-8. The Company is not proposing changes to the  
2 format of any other tariff in this proceeding.

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

4 **A.** Yes, it does.

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**APPENDIX A**

Appendix A  
Relevant Regulatory Experience

<b>Jurisdiction</b>	<b>Company Name(s)</b>	<b>Case No.</b>	<b>Type of Proceeding</b>
Arizona	Ajo Improvement Co. - Electric	99-0564	Cost of Capital
Arizona	Alltel Corp.	00-0874	Sale of Assets
Arizona	Anway Manville Water	99-0360	Financing
Arizona	Arizona Public Service Company	03-0437	Cost of Capital
Arizona	Arizona Public Service Company	01-0878	Financing
Arizona	Arizona Public Service Company	02-0125	Financing
Arizona	Arizona Water Company	00-0962	Cost of Capital / Arsenic Cost Recovery Mechanism
Arizona	Arizona Water Company	02-0619	Cost of Capital / Arsenic Cost Recovery Mechanism
Arizona	Arizona Water Company	04-0650	Arsenic Cost Recovery Mechanism
Arizona	Arizona Water Company	07-0436	Purchased Power Adjuster
Arizona	Arizona American Water Company	02-0867	Cost of Capital
Arizona	Arizona American Water Company	01-0983	Restructure of Holding Co.
Arizona	Arizona American Water Company	05-0405	Rates (Paradise Valley)
Arizona	Arizona American Water Company	05-0718	Financing (White Tanks)
Arizona	Arizona American Water Company	06-0014	Rates (Mohave Water/Mohave Wastewater)
Arizona	Arizona American Water Company	06-0491	Rates (Sun City Wastewater/Sun City West Wastewater)
Arizona	Arizona American Water Company	05-0280 et al.	Arsenic Cost Recovery Mechanism - Havasu
Arizona	Arizona American Water Company	05-0280 et al.	Arsenic Cost Recovery Mechanism - Agua Fria
Arizona	Arizona American Water Company	05-0280 et al.	Arsenic Cost Recovery Mechanism - Sun City West
Arizona	Arizona American Water Company	05-0280 et al.	Arsenic Cost Recovery Mechanism - Paradise Valley
Arizona	Arizona American Water Company	07-0209	Rates (Sun City Water)
Arizona	Avra Water Co-op	00-0269	Rate of return
Arizona	Bella Vista Water	01-0776	Cost of Capital
Arizona	Bella Vista Water	99-0466	Financing
Arizona	Black Mountain Gas	00-0283	Cost of Capital
Arizona	Black Mountain Gas	01-0263	Cost of Capital
Arizona	Black Mountain Gas/Northern States Pwr.	99-0525	Restructure of Holding Co.
Arizona	BLT, Touch One, MCI	00-0881	Merger
Arizona	Continental Divide Electric Co-op	00-0504	Sale of Assets
Arizona	Eschelon Telecom	01-0270	Financing
Arizona	Gateway Technologies/T-NETIX (COPT)	99-0459	Merger

Appendix A  
Relevant Regulatory Experience

Arizona	Gold Canyon Sewer Company	00-0638	Cost of Capital
Arizona	Golden Shores Water	99-0390	Financing
Arizona	Green Valley Water Co.	01-0559	Cost of Capital
Arizona	GST Net/Time Warner Telecom	00-0782	Sale of Assets
Arizona	Lago Del Oro Water Company	00-0206	Financing
Arizona	Litchfield Park Service Co.	01-0487	Cost of Capital
Arizona	Midvale Telephone	00-0512	Cost of Capital
Arizona	Mountain Pass Utility	01-0166	Financing
Arizona	Navopache Electric Co-op	00-0820	Financing
Arizona	New River Utility	01-0662	Cost of Capital
Arizona	North Mohave Valley Water	99-0295	Financing
Arizona	Picacho Sewer Co.	01-0165	Financing
Arizona	Picacho Water	01-0169	Financing
Arizona	Pine Water Company	03-0279	Cost of Capital
Arizona	Premiere Communications/Telecare	00-0787	Sale of Assets
Arizona	Qwest Communications	03-0454	Cost of Capital
Arizona	Ridgeview Utility	01-0167	Financing
Arizona	Rio Rico Utilities, Inc.	03-0434	Cost of Capital
Arizona	SBC Telecom	00-0762	Waiver
Arizona	Southwest Gas/Black Mountain Gas	02-0425	Merger
Arizona	Southwestern Telephone	00-0379	Cost of Capital
Arizona	Sulphur Springs Valley Electric Co-op	00-0629	Financing
Arizona	Table Top Telephone	99-0595	Cost of Capital
Arizona	Teligent	00-1521	Merger
Arizona	Trico/AEPCO	00-0660	Lease
Arizona	Tucson Electric Power Company	00-0550	Sale of Assets
Arizona	Tucson Electric Power Company	99-0573	Capital Lease Amendment
Arizona	Tucson Electric Power Company	02-0276	Financing
Arizona	UniSource Energy Corporation	03-0933	Reorganization/Merger
Arizona	Water Utility of Greater Buckeye	98-0326	Financing
Arizona	Winstar Wireless	00-0446	Encumbrance of Assets
Arizona	Yucca Water Co.	99-0260	Financing
Arizona	Graham Co. Utilities Water	97-0407	Financing
Arizona	Mount Tipton	01-0557	Financing
Arizona	Northern States Power/Black Mountain Gas	00-0235	FUCO Certification
Arizona	Valley Pioneers Water Company	00-0696	Financing
California	California American Water Company	A.06-01-005	Cost of Capital
California	California American Water Company	A.07-01-036	Cost of Equity
New Mexico	New Mexico American Water Company	05-00353-UT	Approval of Special Contract

Line No.	Description	Projection Based on Dec. No. 68302			Amt. Incl. in Rate Base Dec. 68302	Actual Activity		(Under) / Over Recovery vs. Projection
		Cost/AF	Customer Growth	\$ Amount		AFUDC Rate	Activity Thru Dec. '07	
1								
2	M&I Balance as of 12/31/2003			\$ 3,382,907	\$ 142,896			
3								
4	2004 M&I charges on 8,605 AF	\$ 30	AVG	258,150			\$ 3,525,803	
5	NP-260 Tariff M&I charges			(98,370)			(142,896)	
6	AFUDC			192,492			266,520	
7	Balance as of 12/31/04			3,735,179			(98,371)	
8							186,400	
9	2005 M&I charges on 8,605 AF	\$ 28	/AF	240,940			3,737,456	(2,277)
10	NP-260 Tariff M&I charges			(63,812)			230,984	
11	AFUDC			212,160			(87,372)	
12	Balance as of 12/31/05			4,124,467			365,382	
13							4,247,450	(122,983)
14	2006 M&I charges on 8,605 AF	\$ 24	/AF	206,520			199,890	
15	NP-260 Tariff M&I charges			(54,696)			(76,340)	
16	Hook-up Fees Collected (\$208)		1,986	(413,088)			(1,400,058)	
17	Interest Earned on CAP Chgs. Pd. from 87 - 94						(43,465)	
18	AFUDC			201,312			366,304	
19	Balance as of 12/31/06			4,064,515			3,293,781	
20								770,734
21	2007 M&I charges on 8,605 AF	\$ 21	/AF	180,705			186,564	
22	NP-260 Tariff M&I charges			(47,859)			(67,608)	
23	Hook-up Fees Collected (\$208)		2,202	(458,016)			(581,632)	
24	AFUDC			194,857			238,190	
25	Balance as of 12/31/07			3,934,202			3,069,295	
26								864,907
27	2008 M&I charges on 8,605 AF	\$ 21	/AF	180,705				
28	NP-260 Tariff M&I charges			(47,859)				
29	Hook-up Fees Collected (\$208)		2,202	(458,016)				
30	AFUDC			188,067				
31	Balance as of 12/31/08			3,797,099				
32								
33	2009 M&I charges on 8,605 AF	\$ 21	/AF	180,705				
34	NP-260 Tariff M&I charges			(47,859)				
35	Hook-up Fees Collected (\$208)		2,202	(458,016)				
36	AFUDC			180,922				
37	Balance as of 12/31/09			3,652,851				
38								
39	2010 M&I charges on 8,605 AF	\$ 21	/AF	180,705				
40	NP-260 Tariff M&I charges			(47,859)				
41	Hook-up Fees Collected (\$208)		2,202	(458,016)				
42	AFUDC			173,405				
43	Balance as of 12/31/10			3,501,086				
44								
45	2011 M&I charges on 8,605 AF	\$ 21	/AF	180,705				
46	NP-260 Tariff M&I charges			(47,859)				
47	Hook-up Fees Collected (\$208)		2,202	(458,016)				
48	AFUDC			165,497				
49	Balance as of 12/31/11			3,341,413				
50								
51	2012 M&I charges on 8,605 AF	\$ 21	/AF	180,705				
52	NP-260 Tariff M&I charges			(47,859)				
53	Hook-up Fees Collected (\$208)		2,202	(458,016)				
54	AFUDC			157,176				
55	Balance as of 12/31/12			3,173,419				



Casa Grande System

Line No.	Description	Projection Based on Dec. No. 68302		Amt. Incl. in Rate Base Dec. 68302	Actual Activity		(Under)/Over Recovery vs. Projection
		Cost/AF	Customer Growth		AFUDC Rate	Activity Thru. Dec. '07	
1							
2	2022 M&I charges on 8,605 AF	\$ 21 /AF		180,705			
3	NP-260 Tariff M&I charges			(47,859)			
4	Hook-up Fees Collected (\$208)		2,202	(458,016)			
5	AFUDC			45,977			
6	Balance as of 12/31/22			928,287			
7							
8	2023 M&I charges on 8,605 AF	\$ 21 /AF		180,705			
9	NP-260 Tariff M&I charges			(47,859)			
10	Hook-up Fees Collected (\$208)		2,202	(458,016)			
11	AFUDC			31,428			
12	Balance as of 12/31/23			634,545			
13							
14	2024 M&I charges on 8,605 AF	\$ 21 /AF		180,705			
15	NP-260 Tariff M&I charges			(47,859)			
16	Hook-up Fees Collected (\$208)		2,202	(458,016)			
17	AFUDC			16,122			
18	Balance as of 12/31/24			325,497			
19							
20	2025 M&I charges on 8,605 AF	\$ 21 /AF		180,705			
21	NP-260 Tariff M&I charges			(47,859)			
22	Hook-up Fees Collected (\$208)		2,202	(458,016)			
23	AFUDC			17			
24	Balance as of 12/31/25			344			
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
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44							
45							
46							
47							
48							
49							

<sup>1</sup>During T.Y. 2003 279 AF of untreated CAP Water were sold to golf courses who were not contractually obligated to reimburse the Company for a portion of previously deferred M&I charges. Per Dec. 68302 this 279 AF was deemed used & useful, therefore, (279/(8,884-2,000))=4.0529% X \$3,525,803 = \$142,896 in previously deferred M&I charges was included in rate base to be amortized to expense over 20 years.

<sup>2</sup>During T.Y. 2007 1,003 AF of untreated CAP water were sold to golf courses who were not contractually obligated to reimburse the Company for a portion of previously deferred M&I charges. Because 1,003 is now used and useful, the Company requests that an additional (1,003/(8,884 - 2,000)) = 14.57% X \$3,069,295 = \$447,196 in previously deferred M&I charges be included in rate base at this time.

Coolidge System

Line No.	Description	Projection Based on Dec. No. 66302		Amt. Incl. in Rate Base Dec. 66302	Actual Activity		(Under) / Over Recovery vs. Projection
		Cost/AF	Customer Growth		AFUDC Rate	Activity Thru Dec. '07	
1							
2	M&I Balance as of 12/31/2003			\$ 1,046,011			
3							
4	2004 M&I charges on 2,000 AF	\$ 30 Avg		60,000			
5	NP-260 Tariff M&I charges						
6	AFUDC			57,634	5.09%	55,234	
7	Balance as of 12/31/04			1,163,645		1,161,745	2,400
8							
9	2005 M&I charges on 2,000 AF	\$ 28 /AF		56,000			
10	NP-260 Tariff M&I charges						
11	AFUDC			63,556			
12	Balance as of 12/31/05			1,283,201	9.05%	109,584	
13						1,322,829	(39,628)
14	2006 M&I charges on 2,000 AF	\$ 24 /AF		48,000			
15	NP-260 Tariff M&I charges						
16	Hook-up Fees Collected (\$208)		1,000	(150,000)			
17	Interest Earned on CAP Chgs. Pd. from '87 - '94						
18	AFUDC			61,552	8.62%	113,418	
19	Balance as of 12/31/06			1,242,753		1,152,291	90,462
20							
21	2007 M&I charges on 2,000 AF	\$ 21 /AF		42,000			
22	NP-260 Tariff M&I charges						
23	Hook-up Fees Collected (\$208)		1,000	(150,000)			
24	AFUDC			59,132			
25	Balance as of 12/31/07			1,193,885	7.09%	78,304	
26						1,072,045	121,840
27	2008 M&I charges on 2,000 AF	\$ 21 /AF		42,000			
28	NP-260 Tariff M&I charges						
29	Hook-up Fees Collected (\$208)		1,000	(150,000)			
30	AFUDC			56,585			
31	Balance as of 12/31/08			1,142,470			
32							
33	2009 M&I charges on 2,000 AF	\$ 21 /AF		42,000			
34	NP-260 Tariff M&I charges						
35	Hook-up Fees Collected (\$208)		1,000	(150,000)			
36	AFUDC			53,906			
37	Balance as of 12/31/09			1,088,376			
38							
39	2010 M&I charges on 2,000 AF	\$ 21 /AF		42,000			
40	NP-260 Tariff M&I charges						
41	Hook-up Fees Collected (\$208)		1,000	(150,000)			
42	AFUDC			51,087			
43	Balance as of 12/31/10			1,031,463			
44							
45	2011 M&I charges on 2,000 AF	\$ 21 /AF		42,000			
46	NP-260 Tariff M&I charges						
47	Hook-up Fees Collected (\$208)		1,000	(150,000)			
48	AFUDC			48,122			
49	Balance as of 12/31/11			971,585			
50							
51	2012 M&I charges on 2,000 AF	\$ 21 /AF		42,000			
52	NP-260 Tariff M&I charges						
53	Hook-up Fees Collected (\$208)		1,000	(150,000)			
54	AFUDC			45,001			
55	Balance as of 12/31/12			906,586			





White Tank System

Line No.	Description	Projection Based on Dec. No. 68302		Amt. Incl. in Rate Base Dec. 68302	Actual Activity		(Under) / Over Recovery vs. Projection
		Cost/AF	Customer Growth		AFUDC Rate	Activity Thru. Dec. '07	
1							
2	M&I Balance as of 12/31/2003						
3							
4	2004 M&I charges on 968 AF	\$ 30	AVG			\$ 506,268	
5	NP-260 Tariff M&I charges					29,040	
6	AFUDC						
7	Balance as of 12/31/04					29,408	
8						564,716	
9	2005 M&I charges on 968 AF	\$ 28	/AF				2,682
10	NP-260 Tariff M&I charges					25,168	
11	AFUDC						
12	Balance as of 12/31/05					53,034	
13						640,236	
14	2006 M&I charges on 968 AF	\$ 24	/AF				(17,576)
15	NP-260 Tariff M&I charges					21,780	
16	Hook-up Fees Collected (\$208)				141	(29,000)	
17	Interest Earned on CAP Chgs. Pd. from '87 - '94					(4,730)	
18	AFUDC					56,370	
19	Balance as of 12/31/06					684,656	
20							(79,280)
21	2007 M&I charges on 968 AF	\$ 21	/AF				
22	NP-260 Tariff M&I charges					20,328	
23	Hook-up Fees Collected (\$208)				153	(76,500)	
24	AFUDC					28,619	
25	Balance as of 12/31/07					577,923	
26							
27	2008 M&I charges on 968 AF	\$ 21	/AF				
28	NP-260 Tariff M&I charges					20,328	
29	Hook-up Fees Collected (\$208)					(76,500)	
30	AFUDC				153	27,183	
31	Balance as of 12/31/08					548,834	
32							
33	2009 M&I charges on 968 AF	\$ 21	/AF				
34	NP-260 Tariff M&I charges					20,328	
35	Hook-up Fees Collected (\$208)					(76,500)	
36	AFUDC					25,673	
37	Balance as of 12/31/09					518,335	
38							
39	2010 M&I charges on 968 AF	\$ 21	/AF				
40	NP-260 Tariff M&I charges					20,328	
41	Hook-up Fees Collected (\$208)					(76,500)	
42	AFUDC				153	24,083	
43	Balance as of 12/31/10					486,246	
44							
45	2011 M&I charges on 968 AF	\$ 21	/AF				
46	NP-260 Tariff M&I charges					20,328	
47	Hook-up Fees Collected (\$208)					(76,500)	
48	AFUDC					22,411	
49	Balance as of 12/31/11					452,485	
50							
51	2012 M&I charges on 968 AF	\$ 21	/AF				
52	NP-260 Tariff M&I charges					20,328	
53	Hook-up Fees Collected (\$208)					(76,500)	
54	AFUDC					20,652	
55	Balance as of 12/31/12				153	416,965	

White Tank System

Line No.	Description	Projection Based on Dec. No. 68302		Customer Growth	\$ Amount	Amt. Incl. in Rate Base Dec. 68302	Actual Activity		(Under) / Over Recovery vs. Projection
		Cost/AF	/AF				AFUDC Rate	Activity Thru Dec. '07	
1									
2	2013 M&I charges on 968 AF	\$	21	/AF	20,328				
3	NP-260 Tariff M&I charges				(76,500)				
4	Hook-up Fees Collected (\$208)			153	18,801				
5	AFUDC				379,594				
6	Balanc as of 12/31/13								
7									
8	2014 M&I charges on 968 AF	\$	21	/AF	20,328				
9	NP-260 Tariff M&I charges				(76,500)				
10	Hook-up Fees Collected (\$208)			153	16,854				
11	AFUDC				340,276				
12	Balanc as of 12/31/14								
13									
14	2015 M&I charges on 968 AF	\$	21	/AF	20,328				
15	NP-260 Tariff M&I charges				(76,500)				
16	Hook-up Fees Collected (\$208)			153	14,805				
17	AFUDC				298,909				
18	Balanc as of 12/31/15								
19									
20	2016 M&I charges on 968 AF	\$	21	/AF	20,328				
21	NP-260 Tariff M&I charges				(76,500)				
22	Hook-up Fees Collected (\$208)			153	12,649				
23	AFUDC				255,386				
24	Balanc as of 12/31/16								
25									
26	2017 M&I charges on 968 AF	\$	21	/AF	20,328				
27	NP-260 Tariff M&I charges				(76,500)				
28	Hook-up Fees Collected (\$208)			153	10,381				
29	AFUDC				209,595				
30	Balanc as of 12/31/17								
31									
32	2018 M&I charges on 968 AF	\$	21	/AF	20,328				
33	NP-260 Tariff M&I charges				(76,500)				
34	Hook-up Fees Collected (\$208)			153	7,995				
35	AFUDC				161,418				
36	Balanc as of 12/31/18								
37									
38	2019 M&I charges on 968 AF	\$	21	/AF	20,328				
39	NP-260 Tariff M&I charges				(76,500)				
40	Hook-up Fees Collected (\$208)			153	5,484				
41	AFUDC				110,730				
42	Balanc as of 12/31/19								
43									
44	2020 M&I charges on 968 AF	\$	21	/AF	20,328				
45	NP-260 Tariff M&I charges				(76,500)				
46	Hook-up Fees Collected (\$208)			153	2,843				
47	AFUDC				57,401				
48	Balanc as of 12/31/20								
49									
50	2021 M&I charges on 968 AF	\$	21	/AF	20,328				
51	NP-260 Tariff M&I charges				(76,500)				
52	Hook-up Fees Collected (\$208)			153	64				
53	AFUDC				1,293				
54	Balanc as of 12/31/21								
55									



ARIZONA WATER COMPANY  
 Test Year Ended December 31, 2007

**MULTIPLE REGRESSION ANALYSIS OF THE EFFECT OF CONSERVATION  
 RATE IMPLEMENTATION ON RESIDENTIAL CONSUMPTION - CASA GRANDE**

DEPENDENT VARIABLE  $y$ : M Gallons (Average gallons sold per residential customer per month)  
 INDEPENDENT VARIABLE  $x_1$ : Average Temperature (Average monthly temperature per Farmers Almanac)  
 INDEPENDENT VARIABLE  $x_2$ : Total Precipitation (Total monthly precipitation per Farmers Almanac)  
 INDEPENDENT VARIABLE  $x_3$ : Tiered Rates (Indicator variable where 0 represents flat rate and 1 represents tiered rates)

SUMMARY OUTPUT

Regression Statistics	
R Square	0.761543177
Observations	48

ANOVA			
	df	F	Significance F
Regression	3	46.83992592	9.50054E-14
Residual	44		
Total	47		

	Coefficients	Standard Error	t Stat	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.675598676	0.90277348	1.8560566	-0.143821698	3.495019049	-0.143821698	3.495019049
AvgTemp $x_1$	0.135917205	0.012223039	11.11975512	0.111283288	0.160551122	0.111283288	0.160551122
TotPrecip $x_2$	0.036381445	0.119006014	0.30571098	-0.203459414	0.276222304	-0.203459414	0.276222304
TierRates $x_3$	-0.950933881	0.359930695	-2.641991624	-1.676326522	-0.225541239	-1.676326522	-0.225541239

SUMMARY EQUATION:  $Y = 1.68 \text{ Mgallons} + 0.14x_1 + 0.04x_2 - 0.95x_3$

R SQUARE:

Percentage of the variation in the dependent variable that is explained by the independent variables. The Value of R2 will always be between 0 and 1. In this case the R Square value is 0.76, which means that the regression does a good job of accounting for the variation in M Gallons.

F-STATISTIC:

If the null hypothesis that the independent variables have no effect on M Gallons is true, then the F statistic will have come from an F distribution with  $m - 1$  (2) degrees of freedom in the numerator and  $n - m$  (45) degrees of freedom in the denominator. The critical value for an F distribution at the 95% significance level with 2 and 45 degrees of freedom is 3.15. Since the calculated F value is much larger than the critical value, we can clearly reject the null hypothesis that the independent variables have no effect.

STANDARD ERROR:

Measure of the amount of variation there is in the estimate. The smaller the standard error, the more precise (believable) the estimate is. A general rule of thumb is that the width of the 95% confidence interval is four standard deviations (plus two and minus two from the estimated average).

t-STATISTIC:

The ratio of the estimate to its standard error. If the absolute value of the t-statistic is bigger than 1.96, then the estimate is statistically different from zero. Since the t-statistics for AvgTemp and TierRates are both greater than +/-1.96, we can reject the null hypothesis that the true value of  $x_1$  and  $x_3$  are zero, and conclude with 95% confidence that there is a connection between AvgTemp and M Gallons, and TierRates and M Gallons.

CONCLUSION:

While AvgTemp and TotPrecip remain constant, M Gallons will drop by 0.95 with the introduction of TierRates. Given average monthly usage over the sample period of 10.9 M gallons/Mo, the introduction of tiered rates will result in a  $(-0.95 \div 10.9)$  8.7% decrease in M gallons consumed.

# WATER RATES

# ORIGINAL

**ARIZONA WATER COMPANY**

Phoenix, Arizona

Filed by: William M. Garfield

Title: President

Date of Original Filing: 6-20-86

System: AJO

A.C.C. No.

411

Cancelling A.C.C. No.

None

Tariff or Schedule No.

AM-254

Filed:

3-31-04

Effective:

For all service rendered on  
or after March 10, 2004

## PURCHASED WATER ADJUSTMENT MECHANISM ("PWAM") TARIFF

Whenever Arizona Water Company's purchased water expense in the Ajo water system increases or decreases, or will increase or decrease, from the amount adopted by the Arizona Corporation Commission in the Company's last general rate proceeding for that system, the Company may, in accordance with the provisions of this PWAM, file a new schedule with the Commission for that system, setting forth an adjustment per 100 gallons designed to recover such increased or decreased purchased water expense, provided that:

1. The total amount of the increase or decrease in the purchased water expense will be calculated on a gallons purchased basis by comparing the Company's normalized cost for water during the test year utilized in its last general rate case with the Company's new increased or decreased cost for water.

2. The calculated increase or decrease in purchased water expense for the system must amount to at least \$0.001 per 100 gallons (rounded up or down from five) before an adjustment can be made.

3. All revised schedules filed with the Arizona Corporation Commission pursuant to the provisions of this PWAM will be accompanied by workpapers prepared by the Company in a format approved by the Utilities Division Staff of the Commission and will be in sufficient detail to enable the Commission to test the accuracy of the Company's calculations.

4. The new schedules filed by the Company under the provisions of this PWAM will become effective either on the date the schedules are approved for filing, if the purchased water expense has already increased, or decreased, or on the date the increased or decreased purchased water expense becomes effective, if it has not yet changed.

5. Illustration of application of the above PWAM, assuming the following test year data:

- A) 800,000 H Gallons Purchased
- B) 700,000 H Gallons Sold (87.5%)
- C) 100,000 H Gallons Unaccounted For (12.5%)
- D) \$225,000 Purchased Water Expense

Should Purchased Water Rates increase at a future date such that the new Water Rates x (A) = \$235,000, a Purchased Water Expense pass thru calculation would be initiated.

### Pass Thru Calculation Steps:

- 1)  $\$235,000 - \$225,000 = \$10,000$  Total Purchased Water Increase
- 2)  $\$10,000 \div 800,000$  H Gallons Purchased = \$0.0125/H Gallon
- 3) Step (2) Rounded Per Provisions of Tariff = \$0.013/H Gallon
- 4)  $\$0.013$ /H Gallon x Actual Gallons Used Including Gallons In Minimum = PWAM Charge on Bill

APPROVED FOR FILING

Revised 3/31/04

DECISION #: 66849

**ARIZONA WATER COMPANY**

Attrition Adjuster Mechanism  
 Example Calculation of Attrition Adjuster Mechanism Surcharge

Sample Water System

Line No.	12-Months Ending 12/31/2007	Consumer Price Index	M Gallons Sold
1			
2	<u>Calculation of Costs to be Indexed</u>		
3	Total Operation & Maintenance Expense during prior year		
4			
5	\$ 24,753,310		
6	Less:		
7	Monitoring Assistance Program ("MAP") expenses		
8	Regulatory Assessment		
9	Rate Case Expense - Actual		
10			
11	Costs to be Indexed <sup>1</sup> (Ln. 3 - Ln. 6 - Ln. 7 - Ln. 8)		
12			
13	\$ 24,393,748		
14	<u>Calculation of Inflation Index Factor</u>		
15			
16	Consumer Price Index - 4Q 2007	207.34	
17	Consumer Price Index - 4Q 2006	201.60	
18	Difference (Ln. 15 - Ln. 16)	5.74	
19	Index Factor (Ln. 17 ÷ Ln. 16)	0.0285	
20			
21			
22	<u>Calculation of Annual Attrition Adjustment</u>		
23			
24	Attrition Adjustment (Ln. 10 X Ln. 18) <sup>2</sup>	\$ 694,544	
25			
26	Actual Revenue during prior year	\$ 46,826,503	
27	Percent Increase/(decrease) in Revenues (Ln. 23 ÷ Ln. 25)	1.48%	
28			
29			
30	<u>Calculation of Attrition Adjustment Mechanism Surcharge</u>		
31			
32	December 31, 2006 (year 1)		11,618,475.3
33	December 31, 2007 (year 2)		10,993,475.1
34	Average M Gallons Sold (Ln. 32 - Ln. 31)		<u>11,305,975.2</u>
35			
36	AAM Surcharge Per M Gal (Ln. 23 ÷ Ln. 33)		
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
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48			
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53			
54			
55			

<sup>1</sup>Assumes Purchased Power and Purchased Water Adjuster Mechanisms do not exist.  
<sup>2</sup>Subject to earnings test.

## MEMORANDUM

To: Dorothy Hains                      Del Smith  
          Katrin Stukov                    Gordon Fox  
          Jian Liu                              Darron Carlson

From: Marlin Scott, Jr.  
          Utilities Engineer  
          Utilities Division

Date:           **February 21, 2008**

RE:            UPDATE OF STAFF'S TYPICAL SERVICE LINE AND METER  
                  INSTALLATION CHARGES

The following is an updated list of Staff's typical service line and meter installation charges for 2008. If a company desires to charge an amount greater than these amounts, it should be required to submit appropriate cost justification to do so.

Meter Sizes	Service Line Charges	* Meter Charges	Total Charges
5/8" x 3/4"	415 to 445	105 to 155	520 to 600
3/4"	415 to 445	205 to 255	620 to 700
1"	465 to 495	265 to 315	730 to 810
1-1/2"	520 to 550	475 to 525	995 to 1,075
2" - Turbine	800 to 830	995 to 1,045	1,795 to 1,875
2" - Compound	800 to 830	1,840 to 1,890	2,640 to 2,720
3" - Turbine	1,015 to 1,045	1,620 to 1,670	2,635 to 2,715
3" - Compound	1,135 to 1,165	2,495 to 2,545	3,630 to 3,710
4" - Turbine	1,430 to 1,490	2,570 to 2,670	4,000 to 4,160
4" - Compound	1,610 to 1,670	3,545 to 3,645	5,155 to 5,315
6" - Turbine	2,150 to 2,210	4,925 to 5,025	7,075 to 7,235
6" - Compound	2,270 to 2,330	6,820 to 6,920	9,090 to 9,250

\*Note: Meter charge includes meter box or vault.

:msj

H:/mydocs/slmetercharges.doc

# WATER RATES

**ARIZONA WATER COMPANY**

Phoenix, Arizona  
 Filed by:  
 Title:  
 Date of Original Filing:  
 System:

A.C.C. No.  
 Cancelling A.C.C. No.  
 Tariff or Schedule No.  
 Filed:  
 Effective:

## GENERAL SERVICE

**AVAILABILITY:** In \_\_\_\_\_ and environs at all points where facilities of adequate capacity and pressure are adjacent to the premises served.

**APPLICATION:** To all water service required when such service is supplied at one premise through one point of delivery and measured through one meter. Not applicable to temporary, standby, or supplementary service.

Minimum Charge		Residential								
		Commodity Rate per 100 Gallons Consumed								
Meter Size		0 to	_____ to	_____ to	_____ to	_____ to	_____ to	_____ to	_____ to	Over
		Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons
5/8" x 3/4"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
3/4"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
1"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
1 1/2"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
2"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
3"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
4"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
6"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
8"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
10"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____

Minimum Charge		Commercial, Construction Water							
		Commodity Rate per 100 Gallons Consumed							
Meter Size		0 to	_____ to	_____ to	_____ to	_____ to	_____ to	_____ to	Over
		Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons
5/8" x 3/4"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
3/4"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
1"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
1 1/2"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
2"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
3"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
4"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
6"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
8"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
10"	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____

Minimum Charge		Industrial, Sales for Resale
		Commodity Rate per 100 Gallons Consumed
Meter Size		All Gallons
5/8" x 3/4"	\$ _____	\$ _____
3/4"	\$ _____	\$ _____
1"	\$ _____	\$ _____
1 1/2"	\$ _____	\$ _____
2"	\$ _____	\$ _____
3"	\$ _____	\$ _____
4"	\$ _____	\$ _____
6"	\$ _____	\$ _____
8"	\$ _____	\$ _____
10"	\$ _____	\$ _____

Purchased Power Adjustment: \$ \_\_\_\_\_ per 100 gallons for all gallons per ACC Decision No. \_\_\_\_\_ dated \_\_\_\_\_.

Purchases Water Adjustment: \$ \_\_\_\_\_ per 100 gallons for all gallons per ACC Decision No. \_\_\_\_\_ dated \_\_\_\_\_.

**ADJUSTMENT:** Plus the applicable proportionate part of any taxes or governmental impositions which are or may in the future be assessed on the basis of the gross revenues of the Company and/or the price or revenue from the water or service sold and/or the volume of water pumped or purchased for sale and/or sold hereunder and any tax or similar assessment based on the withdrawal, delivery or use of water. In the event of any increase or decrease in taxes or other governmental impositions, rates shall be adjusted to reflect such increase or decrease.

**SPECIAL PROVISIONS:** Subject to the Company's Tariff Schedule SC-265.

**TERMS AND CONDITIONS:** Subject to the Company's Tariff Schedule TC-243.