



ORIGINAL

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

MIKE GLEASON, Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE APPLICATION OF
ARIZONA-AMERICAN WATER COMPANY,
AN ARIZONA CORPORATION, FOR A
DETERMINATION OF THE CURRENT FAIR
VALUE OF ITS UTILITY PLANT AND
PROPERTY AND FOR INCREASES IN ITS
RATES AND CHARGES BASED THEREON
FOR UTILITY SERVICE BY ITS SUN CITY
WATER DISTRICT

DOCKET NO. W-01303A-07-0209

**ARIZONA-AMERICAN WATER
COMPANY**

**NOTICE OF FILING REJOINDER
TESTIMONY**

1 Arizona-American Water Company ("Arizona-American") hereby files in the above-
2 referenced matter:

- 3 • Rejoinder testimony from Thomas M. Broderick;
- 4 • Rejoinder testimony from Linda J. Gutowski;
- 5 • Rejoinder testimony from Joseph E. Gross.

Arizona Corporation Commission
DOCKETED

DEC 21 2007

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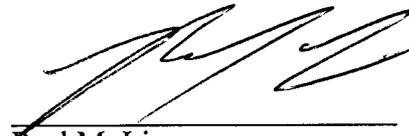
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1 **RESPECTFULLY SUBMITTED** on December 21, 2007.

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BEFORE THE ARIZONA CORPORATION COMMISSION

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DOCKET NO. W-01303A-07-0209

**REJOINDER TESTIMONY
OF
THOMAS M. BRODERICK
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
DECEMBER 21, 2007**

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TABLE OF CONTENTS

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	EXECUTIVE SUMMARY iii
12	I INTRODUCTION AND QUALIFICATIONS 1
13	II PURPOSE OF REJOINDER TESTIMONY 1
14	III FIRE FLOW 1
15	A CUSTOMER SURVEY 1
16	B COST ESTIMATE 2
17	C FIRE FLOW COST RECOVERY MECHANISM 3
18	D ANNUAL BILL INCREASE 3
19	IV COST OF DEBT 4
20	V NEW LOW-INCOME PROGRAM 4
21	VI RATE CASE EXPENSE 6
22	VII RATE DESIGN 6
23	
24	EXHIBIT TMB-RJ1: FIRE FLOW SURVEY RESULTS
25	
26	EXHIBIT TMB-RJ2: CAPITAL STRUCTURE
27	
28	EXHIBIT TMB-RJ3: RATE DESIGN

1 **EXECUTIVE SUMMARY**

2
3 In his rejoinder testimony Thomas M. Broderick testifies as follows:

4
5 **Fire Flow**

6 Mr. Broderick discusses a recent survey concerning the Sun City community's support for
7 Arizona-American's proposed fire-flow project. He was surprised and pleased with the high
8 response rate and the overall level of support for rate recovery of the fire-flow project.

9
10 Mr. Broderick next discusses the revised cost estimate for the fire-flow project and states that
11 delay, if any, will further increase the cost.

12
13 Mr. Broderick generally accepts Staff's proposed Fire Flow Cost Recovery Mechanism.

14
15 Mr. Broderick demonstrates that RUCO witness Diaz Cortez significantly overestimated the
16 average rate increase to recover the costs of the fire-flow project.

17
18 **Cost of Debt**

19 Mr. Broderick sponsors an updated cost-of-debt schedule.

20
21 **Low-Income Program**

22 Mr. Broderick explains how Arizona-American would wind down the low-income program if it
23 is not successful, and how it will be expanded if it is successful.

24
25 **Rate Case Expense**

26 Mr. Broderick generally accepts Staff's proposal to amortize rate-case expense over four years.

27
28 **Rate Design**

29 Mr. Broderick does not accept RUCO's recommendation to shift more revenue recovery to the
30 commodity charge. Arizona-American has confirmed Staff's rate design and updated it to
31 Arizona-American's revenue requirement.

1 **I INTRODUCTION AND QUALIFICATIONS**

2 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND TELEPHONE**
3 **NUMBER.**

4 A. My name is Thomas M. Broderick. My business address is 19820 N. 7th Street, Suite
5 201, Phoenix, Arizona 85024, and my business phone is 623-445-2420.

6 **Q. IN WHAT CAPACITY AND BY WHOM ARE YOU EMPLOYED?**

7 A. I am Manager, Rates and Regulatory Affairs for American Water for the states of
8 Arizona, New Mexico and Texas. Arizona-American Water Company ("Arizona-
9 American") is a wholly-owned subsidiary of American Water.

10 **Q. DID YOU SUBMIT DIRECT AND REBUTTAL TESTIMONY IN THIS CASE?**

11 A. Yes.

12 **II PURPOSE OF REJOINDER TESTIMONY**

13 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS**
14 **CASE?**

15 A. Please refer to the Executive Summary, which precedes my rebuttal testimony.

16 **III FIRE FLOW**

17 **A CUSTOMER SURVEY**

18 **Q. HAVE THE RESULTS OF THE RECENT SUN CITY CUSTOMERS SURVEY**
19 **CONCERNING THE FIRE FLOW PROJECT BEEN TABULATED?**

20 A. Yes. Our survey vendor received a total of 3,247 survey responses from Sun City Water
21 customers. Recall that the first question was, "Yes, I support improving fire hydrant
22 flows in Sun City Water District or No, I do not support improving fire hydrant flows."
23 We received a total of 1,801 "yes" responses to this question and 1,256 "no" responses.
24 The "yes" rate was, therefore, nearly 59%.

1 The second question was, "Yes, I am willing to pay in my water bill for the cost of
2 improving fire hydrant flows in Sun City Water district so long as the Arizona
3 Corporation Commission finds the costs reasonable or No, I am not willing / able to pay
4 for the proposed fire hydrant flow improvements in my water bill." We received a total
5 of 1,565 "yes" responses to the second question and 1,506 "no" responses. The "yes"
6 rate was nearly 51%.

7 Exhibit TMB-RJ-1 provides the survey responses and reconciles all the categories of
8 responses received to the 3,247 response total. For example, some responses contained
9 only written comments without any response to the questions. Well over 90% of the
10 respondents voluntarily provided name and contact information.

11 **Q. WHAT IS YOUR IMPRESSION OF THE SURVEY RESPONSES?**

12 A. Our survey vendor told me that a response from 3,247 customers out of an approximate
13 base of 22,000 Sun City residential customers is quite high. Also, although I expected
14 the majority to favor the project, I did not expect that over 50% of the respondents would
15 be willing to pay for the project in water bills.

16 I hope that this survey and its results will help the Commission reach its decision
17 concerning the fire flow project.

18 **B COST ESTIMATE**

19 **Q. HAS ARIZONA-AMERICAN'S RECENTLY UPDATED ITS ESTIMATE FOR**
20 **THE SUN CITY FIRE FLOW PROJECT COST?**

21 A. Yes. In response to Staff's surrebuttal testimony cost estimate, Arizona-American's
22 engineer, Mr. Joe Gross, re-contacted Brown & Caldwell, the vendor that performed the
23 study for the Task Force, to obtain additional and updated cost information. In his
24 rejoinder testimony Mr. Gross presents an updated and complete cost estimate of \$5.1

1 million. This is slightly higher than our prior estimate of \$4.9 million, and it is still
2 significantly higher than Staff's estimate of \$2.7 million. If the project were delayed
3 further, Arizona-American's cost estimate would also increase further. Arizona-
4 American will update this cost estimate several more times over the next few years until
5 the project is completed.

6 **C FIRE FLOW COST RECOVERY MECHANISM**

7 **Q. DOES ARIZONA-AMERICAN ACCEPT STAFF'S FIRE FLOW COST**
8 **RECOVERY MECHANISM ("FCRM")?**

9 A. Yes, although apparently I did not make that entirely clear in my rebuttal testimony. It is
10 also acceptable to postpone the discussion of the rate design of the FCRM until a later
11 date if that is the Commission's preference. Please note, however, that the FCRM step
12 filing process is streamlined and my assumption is that it will be appropriate to file each
13 step increase with rate design which places 50% of the revenue requirement on the
14 monthly minimum and 50% on the commodity - just as was the precedent with the
15 ACRM.

16 **D ANNUAL BILL INCREASE**

17 **Q. WAS RUCO'S MS. DIAZ CORTEZ CORRECT WHEN SHE STATED THAT**
18 **THE ANNUAL INCREASE IN EACH WATER BILL WAS \$213 PER**
19 **CUSTOMER TO FUND THE FIRE FLOW PROJECT?**

20 A. No. Ms. Diaz Cortez divided the **total** capital cost estimate of \$4.9 million by the
21 approximate customer count of 23,000 to create her \$213 estimate. Hence, she calculated
22 the **total** fire flow investment cost per customer, but that is not the "annual increase" in
23 each customer's water bill. Rather, Arizona-American is proposing a normal revenue-
24 requirements formula. The annual increase was provided to customers in the survey,

1 although that now can be increased slightly for the increase in the capital cost estimate
2 from \$4.9 million to \$5.1 million.

3 **IV COST OF DEBT**

4 **Q. HAVE YOU UPDATED ARIZONA-AMERICAN'S COST OF CAPITAL WITH**
5 **ACTUAL RESULTS THROUGH NOVEMBER 2007?**

6 A. Yes. Exhibit TMB-RJ2 updates the capital structure and Ms Gutowski incorporates this
7 slight update in her rejoinder testimony. The rebuttal un-weighted cost of debt (5.5%)
8 and the return on equity (10.8%) have not changed in my rejoinder testimony.

9 **V NEW LOW-INCOME PROGRAM**

10 **Q. RUCO ASKS ARIZONA-AMERICAN TO DESCRIBE ITS INTENTIONS IF THE**
11 **LOW-INCOME PROGRAM'S ENROLLMENT IS EITHER VERY LOW OR**
12 **HIGH. WHAT ARE ARIZONA-AMERICAN'S INTENTIONS?**

13 A. Because 1,000 customers would be eligible, an enrollment of only a few hundred would
14 be disappointing. If actual customer enrollment is only at this level after six or nine
15 months following approval, Arizona-American intends to inform the parties of this
16 situation and that if enrollment remained low on the first anniversary, the program would
17 shortly thereafter be terminated. This would result in our ceasing to compensate Dollar
18 Energy. We would leave the few enrollees on the low-income tariff until the next rate
19 case without further action necessary on their part. The true-up refund to non-
20 participants would apply in the manner I earlier described in my testimony.

21 If, on the other hand, the program is very successful and there is a waiting list of eligible
22 customers, then I would attempt to address this in the next Arizona-American rate case,
23 which should be filed within the next six months. The rate case will include most of
24 Arizona-American's other districts, and I intend to propose a state-wide low-income

1 program. As I discussed in prior testimony, customers in the Mohave and Havasu
2 districts in particular are even more deserving of the program (from an income-burden
3 perspective) than Sun City, but that there are also pockets of low-income customers in the
4 Tubac district. If the state-wide program is approved, enrollment in Arizona-American's
5 other districts with low-income customers should be allowed to first ramp up to their
6 established eligibility levels. Enrollment in the Sun City Water district and elsewhere
7 could then expand further to whatever total level the state-wide program can fund.

8 If the Commission does not approve a statewide low-income funding mechanism, then I
9 would not be able to increase enrollment in the Sun City Water district until that district's
10 next rate case – probably four years away.

11 **Q. HAS ARIZONA-AMERICAN UPDATED ITS RATE DESIGN FOR THE LOW-**
12 **INCOME PROGRAM AFTER REVIEWING STAFF'S RATE DESIGN?**

13 A. Yes. Staff lowered the threshold of the last rate block and Arizona-American earlier
14 accepted that. Using the test-year consumption in the revised last rate block, the revised
15 increase to that block necessary to fund approximately \$50,000 of low income rate
16 discounts requires an approximate \$0.05 per 1000 gallon increase to non-participants' last
17 block consumption. Under Staff's proposed rate design, the total consumption in the last
18 block is 1,018,730 thousand gallons which translates to an exact \$0.491 per 1000 gallons
19 adder to non-participants.

20 It is preferable to address the funding of the rate discount in rate design as opposed to
21 treating the discount as an increase to expense. In his surrebuttal testimony, RUCO's Mr.
22 Coley includes Operating Adjustment #12 which includes the \$50,000 discount as an
23 increase to expense. However, please recall that the \$50,000 is only for the funding the

1 discounts. Arizona-American is not seeking recovery of the program and administration
2 expenses in this current rate case. So, this is truly only a rate-design issue.

3 **VI RATE CASE EXPENSE**

4 **Q. DO YOU ACCEPT STAFF'S PROPOSAL TO AMORTIZE RATE CASE**
5 **EXPENSE OVER FOUR YEARS?**

6 A. Yes, although I note that if the next rate case is sooner than that, I intend to include any
7 unamortized expense from this current case into rate case expense for the next case. Ms.
8 Gutowski accepts this adjustment in her updated schedules.

9 **VII RATE DESIGN**

10 **Q. DOES ARIZONA-AMERICAN ACCEPT RUCO'S RECOMMENDATION TO**
11 **SHIFT MORE REVENUE RECOVERY TO THE COMMODITY CHARGE?**

12 A. I do not think this further shift is necessary yet, given the increase in the last rate block to
13 fund the low-income program and the uncertainty over the future rate design of the fire-
14 flow surcharge. It is also difficult to respond to RUCO since it has not yet indicated if it
15 accepts Staff's proposal to lower the break-points on the rate blocks (which Arizona-
16 American accepted). I understand that RUCO will shortly update its rate design.

17 **Q. HAS ARIZONA-AMERICAN CONFIRMED STAFF'S RATE DESIGN AND**
18 **UPDATED IT TO ARIZONA-AMERICAN'S REVENUE REQUIREMENT?**

19 A. Yes and yes. Please see Exhibit TMB-RJ3 for Arizona-American's rate design using its
20 rebuttal revenue requirement. Ms. Gutowski is slightly updating this revenue
21 requirement which means Arizona-American will later submit slightly updated rate
22 design. Also, Arizona-American will later include a low-income rate schedule and
23 increase the last block rates for residential and commercial by the calculated \$0.491 per
24 1000 gallon increase.

1 **Q. DOES THIS CONCLUDE YOUR REJOINDER TESTIMONY IN THIS CASE?**

2 **A. Yes.**

Sun City Fire Flow Survey Results

Yes & Yes	1481	Total Qu. 1 "Yes"	1801
Yes & No	225	Total Qu. 1 "No"	1256
Yes & No Ans	95	Total Qu. 2 "Yes"	1565
No & Yes	11	Total Qu. 2 "No"	1506
No Ans & Yes	73		
No & No	1171		
No & No Ans	74		
No Ans & No	110		
Comment Only	7		
Total Responses	3247		

QUESTION 1:

Yes, I support improving fire hydrant flows in Sun City Water District

No, I do not support improving fire hydrant flows

QUESTION 2:

Yes, I am willing to pay in my water bill for the cost of improving fire hydrant flows in Sun City Water district so long as the Arizona Corporation Commission finds the costs reasonable

No, I am not willing/able to pay for the proposed fire hydrant flow improvements in my water bill

Arizona-American's Capital Structure

Cost of Debt

	<u>Actual and Projected</u>		<u>Interest Rate</u>	
	<u>as of</u>	<u>Annual Interest</u>		
	<u>11/30/2007</u>			
<u>Long-Term Debt</u>				
Aug '08 L-T Senior Notes	\$ 4,519,474	321,877	7.122%	Actual
Sept '13 PILR - Monterey	41,323	2,587	6.260%	Actual
Aug '13 PILR - Montex/Lincoln	23,036	1,327	5.761%	Actual
Aug '15 PILR - Rosalee	43,340	3,112	7.180%	Actual
Aug '15 PILR - T.O.	37,123	2,665	7.179%	Actual
<u>Development</u>				
Sept '28 L-T Note - Maricopa	10,635,000	386,051	3.630%	Actual
Dec '13 L-T Promissory Note	24,700,000	1,331,330	5.390%	Actual
Dec '16 L-T Promissory Note	11,200,000	618,240	5.520%	Actual
Dec '18 L-T Promissory Note	123,100,000	6,918,220	5.620%	Actual
Oct '37 L-T Promissory Note (1)	10,000,000	650,000	6.500%	ACC Max.
Oct '37 L-T Promissory Note	6,450,000	425,249	6.593%	Actual
Phoenix Agreement	3,000,000	-	0.000%	Actual
Long-Term Debt	193,749,296	10,660,657	5.502%	
Total Debt	\$ 193,749,296	\$ 10,660,657	5.50%	58.3%

Equity

	<u>Amount outstanding</u>	
	<u>as of 11/30/2007</u>	
<u>Common Equity</u>		
Common Stock	522,880	Actual
Paid in Capital	149,468,228	Actual
Retained Earnings	(26,280,778)	Actual
2007 Equity Infusion - Nov '07 Actual \$7 M plus \$8 m forecast	15,000,000	
Total Common Equity	\$ 138,710,330	41.7%
Total Capitalization	\$ 332,459,626	100%
Short Term Debt	\$ 27,865,243	\$ 1,440,884 5.171%

(1) The actual rate for this note is 6.593%.

Docket No. W-01303A-07-0209
Arizona-American Water Company
Rejoinder Testimony of Thomas M. Broderick
Exhibit TMB-RJ3

Arizona-American's Rate Design

Arizona American Water Company - Sun City Water
 Test Year Ended December 29, 2006
 Changes in Representative Rate Schedules

Line No.	Rate Schedule	Description	Present Blocks			Proposed Blocks			Base Charge			Volume Charge		
			Present Rate	Proposed Rate	Change	Present Rate	Proposed Rate	Change	Present Rate	Proposed Rate	Change	Present Rate	Proposed Rate	Change
1	A1M1A	Residential 5/8 & 3/4-inch				First 3,000 gal.			\$ 6.33	\$ 8.00	\$ 1.67	\$ 0.7200	\$ 0.7280	\$ 0.0080
2						Next 10,000 gal.						\$ 1.1000	\$ 1.3448	\$ 0.2448
3						Over 13,000 gal.						\$ 1.3160	\$ 1.6785	\$ 0.3625
4	A1M1B	Residential 1-inch				First 46,000 gal.			\$ 16.40	\$ 20.50	\$ 4.10	\$ 1.1000	\$ 1.3448	\$ 0.2448
5						Over 46,000 gal.						\$ 1.3160	\$ 1.6785	\$ 0.3625
6	A1M1C	Residential 1.5-inch				First 106,000 gal.			\$ 33.77	\$ 41.00	\$ 7.23	\$ 1.1000	\$ 1.3448	\$ 0.2448
7						Over 106,000 gal.						\$ 1.3160	\$ 1.6785	\$ 0.3625
8	A1M1D	Residential 2-inch				First 175,000 gal.			\$ 51.14	\$ 65.60	\$ 14.46	\$ 1.1000	\$ 1.3448	\$ 0.2448
9						Over 175,000 gal.						\$ 1.3160	\$ 1.6785	\$ 0.3625
10	A1M1E	Residential 3-inch				First 340,000 gal.			\$ 86.84	\$ 131.20	\$ 44.36	\$ 1.1000	\$ 1.3448	\$ 0.2448
11						Over 340,000 gal.						\$ 1.3160	\$ 1.6785	\$ 0.3625
12	A1M1F	Residential 4-inch				First 550,000 gal.			\$ 135.00	\$ 205.00	\$ 70.00	\$ 1.1000	\$ 1.3448	\$ 0.2448
13						Over 550,000 gal.						\$ 1.3160	\$ 1.6785	\$ 0.3625
14	A1M1G	Residential 6-inch				First 700,000 gal.			\$ 178.51	\$ 410.00	\$ 231.49	\$ 1.1000	\$ 1.3448	\$ 0.2448
15						Over 700,000 gal.						\$ 1.3160	\$ 1.6785	\$ 0.3625
16	A1M1H	Residential 8-inch				First 1,430,000 gal.			\$ 350.00	\$ 656.00	\$ 306.00	\$ 1.1000	\$ 1.3448	\$ 0.2448
17						Over 1,430,000 gal.						\$ 1.3160	\$ 1.6785	\$ 0.3625
18	A2M1A	Commercial 5/8 & 3/4-inch				First 10,000 gal.			\$ 6.33	\$ 8.00	\$ 1.67	\$ 1.1000	\$ 1.3448	\$ 0.2448
19						Over 10,000 gal.						\$ 1.3160	\$ 1.6785	\$ 0.3625
20	A2M1B	Commercial 1-inch				First 46,000 gal.			\$ 16.40	\$ 20.50	\$ 4.10	\$ 1.1000	\$ 1.3448	\$ 0.2448
21						Over 46,000 gal.						\$ 1.3160	\$ 1.6785	\$ 0.3625
22	A2M1C	Commercial 1.5-inch				First 106,000 gal.			\$ 33.77	\$ 41.00	\$ 7.23	\$ 1.1000	\$ 1.3448	\$ 0.2448
23						Over 106,000 gal.						\$ 1.3160	\$ 1.6785	\$ 0.3625
24	A2M1D	Commercial 2-inch				First 175,000 gal.			\$ 51.14	\$ 65.60	\$ 14.46	\$ 1.1000	\$ 1.3448	\$ 0.2448
25						Over 175,000 gal.						\$ 1.3160	\$ 1.6785	\$ 0.3625
26	A2M1E	Commercial 3-inch				First 340,000 gal.			\$ 86.84	\$ 131.20	\$ 44.36	\$ 1.1000	\$ 1.3448	\$ 0.2448
27						Over 340,000 gal.						\$ 1.3160	\$ 1.6785	\$ 0.3625
28	A2M1F	Commercial 4-inch				First 550,000 gal.			\$ 135.00	\$ 205.00	\$ 70.00	\$ 1.1000	\$ 1.3448	\$ 0.2448
29						Over 550,000 gal.						\$ 1.3160	\$ 1.6785	\$ 0.3625
30	A2M1G	Commercial 6-inch				First 700,000 gal.			\$ 178.51	\$ 410.00	\$ 231.49	\$ 1.1000	\$ 1.3448	\$ 0.2448
31						Over 700,000 gal.						\$ 1.3160	\$ 1.6785	\$ 0.3625
32	A2M1H	Commercial 8-inch				First 1,430,000 gal.			\$ 350.00	\$ 656.00	\$ 306.00	\$ 1.1000	\$ 1.3448	\$ 0.2448
33						Over 1,430,000 gal.						\$ 1.3160	\$ 1.6785	\$ 0.3625
34	A7M1B	Irrigation 1-inch				All Usage			\$ 16.46	\$ 20.50	\$ 4.04	\$ 0.8200	\$ 1.0645	\$ 0.2445
35	A7M1C	Irrigation 1.5-inch				All Usage			\$ 33.78	\$ 41.00	\$ 7.22	\$ 0.8200	\$ 1.0645	\$ 0.2445
36	A7M1D	Irrigation 2-inch				All Usage			\$ 51.15	\$ 65.60	\$ 14.45	\$ 0.8200	\$ 1.0645	\$ 0.2445
37	A7M1E	Irrigation 3-inch				All Usage			\$ 86.87	\$ 131.20	\$ 44.33	\$ 0.8200	\$ 1.0645	\$ 0.2445
38	A7M1F	Irrigation 4-inch				All Usage			\$ 135.00	\$ 205.00	\$ 70.00	\$ 0.8200	\$ 1.0645	\$ 0.2445
39	A7M1G	Irrigation 6-inch				All Usage			\$ 178.56	\$ 410.00	\$ 231.44	\$ 0.8200	\$ 1.0645	\$ 0.2445
40	A6M03	Private Fire 3-inch				All Usage			\$ 7.60	\$ 11.18	\$ 3.58	\$ 0.7600	\$ 0.9866	\$ 0.2266
41	A6M04	Private Fire 4-inch				All Usage			\$ 11.39	\$ 17.30	\$ 5.91	\$ 0.7600	\$ 0.9866	\$ 0.2266
42	A6M06	Private Fire 6-inch				All Usage			\$ 15.83	\$ 36.35	\$ 20.52	\$ 0.7600	\$ 0.9866	\$ 0.2266
43	A6M08	Private Fire 8-inch				All Usage			\$ 25.32	\$ 47.46	\$ 22.14	\$ 0.7600	\$ 0.9866	\$ 0.2266
44	A6M10	Private Fire 10-inch				All Usage			\$ 39.35	\$ 68.34	\$ 28.99	\$ 0.7600	\$ 0.9866	\$ 0.2266
45	A5M13	Public Interruptible 3-inch				All Usage			\$ 4.59	\$ 6.93	\$ 2.34	\$ 0.6300	\$ 0.8179	\$ 0.1879
46	A5M18	Public Interruptible 8-inch				All Usage			\$ 4.59	\$ 6.93	\$ 2.34	\$ 0.6300	\$ 0.8179	\$ 0.1879
47	A8M1	Public Interruptible/Stand-by City of Peoria				All Usage			\$ 4.62	\$ 6.98	\$ 2.36	\$ 0.7600	\$ 0.9866	\$ 0.2266
48	A7M2	Central Arizona Project - Raw (MISC-1/CAP-1)				All Usage			\$ -	\$ -	\$ -	\$ 0.6558	\$ 0.8513	\$ 0.1955

Arizona American Water Company - Sun City Water
 Test Year Ended December 29, 2006
 Changes in Representative Rate Revenues

Line No.	Rate Schedule	Description	Present Blocks	Proposed Blocks	Total Bills	Present Total Usage	Staff Total Usage	Monthly Customer Change		Volume Change		Total Charge			
								Present Revenue	Proposed Revenue	Present Revenue	Proposed Revenue	Present Revenue	Proposed Revenue	Amount	Percent
1	A1M1A	Residential 5/8 & 3/4-inch	First 4,000 gal. Next 14,000 gal.	First 3,000 gal. Next 10,000 gal.	240,919	874,357 988,771	678,269 924,962	\$1,525,018	\$1,927,353	\$629,537 \$1,087,648	\$493,780 \$1,243,889	\$3,411,965	\$4,317,782	\$905,817	26.5%
2	A1M1B	Residential 1-inch	Over 18,000 gal. First 60,000 gal.	Over 13,000 gal. First 46,000 gal.	3,330	56,402 9,491	388,895 14,370	\$54,604	\$68,255	\$169,761 \$62,042	\$652,760 \$69,288	\$129,136	\$161,663	\$32,527	25.2%
3	A1M1C	Residential 1.5-inch	Over 125,000 gal. Over 125,000 gal.	Over 106,000 gal. Over 106,000 gal.	15,749	1,047,224 80,960	998,146 130,030	\$531,829	\$645,691	\$1,151,946 \$106,543	\$1,342,307 \$218,269	\$1,790,319	\$2,206,267	\$415,948	23.2%
4	A1M1D	Residential 2-inch	Over 190,000 gal. First 340,000 gal.	First 175,000 gal. Over 175,000 gal.	5,387	419,584 72,265	412,220 79,629	\$275,491	\$353,387	\$461,542 \$95,101	\$554,353 \$133,657	\$832,134	\$1,041,398	\$209,263	25.1%
5	A1M1E	Residential 3-inch	Over 340,000 gal. Over 340,000 gal.	Over 340,000 gal. Over 340,000 gal.	48	8,616 1,115	8,616 1,115	\$4,131	\$6,241	\$9,478 \$1,467	\$11,572 \$1,872	\$15,076	\$19,700	\$4,624	30.7%
6	A1M1F	Residential 4-inch	Over 550,000 gal. Over 550,000 gal.	Over 550,000 gal. Over 550,000 gal.	-	-	-	-	-	\$0	\$0	\$0	\$0	\$0	0.0%
7	A1M1G	Residential 6-inch	First 700,000 gal. Over 700,000 gal.	First 700,000 gal. Over 700,000 gal.	24	1,940	1,940	\$4,249	\$9,758	\$2,134 \$0	\$2,609 \$0	\$6,363	\$12,367	\$5,984	93.8%
8	A1M1H	Residential 8-inch	Over 1,450,000 gal. Over 1,450,000 gal.	Over 1,430,000 gal. Over 1,430,000 gal.	-	-	-	-	-	\$0	\$0	\$0	\$0	\$0	0.0%
9	A2M1A	Commercial 5/8 & 3/4-inch	First 18,000 gal. Over 18,000 gal.	First 10,000 gal. Over 10,000 gal.	2,689	10,401 7,674	8,414 9,661	\$17,020	\$21,510	\$11,441 \$10,099	\$11,315 \$16,216	\$38,560	\$49,041	\$10,481	27.2%
10	A2M1B	Commercial 1-inch	Over 60,000 gal. First 125,000 gal.	Over 46,000 gal. First 106,000 gal.	1,648	29,986 6,134	27,370 8,750	\$27,029	\$33,787	\$32,985 \$6,072	\$36,807 \$14,687	\$68,086	\$85,281	\$17,194	25.3%
11	A2M1C	Commercial 1.5-inch	Over 125,000 gal. Over 125,000 gal.	Over 106,000 gal. Over 106,000 gal.	2,238	86,835 27,378	81,152 33,061	\$75,587	\$91,770	\$95,519 \$36,029	\$109,133 \$55,493	\$207,135	\$256,396	\$49,261	23.8%
12	A2M1D	Commercial 2-inch	Over 190,000 gal. First 340,000 gal.	Over 175,000 gal. First 340,000 gal.	2,033	157,397 52,576	152,370 57,603	\$103,988	\$133,391	\$173,137 \$69,190	\$204,907 \$96,687	\$346,315	\$434,985	\$88,670	25.6%
13	A2M1E	Commercial 3-inch	Over 340,000 gal. First 550,000 gal.	Over 340,000 gal. First 550,000 gal.	332	50,739 22,333	50,739 22,313	\$28,831	\$43,558	\$55,813 \$43,968	\$68,234 \$56,079	\$128,612	\$167,871	\$39,259	30.5%
14	A2M1F	Commercial 4-inch	Over 550,000 gal. Over 700,000 gal.	Over 550,000 gal. Over 700,000 gal.	60	35,009 53,291	35,009 53,291	\$8,082	\$12,273	\$46,072 \$58,763	\$58,763 \$71,666	\$78,720	\$101,042	\$22,322	28.4%
15	A2M1G	Commercial 6-inch	Over 700,000 gal. Over 700,000 gal.	Over 700,000 gal. Over 700,000 gal.	83	227,189	227,189	\$14,876	\$34,165	\$298,981	\$381,337	\$372,477	\$487,168	\$114,691	30.8%
16	A2M1H	Commercial 8-inch	Over 1,450,000 gal. All Usage	Over 1,430,000 gal. All Usage	-	-	-	-	-	\$0	\$0	\$0	\$0	\$0	0.0%
17	A7M1B	Irrigation 1-inch	All Usage	All Usage	24	6,913	6,913	\$391	\$487	\$5,659	\$7,359	\$6,060	\$7,846	\$1,786	29.5%
18	A7M1C	Irrigation 1.5-inch	All Usage	All Usage	-	-	-	-	-	\$0	\$0	\$0	\$0	\$0	0.0%
19	A7M1D	Irrigation 2-inch	All Usage	All Usage	24	8,679	8,679	\$1,217	\$1,561	\$7,117	\$9,239	\$8,334	\$10,800	\$2,466	29.6%
20	A7M1E	Irrigation 3-inch	All Usage	All Usage	-	-	-	-	-	\$0	\$0	\$0	\$0	\$0	0.0%
21	A7M1F	Irrigation 4-inch	All Usage	All Usage	-	-	-	-	-	\$0	\$0	\$0	\$0	\$0	0.0%
22	A7M1G	Irrigation 6-inch	All Usage	All Usage	-	-	-	-	-	\$0	\$0	\$0	\$0	\$0	0.0%
23	A7M1H	Irrigation 8-inch	All Usage	All Usage	-	-	-	-	-	\$0	\$0	\$0	\$0	\$0	0.0%
24	AGM03	Private Fire 3-inch	All Usage	All Usage	12	\$91	\$134	\$91	\$134	\$0	\$0	\$0	\$134	\$43	47.1%
25	AGM04	Private Fire 4-inch	All Usage	All Usage	664	\$7,561	\$11,484	\$7,561	\$11,484	\$0	\$0	\$7,561	\$11,484	\$3,923	51.9%
26	AGM05	Private Fire 6-inch	All Usage	All Usage	642	\$10,161	\$23,333	\$10,161	\$23,333	\$0	\$0	\$10,161	\$23,333	\$13,172	129.6%
27	AGM06	Private Fire 8-inch	All Usage	All Usage	118	\$2,989	\$5,604	\$2,989	\$5,604	\$0	\$0	\$2,989	\$5,604	\$2,614	87.4%
28	AGM07	Private Fire 10-inch	All Usage	All Usage	-	-	-	-	-	\$0	\$0	\$0	\$0	\$0	0.0%
29	ASM13	Public Interruptible 3-inch	All Usage	All Usage	-	-	-	-	-	\$0	\$0	\$0	\$0	\$0	0.0%
30	ASM18	Public Interruptible 8-inch	All Usage	All Usage	12	\$55	\$83	\$55	\$83	\$0	\$0	\$55	\$83	\$28	51.0%
31	A8M1	Public Interruptible/Stand-by City of Peoria	All Usage	All Usage	756	\$3,493	\$5,277	\$3,493	\$5,277	\$0	\$0	\$3,493	\$5,277	\$1,784	51.1%
32	A7M2	Central Arizona Project - Raw (MISC-1/CAP-1)	All Usage	All Usage	334	182,931	182,931	\$0	\$0	\$119,966	\$155,729	\$119,966	\$155,729	\$35,763	29.8%
33					277,125	4,688,598	4,688,578	\$2,696,694	\$3,429,104	\$4,886,933	\$6,132,147	\$7,583,628	\$9,561,250	\$1,977,623	923.1%
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Company Revenue Req
Over / (Under)
\$9,561,026
\$224 Over / (Under)

RATE DESIGN

Monthly Usage Charge	Present Rates	Company Proposed Rates	New Company Recommended Rates
5/8" Meter - Residential	\$ 6.33	\$ 8.20	\$ 8.00
3/4" Meter - Residential	6.33	8.20	8.00
1" Meter - Residential	16.40	20.50	20.50
1½" Meter - Residential	33.77	41.00	41.00
2" Meter - Residential	51.14	65.60	65.60
3" Meter - Residential	86.84	131.20	131.20
4" Meter - Residential	135.00	205.00	205.00
6" Meter - Residential	178.51	410.00	410.00
8" Meter - Residential	350.00	656.00	656.00
5/8" Meter - Commercial	\$ 6.33	\$ 8.20	\$ 8.00
3/4" Meter - Commercial	6.33	8.20	8.00
1" Meter - Commercial	16.40	20.50	20.50
1½" Meter - Commercial	33.77	41.00	41.00
2" Meter - Commercial	51.14	65.60	65.60
3" Meter - Commercial	86.84	131.20	131.20
4" Meter - Commercial	135.00	205.00	205.00
6" Meter - Commercial	178.51	410.00	410.00
8" Meter - Commercial	350.00	656.00	656.00
Irrigation 1"	16.46	20.50	20.50
Irrigation 1.5"	33.78	41.00	41.00
Irrigation 2"	51.15	65.60	65.60
Irrigation 3"	86.87	131.20	131.20
Irrigation 4"	135.00	205.00	205.00
Irrigation 6"	178.56	410.00	410.00
Private Fire 3"	7.60	11.48	11.18
Private Fire 4"	11.39	17.30	17.30
Private Fire 6"	15.83	36.35	36.35
Private Fire 8"	25.32	47.46	47.46
Private Fire 10"	39.35	68.34	68.34
Public Interruptible 3"	4.59	6.93	6.93
Public Interruptible 8"	4.59	6.93	6.93
Standby - City of Peoria	4.62	6.98	6.98
Central Arizona Project Raw	-	-	-
Commodity Rates			
5/8" Meter (Residential)			
From 1 to 4,000 Gallons	\$ 0.7200	\$ 0.9350	N/A
From 4,001 to 18,000 Gallons	\$ 1.1000	\$ 1.4280	N/A
Over 18,000 Gallons	\$ 1.3160	\$ 1.7100	N/A
From 1 to 3,000 Gallons	N/A	N/A	\$ 0.7280
From 3,001 to 10,000 Gallons	N/A	N/A	\$ 1.3448
Over 10,000 Gallons	N/A	N/A	\$ 1.6785
3/4" Meter (Residential)			
From 1 to 4,000 Gallons	\$ 0.7200	\$ 0.9350	N/A
From 4,001 to 18,000 Gallons	\$ 1.1000	\$ 1.4280	N/A
Over 18,000 Gallons	\$ 1.3160	\$ 1.7100	N/A
From 1 to 3,000 Gallons	N/A	N/A	\$ 0.7280
From 3,001 to 10,000 Gallons	N/A	N/A	\$ 1.3448
Over 10,000 Gallons	N/A	N/A	\$ 1.6785
5/8" Meter (Commercial)			
From 1 to 18,000 Gallons	\$ 1.1000	\$ 1.4280	N/A
Over 18,000 Gallons	\$ 1.3160	\$ 1.7100	N/A
From 1 to 10,000 Gallons	N/A	N/A	\$ 1.3448
Over 10,000 Gallons	N/A	N/A	\$ 1.6785

RATE DESIGN

Monthly Usage Charge	Present Rates	Company Proposed Rates	New Company Recommended Rates
3/4" Meter (Commercial)			
From 1 to 18,000 Gallons	\$ 1.1000	\$ 1.4280	N/A
Over 18,000 Gallons	\$ 1.3160	\$ 1.7100	N/A
From 1 to 10,000 Gallons	N/A	N/A	\$ 1.3448
From 10,001 to 10,000 Gallons	N/A	N/A	\$ 1.6785
1" Meter (Res., Comm.)			
From 1 to 60,000 Gallons	\$ 1.1000	\$ 1.4280	N/A
Over 60,000 Gallons	\$ 1.3160	\$ 1.7100	N/A
From 1 to 46,000 Gallons	N/A	N/A	\$ 1.3448
Over 46,000 Gallons	N/A	N/A	\$ 1.6785
1½" Meter (Res., Comm.)			
From 1 to 125,000 Gallons	\$ 1.1000	\$ 1.4280	N/A
Over 125,000 Gallons	\$ 1.3160	\$ 1.7100	N/A
From 1 to 106,000 Gallons	N/A	N/A	\$ 1.3448
Over 106,000 Gallons	N/A	N/A	\$ 1.6785
2" Meter (Res., Comm.)			
From 1 to 190,000 Gallons	\$ 1.1000	\$ 1.4280	N/A
Over 190,000 Gallons	\$ 1.3160	\$ 1.7100	N/A
From 1 to 175,000 Gallons	N/A	N/A	\$ 1.3448
Over 175,000 Gallons	N/A	N/A	\$ 1.6785
3" Meter (Res., Comm.)			
From 1 to 340,000 Gallons	\$ 1.1000	\$ 1.4280	N/A
Over 340,000 Gallons	\$ 1.3160	\$ 1.7100	N/A
From 1 to 340,000 Gallons	N/A	N/A	\$ 1.3448
Over 340,000 Gallons	N/A	N/A	\$ 1.6785
4" Meter (Res., Comm.)			
From 1 to 550,000 Gallons	\$ 1.1000	\$ 1.4280	N/A
Over 550,000 Gallons	\$ 1.3160	\$ 1.7100	N/A
From 1 to 550,000 Gallons	N/A	N/A	\$ 1.3448
Over 550,000 Gallons	N/A	N/A	\$ 1.6785
6" Meter (Res., Comm.)			
From 1 to 700,000 Gallons	\$ 1.1000	\$ 1.4280	N/A
Over 700,000 Gallons	\$ 1.3160	\$ 1.7100	N/A
From 1 to 700,000 Gallons	N/A	N/A	\$ 1.3448
Over 700,000 Gallons	N/A	N/A	\$ 1.6785
8" Meter (Res., Comm.)			
From 1 to 1,450,000 Gallons	\$ 1.1000	\$ 1.4280	N/A
Over 1,450,000 Gallons	\$ 1.3160	\$ 1.7100	N/A
From 1 to 1,430,000 Gallons	N/A	N/A	\$ 1.3448
Over 1,430,000 Gallons	N/A	N/A	\$ 1.6785
Irrigation 1"			
All Gallons	\$ 0.8200	\$ 1.0645	\$ 1.0645
Irrigation 1.5"			
All Gallons	0.8200	1.0645	1.0645
Irrigation 2"			
All Gallons	0.8200	1.0645	1.0645
Irrigation 3"			
All Gallons	0.8200	1.0645	1.0645
Irrigation 4"			
All Gallons	0.8200	1.0645	1.0645
Irrigation 6"			
All Gallons	0.8200	1.0645	1.0645
Private Fire 3"			
All Gallons	0.7600	0.9866	0.9866
Private Fire 4"			
All Gallons	0.7600	0.9866	0.9866
Private Fire 6"			
All Gallons	0.7600	0.9866	0.9866
Private Fire 8"			
All Gallons	0.7600	0.9866	0.9866
Private Fire 10"			
All Gallons	0.7600	0.9866	0.9866
Public Interruptible 3"			
All Gallons	\$ 0.6300	\$ 0.8179	\$ 0.9866
Public Interruptible 8"			
All Gallons	0.6300	0.8179	0.9866
Standby - City of Peoria			
All Gallons	0.7600	0.9866	0.9866
Central Arizona Project Raw			
All Gallons	0.6558	0.8513	0.8513

Typical Bill Analysis
Residential 5/8 & 3/4 Inch Meters

Company Proposed	Gallons	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
Average Usage	8,269	\$ 13.91	\$ 18.04	\$ 4.13	29.70%
Median Usage	6,431	11.88	15.41	\$ 3.53	29.68%
Staff Recommended					
Average Usage	8,269	\$ 13.91	\$ 17.27	\$ 3.36	24.19%
Median Usage	6,431	11.88	14.80	\$ 2.91	24.52%

Present & Proposed Rates (Without Taxes)
Residential 5/8 & 3/4 Inch Meters

Gallons	Present		Company Proposed		New Company Recommended	
	5/8 x 3/4"		5/8 x 3/4"		5/8 x 3/4"	
	Minimum Charge	\$ 6.33	Minimum Charge	\$ 8.20	Minimum Charge	\$ 8.00
	1st Tier Rate	0.7200	1st Tier Rate	0.9350	1st Tier Rate	0.7280
	1st Tier Breakover	4,000	1st Tier Breakover	4,000	1st Tier Breakover	3,000
	2nd Tier Rate	1.1000	2nd Tier Rate	1.4280	2nd Tier Rate	1.3448
	2nd Tier Breakover	18,000	2nd Tier Breakover	18,000	2nd Tier Breakover	10,000
	3rd Tier Rate	1.3160	3rd Tier Rate	1.7100	3rd Tier Rate	1.6785
Consumption	Rates	Rates	Increase	Rates	Increase	
-	\$ 6.33	\$ 8.20	29.54%	\$ 8.00	26.38%	
1,000	7.05	9.14	29.57%	8.73	23.80%	
2,000	7.77	10.07	29.60%	9.46	21.70%	
3,000	8.49	11.01	29.62%	10.18	19.95%	
4,000	9.21	11.94	29.64%	11.53	25.18%	
5,000	10.31	13.37	29.66%	12.87	24.87%	
6,000	11.41	14.80	29.68%	14.22	24.61%	
6,431	11.88	15.41	29.68%	14.80	24.52%	
7,000	12.51	16.22	29.69%	15.56	24.41%	
8,000	13.61	17.65	29.70%	16.91	24.23%	
8,269	13.91	18.04	29.70%	17.27	24.19%	
9,000	14.71	19.08	29.71%	18.25	24.08%	
10,000	15.81	20.51	29.72%	19.60	23.96%	
11,000	16.91	21.94	29.72%	21.28	25.82%	
12,000	18.01	23.36	29.73%	22.95	27.45%	
13,000	19.11	24.79	29.73%	24.63	28.90%	
14,000	20.21	26.22	29.74%	26.31	30.19%	
15,000	21.31	27.65	29.74%	27.99	31.35%	
16,000	22.41	29.08	29.75%	29.67	32.39%	
17,000	23.51	30.50	29.75%	31.35	33.34%	
18,000	24.61	31.93	29.75%	33.03	34.20%	
19,000	25.93	33.64	29.76%	34.70	33.86%	
20,000	27.24	35.35	29.77%	36.38	33.55%	
25,000	33.82	43.90	29.80%	44.78	32.38%	
30,000	40.40	52.45	29.83%	53.17	31.60%	
35,000	46.98	61.00	29.84%	61.56	31.03%	
40,000	53.56	69.55	29.85%	69.95	30.60%	
45,000	60.14	78.10	29.86%	78.35	30.27%	
50,000	66.72	86.65	29.87%	86.74	30.00%	
75,000	99.62	129.40	29.89%	128.70	29.19%	
100,000	132.52	172.15	29.90%	170.66	28.78%	

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN COST COMPARISONS

LINE NO.	CUSTOMER CLASS	CURRENT RATES			
		AVERAGE		MEDIAN	
		USAGE	DOLLARS	USAGE	DOLLARS
1	Residential 5/8"	8,269	\$ 13.91	6,431	\$ 11.88
2	Residential 3/4"	8,269	\$ 13.91	6,431	\$ 11.88
3	Residential 1"	19,791	\$ 38.17	8,586	\$ 25.84
4	Residential 1.5"	71,637	\$ 112.57	57,843	\$ 97.40
5	Residential 2"	91,303	\$ 151.57	63,613	\$ 121.11
6	Residential 3"	204,575	\$ 311.87	210,281	\$ 318.15
7	Residential 4"	N/A	N/A	N/A	N/A
8	Residential 6"	81,513	\$ 268.17	44,500	\$ 227.46
9	Residential 8"	N/A	N/A	N/A	N/A
10					
11	Commerical 5/8"	6,722	\$ 13.72	1,230	\$ 7.68
12	Commercial 3/4"	6,722	\$ 13.72	1,230	\$ 7.68
13	Commerical 1"	21,916	\$ 40.51	9,650	\$ 27.02
14	Commerical 1.5"	51,027	\$ 89.90	19,188	\$ 54.88
15	Commerical 2"	103,262	\$ 164.73	58,278	\$ 115.25
16	Commerical 3"	253,459	\$ 365.64	96,000	\$ 192.44
17	Commercial 4"	957,823	\$ 1,276.70	773,500	\$ 1,034.13
18	Commercial 6"	3,365,733	\$ 4,456.61	1,212,500	\$ 1,622.96
19	Commercial 8"	N/A	N/A	N/A	N/A
20					
21	Irrigation 1"	290,865	\$ 254.97	225,500	\$ 201.37
22	Irrigation 1.5"	N/A	N/A	N/A	N/A
23	Irrigation 2"	364,664	\$ 350.17	34,500	\$ 79.44
24	Irrigation 3"	N/A	N/A	N/A	N/A
25	Irrigation 4"	N/A	N/A	N/A	N/A
26	Irrigation 6"	N/A	N/A	N/A	N/A
27					
28	Private Fire 3"	-	\$ 7.60	-	\$ 7.60
29	Private Fire 4"	-	\$ 11.39	-	\$ 11.39
30	Private Fire 6"	-	\$ 15.83	-	\$ 15.83
31	Private Fire 8"	-	\$ 25.32	-	\$ 25.32
32	Private Fire 10"	N/A	N/A	N/A	N/A
33					
34	Public Interruptible 3"	N/A	N/A	N/A	N/A
35	Public Interruptible 8"	-	\$ 4.59	-	\$ 4.59
36	Standby - City of Peoria	N/A	N/A	N/A	N/A
37	Central Arizona Project Raw	547,698	\$ 359.18	70,214	\$ 46.05
38					

*Average and median billing data for 5/8" and 3/4" has been combined

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN COST COMPARISONS

LINE NO.	CUSTOMER CLASS	COMPANY RECOMMENDED					
		AVERAGE			MEDIAN		
		AVERAGE	CHANGE	PERCENT	MEDIAN	CHANGE	PERCENT
39	Residential 5/8"	\$ 18.04	\$ 4.13	29.70%	\$ 15.41	\$ 3.53	29.68%
40	Residential 3/4"	\$ 18.04	\$ 4.13	29.70%	\$ 15.41	\$ 3.53	29.68%
41	Residential 1"	\$ 48.76	\$ 10.59	27.75%	\$ 32.76	\$ 6.92	26.76%
42	Residential 1.5"	\$ 143.30	\$ 30.73	27.30%	\$ 123.60	\$ 26.20	26.90%
43	Residential 2"	\$ 195.98	\$ 44.41	29.30%	\$ 156.44	\$ 35.33	29.17%
44	Residential 3"	\$ 423.33	\$ 111.46	35.74%	\$ 431.48	\$ 113.33	35.62%
45	Residential 4"	N/A	N/A	N/A	N/A	N/A	N/A
46	Residential 6"	\$ 526.40	\$ 258.23	96.29%	\$ 473.55	\$ 246.09	108.19%
47	Residential 8"	N/A	N/A	N/A	N/A	N/A	N/A
48							
49	Commerical 5/8"	\$ 17.80	\$ 4.07	29.69%	\$ 9.96	\$ 2.27	29.59%
50	Commercial 3/4"	\$ 17.80	\$ 4.07	29.69%	\$ 9.96	\$ 2.27	29.59%
51	Commerical 1"	\$ 51.80	\$ 11.29	27.87%	\$ 34.28	\$ 7.27	26.89%
52	Commerical 1.5"	\$ 113.87	\$ 23.97	26.66%	\$ 68.40	\$ 13.52	24.64%
53	Commerical 2"	\$ 213.06	\$ 48.33	29.34%	\$ 148.82	\$ 33.58	29.13%
54	Commerical 3"	\$ 493.14	\$ 127.49	34.87%	\$ 268.29	\$ 75.85	39.41%
55	Commercial 4"	\$ 1,687.78	\$ 411.08	32.20%	\$ 1,372.59	\$ 338.46	32.73%
56	Commercial 6"	\$ 5,968.00	\$ 1,511.39	33.91%	\$ 2,285.98	\$ 663.02	40.85%
57	Commercial 8"	N/A	N/A	N/A	N/A	N/A	N/A
58							
59	Irrigation 1"	\$ 330.13	\$ 75.16	29.48%	\$ 260.54	\$ 59.17	29.39%
60	Irrigation 1.5"	N/A	N/A	N/A	N/A	N/A	N/A
61	Irrigation 2"	\$ 453.78	\$ 103.61	29.59%	\$ 102.33	\$ 22.89	28.81%
62	Irrigation 3"	N/A	N/A	N/A	N/A	N/A	N/A
63	Irrigation 4"	N/A	N/A	N/A	N/A	N/A	N/A
64	Irrigation 6"	N/A	N/A	N/A	N/A	N/A	N/A
65							
66	Private Fire 3"	\$ 11.48	\$ 3.88	51.05%	\$ 11.48	\$ 3.88	51.05%
67	Private Fire 4"	\$ 17.30	\$ 5.91	51.89%	\$ 17.30	\$ 5.91	51.89%
68	Private Fire 6"	\$ 36.35	\$ 20.52	129.63%	\$ 36.35	\$ 20.52	129.63%
69	Private Fire 8"	\$ 47.46	\$ 22.14	87.44%	\$ 47.46	\$ 22.14	87.44%
70	Private Fire 10"	N/A	N/A	N/A	N/A	N/A	N/A
71							
72	Public Interruptible 3"	N/A	N/A	N/A	N/A	N/A	N/A
73	Public Interruptible 8"	\$ 6.93	\$ 2.34	50.98%	\$ 6.93	\$ 2.34	50.98%
74	Standby - City of Peoria	N/A	N/A	N/A	N/A	N/A	N/A
75	Central Arizona Project Raw	\$ 466.26	\$ 107.07	29.81%	\$ 59.77	\$ 13.73	29.81%
76							

*Average and median billing data for 5/8" and 3/4" has been combined

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN COST COMPARISONS

LINE NO.	CUSTOMER CLASS	NEW COMPANY RECOMMENDED					
		AVERAGE			MEDIAN		
		AVERAGE	CHANGE	PERCENT	MEDIAN	CHANGE	PERCENT
77	Residential 5/8"	\$ 17.27	\$ 3.36	24.19%	\$ 14.80	\$ 2.91	24.52%
78	Residential 3/4"	\$ 17.27	\$ 3.36	24.19%	\$ 14.80	\$ 2.91	24.52%
79	Residential 1"	\$ 47.11	\$ 8.94	23.43%	\$ 32.05	\$ 6.20	24.00%
80	Residential 1.5"	\$ 137.34	\$ 24.77	22.00%	\$ 118.79	\$ 21.39	21.96%
81	Residential 2"	\$ 188.38	\$ 36.81	24.29%	\$ 151.15	\$ 30.03	24.80%
82	Residential 3"	\$ 406.31	\$ 94.44	30.28%	\$ 413.99	\$ 95.84	30.12%
83	Residential 4"	N/A	N/A	N/A	N/A	N/A	N/A
84	Residential 6"	\$ 519.62	\$ 251.44	93.76%	\$ 469.84	\$ 242.38	106.56%
85	Residential 8"	N/A	N/A	N/A	N/A	N/A	N/A
86							
87	Commerical 5/8"	\$ 17.04	\$ 3.32	24.16%	\$ 9.65	\$ 1.97	25.66%
88	Commercial 3/4"	\$ 17.04	\$ 3.32	24.16%	\$ 9.65	\$ 1.97	25.66%
89	Commerical 1"	\$ 49.97	\$ 9.47	23.37%	\$ 33.48	\$ 6.46	23.92%
90	Commerical 1.5"	\$ 109.62	\$ 19.72	21.94%	\$ 66.80	\$ 11.93	21.73%
91	Commerical 2"	\$ 204.47	\$ 39.74	24.12%	\$ 143.97	\$ 28.73	24.93%
92	Commerical 3"	\$ 472.05	\$ 106.41	29.10%	\$ 260.30	\$ 67.86	35.26%
93	Commercial 4"	\$ 1,629.17	\$ 352.48	27.61%	\$ 1,319.78	\$ 285.66	27.62%
94	Commercial 6"	\$ 5,825.79	\$ 1,369.18	30.72%	\$ 2,211.59	\$ 588.63	36.27%
95	Commercial 8"	N/A	N/A	N/A	N/A	N/A	N/A
96							
97	Irrigation 1"	\$ 330.13	\$ 75.16	29.48%	\$ 260.54	\$ 59.17	29.39%
98	Irrigation 1.5"	N/A	N/A	N/A	N/A	N/A	N/A
99	Irrigation 2"	\$ 453.78	\$ 103.61	29.59%	\$ 102.33	\$ 22.89	28.81%
100	Irrigation 3"	N/A	N/A	N/A	N/A	N/A	N/A
101	Irrigation 4"	N/A	N/A	N/A	N/A	N/A	N/A
102	Irrigation 6"	N/A	N/A	N/A	N/A	N/A	N/A
103							
104	Private Fire 3"	\$ 11.18	\$ 3.58	47.11%	\$ 11.18	\$ 3.58	47.11%
105	Private Fire 4"	\$ 17.30	\$ 5.91	51.89%	\$ 17.30	\$ 5.91	51.89%
106	Private Fire 6"	\$ 36.35	\$ 20.52	129.63%	\$ 36.35	\$ 20.52	129.63%
107	Private Fire 8"	\$ 47.46	\$ 22.14	87.44%	\$ 47.46	\$ 22.14	87.44%
108	Private Fire 10"	N/A	N/A	N/A	N/A	N/A	N/A
109							
110	Public Interruptible 3"	N/A	N/A	N/A	N/A	N/A	N/A
111	Public Interruptible 8"	\$ 6.93	\$ 2.34	50.98%	\$ 6.93	\$ 2.34	50.98%
112	Standby - City of Peoria	N/A	N/A	N/A	N/A	N/A	N/A
113	Central Arizona Project Raw	\$ 466.26	\$ 107.07	29.81%	\$ 59.77	\$ 13.73	29.81%
114							

*Average and median billing data for 5/8" and 3/4" has been combined

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

MIKE GLEASON, Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE APPLICATION OF
ARIZONA-AMERICAN WATER COMPANY,
AN ARIZONA CORPORATION, FOR A
DETERMINATION OF THE CURRENT FAIR
VALUE OF ITS UTILITY PLANT AND
PROPERTY AND FOR INCREASES IN ITS
RATES AND CHARGES BASED THEREON
FOR UTILITY SERVICE BY ITS SUN CITY
WATER DISTRICT

DOCKET NO. W-01303A-07-0209

**REJOINDER TESTIMONY
OF
LINDA J. GUTOWSKI
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
DECEMBER 21, 2007**

**REJOINDER TESTIMONY
OF
LINDA J. GUTOWSKI
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
DECEMBER 21, 2007**

TABLE OF CONTENTS

EXECUTIVE SUMMARY	iii
I INTRODUCTION AND QUALIFICATIONS	1
II PURPOSE OF TESTIMONY.....	1
III RATE BASE.....	1
IV OPERATING REVENUES	2
V OPERATING EXPENSES	3

EXHIBIT LJG-RJ1: SUN CITY WATER REJOINDER SCHEDULES

1 **EXECUTIVE SUMMARY**

2
3 In her rejoinder testimony Linda J. Gutowski testifies as follows:

4
5 **Rate Base**

6 Ms. Gutowski now accepts the following Staff rate-base adjustments.

- 7 1. Remove the Eastern Division Allocated Plant of \$13,835, and remove the Eastern
8 Division Allocated Accumulated Depreciation of \$3,542 for a Net Plant decrease of
9 \$10,293. Arizona-American and Staff are now in agreement regarding Original Cost
10 Rate Base of \$25,295,922.
11 2. Staff's rate base adjustment to accumulated depreciation for adjustments back to the test
12 year in the prior case rather than using the July 2004 date of the last order.

13
14 Ms. Gutowski does not accept any additional RUCO rate-base adjustments.

15
16 **Income Statement**

17 Ms. Gutowski now accepts the following Staff income-statement adjustments.

- 18 1. Four-year amortization of deferred tank painting expense in the amount of \$27,347.
19 2. Disallowance of the fuel & power late payment expense.
20 3. Disallowance of waste disposal expense.
21 4. Additional depreciation expense in the amount of \$9,207 in depreciation expense.

22
23 Ms. Gutowski's income schedules reflect Mr. Broderick's acceptance of Staff's four-year
24 amortization of rate-case expense.

25
26 Ms. Gutowski does not accept any additional RUCO income-statement adjustments.

27
28 Ms. Gutowski sponsors Exhibit LJG-J1: Rejoinder Schedules A-1, B-1, C-2 and D-2 for Sun
29 City Water District.

1 **I INTRODUCTION AND QUALIFICATIONS**

2 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND TELEPHONE**
3 **NUMBER.**

4 A. My name is Linda J. Gutowski. My business address is 19820 N. 7th Street, Suite 201,
5 Phoenix, Arizona 85024, and my business phone is 623-445-2496.

6 **Q. ARE YOU THE SAME LINDA J. GUTOWSKI WHO PREVIOUSLY**
7 **SUBMITTED TESTIMONY IN THIS CASE?**

8 A. Yes.

9 **II PURPOSE OF TESTIMONY**

10 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?**

11 A. Please refer to the Executive Summary, which precedes my rejoinder testimony.

12 **III RATE BASE**

13 **Q. CAN YOU SUMMARIZE THE PARTIES' RECOMMENDATIONS**
14 **CONCERNING RATE BASE IN THIS CASE?**

15 A. The parties' rate base positions are summarized in the following table:

	Rate Base
Arizona-American Water Rebuttal	\$24,960,997
Staff Surrebuttal	\$25,295,922
RUCO Surrebuttal	\$25,357,295
Arizona-American Water Rejoinder	\$25,295,922

16 **Q. DO YOU ACCEPT STAFF'S RATE BASE ADJUSTMENT ON SURREBUTTAL**
17 **SCHEDULE AII-3?**

18 A. Yes. Arizona-American accepts Staff's adjustment to remove the Eastern Division
19 Allocated Plant of \$13,835 and to remove the Eastern Division Allocated Accumulated

1 Depreciation of \$3,542 for a Net Plant decrease of \$10,293. Arizona-American and Staff
2 are now in agreement regarding Original Cost Rate Base of \$25,295,922.

3 **Q. DO YOU ACCEPT STAFF'S RATE BASE ADJUSTMENT TO ACCUMULATED**
4 **DEPRECIATION FOR ADJUSTMENTS BACK TO THE TEST YEAR IN THE**
5 **PRIOR CASE RATHER THAN USING THE JULY 2004 DATE OF THE LAST**
6 **ORDER?**

7 A. Yes. Since this result is lower accumulated depreciation and higher Net Plant for
8 Arizona-American, we will deduct the \$345,218 in addition to the adjustment above so
9 that the total Accumulated Depreciation now matches the Staff number of \$16,742,650.

10 **Q. RUCO'S RATE BASE IS HIGHER THAN EITHER STAFF'S OR ARIZONA-**
11 **AMERICAN'S. CAN YOU DESCRIBE THE DIFFERENCES?**

12 A. Yes. The differences can be attributed to two factors: First, RUCO includes \$45,733 in
13 Cash Working Capital. Second, RUCO has a lower Plant and an even lower
14 Accumulated Depreciation which makes for a higher Net Plant by \$15,640. The
15 combination of the two factors increases Rate Base by \$61,373.

16 **Q. DOES ARIZONA-AMERICAN ACCEPT RUCO'S POSITION ON RATE BASE?**

17 A. No. Arizona-American stands by its rebuttal position with the exception of the above
18 adjustment for the disallowance of the Eastern Division Allocated Plant and Accumulated
19 Depreciation.

20 **IV OPERATING REVENUES**

21 **Q. ARE STAFF AND ARIZONA-AMERICAN IN AGREEMENT ON TEST YEAR**
22 **REVENUE?**

23 A. Yes. Both parties agree that test-year adjusted revenues are \$7,668,479.

24 **Q. DOES RUCO AGREE WITH STAFF AND ARIZONA-AMERICAN?**

1 A. No. RUCO makes a customer annualization adjustment to the revenue side of the
2 equation for \$1,844 additional dollars. Arizona-American objects to this one-sided
3 adjustment for the same reasons expressed in my rebuttal testimony.

4 **V OPERATING EXPENSES**

5 **Q. DOES ARIZONA-AMERICAN ACCEPT STAFF'S FOUR-YEAR**
6 **AMORTIZATION OF DEFERRED TANK PAINTING EXPENSE?**

7 A. Yes. We accept the four-year amortization and the amount of \$27,347.

8 **Q. DOES ARIZONA-AMERICAN ACCEPT STAFF'S DISALLOWANCE OF THE**
9 **FUEL & POWER LATE PAYMENT EXPENSE?**

10 A. Yes. This is a position we took in our rebuttal testimony.

11 **Q. DOES ARIZONA-AMERICAN ACCEPT STAFF'S DISALLOWANCE OF**
12 **WASTE DISPOSAL EXPENSE?**

13 A. Yes. This is a position we took in our rebuttal testimony.

14 **Q. DO YOUR REVISED SCHEDULES INCORPORATE MR. BRODERICK'S**
15 **ACCEPTANCE OF STAFF'S FOUR-YEAR AMORTIZATION OF RATE-CASE**
16 **EXPENSE?**

17 A. Yes.

18 **Q. DOES ARIZONA-AMERICAN ACCEPT STAFF'S ADDITIONAL**
19 **DEPRECIATION EXPENSE?**

20 A. Yes. The additional \$9,207 in depreciation expense means that Staff and Arizona-
21 American now recommend the same Depreciation and Amortization Expense amount.

22 **Q. ARE THERE ANY REMAINING DIFFERENCES BETWEEN STAFF AND**
23 **ARIZONA-AMERICAN IN THE INCOME STATEMENT NUMBERS?**

1 A. Yes. We have different numbers in Property Taxes and Income Taxes due to different
2 Revenue Requirements, which result from different Capital Structures. The differences
3 in Capital Structures affect the amount of interest synchronization that is deducted for
4 income tax calculation purposes. Staff's weighted Cost of Debt is higher and therefore
5 its interest expense is higher, its deduction is higher, and its resulting income tax is lower.

6 **Q. DOES ARIZONA-AMERICAN ACCEPT ANY CHANGES THAT RUCO MADE**
7 **TO OPERATING EXPENSES IN ITS SURREBUTTAL TESTIMONY?**

8 A. No. RUCO did not really move away from its Direct Testimony. Except for some
9 corrections, we have the same objections to its Surrebuttal Testimony that we had in our
10 Rebuttal Testimony. The only change recommended by RUCO that requires a response
11 is the increase in Miscellaneous Expense of \$50,000 for the cost of the Low Income
12 Program. Arizona-American is not requesting recovery of the administrative costs of the
13 Low Income Program. The \$50,000 represents the shift in revenue that will take place if
14 the expected number of low-income customers sign up for the program. Arizona-
15 American's proposed rate design moves the revenue from the basic service charge of the
16 low income program participants and allows us to recover the same amount from the
17 higher blocks of the volumetric rates. Arizona-American does not recommend including
18 the \$50,000 in Operating Expense because it will increase the overall revenue
19 requirement, which is not the aim of the program.

20 **Q. HAVE YOU PREPARED REVISED RATE BASE AND INCOME SCHEDULES?**

21 A. I have attached and am sponsoring Exhibit LJG-J1: Rejoinder Schedules A-1, B-1, C-2
22 and D-2 for Sun City Water District.

23 **Q. DOES THIS CONCLUDE YOUR REJOINDER TESTIMONY IN THIS CASE?**

24 A. Yes.

Docket No. W-01303A-07-0209
Arizona-American Water Company
Rejoinder Testimony of Linda J. Gutowski
Exhibit LJG-J1

Rejoinder Schedules A-1, B-1, C-2 and D-2 for the Sun City Water District.

Arizona American Water Company - Sun City Water
 Test Year Ended December, 2006
 Computation of Increase in Gross Revenue Requirement

Exhibit LJG-J1
 Schedule A-1 Rejoinder
 Page 1
 Witness: Gutowski

Line No.	Company Direct	Company Rebuttal	Company Rejoinder					
1	\$25,961,898	\$24,960,997	\$25,295,922					
2								
3	693,411	702,920	707,646					
4								
5	2.67%	2.82%	2.80%					
6								
7	\$ 2,071,759	\$ 1,920,253	\$ 1,950,316					
8								
9	7.98%	7.69%	7.71%					
10								
11	\$ 1,378,348	\$ 1,217,333	\$ 1,242,669					
12								
13	1.6286	1.6286	1.6286					
14								
15								
16	\$ 2,244,826	\$ 1,982,590	\$ 2,023,896					
17								
18				Present	Proposed	Dollar	Percent	
19	Customer Classification	Rates	Rates	Increase	Increase			
20								
21	Residential	\$6,179,820	\$7,979,313	\$1,799,493	29.01%			
22	Commercial	1,239,905	1,623,699	383,794	30.95%			
23	Irrigation	14,394	18,646	4,252	29.54%			
24	Private Fire	20,803	40,554	19,751	94.94%			
25	Public Interruptible	55	83	28	51.03%			
26	Public Interruptible/Stand-by City of Peoria	3,493	5,275	1,782	51.03%			
27	CAP - Raw (MISC-1/CAP-1)	119,966	155,738	35,772	29.82%			
28								
29	Total Water Revenues	\$7,578,435	\$9,823,308	\$2,244,873	29.53%	\$ 1,982,590	26.16%	\$ 2,023,896 26.71%
30								
31	Other Revenues	110,043	110,043	(0)				
32	Total Revenues	\$7,688,479	\$9,933,351	\$2,244,873	29.20%	\$ 1,982,590	25.79%	\$ 2,023,896 26.32%
33								
34								
35								
36								
37								
38								
39								
40	Supporting Schedules:							
41	B-1							
42	C-1							
43	H-1							
44								
45								
46								
47								
48								
49								
50	\\Schedules\2007 Sun City Water Sch. A-F.xls\							

Arizona American Water Company - Sun City Water
 Test Year Ended December, 2006
 Original Cost Rate Base Proforma Adjustments

Exhibit LJG-J1
 Schedule B-2 Rejoinder
 Page 1
 Witness: Gutowski

Line No.		Company Rebuttal Adjusted End of Test Year	STAFF Delete Eastern Division AGREE	STAFF DIRECT RB-6 Acc Depr AGREE	Company Rejoinder Adjusted End of Test Year
1	Gross Utility				
2	Plant in Service	\$ 43,923,256	\$ (13,835)		\$43,909,421
3		-			
4	Less:				
5		-			
6	Accumulated Depreciation	17,091,410	\$ (3,542)	\$(345,218)	\$16,742,650
7					
8	Net Utility Plant				
9	in Service	\$ 26,831,846	\$ (10,293)	\$ 345,218	\$27,166,771
10					
11	Less:				
12	Advances in Aid of				
13	Construction	3,576,920			3,576,920
14	Contributions in Aid of				
15	Construction - Net	63,004			63,004
16	Imputed Regulatory Advances	551,760			551,760
17	Imputed Regulatory Contributions	567,874			567,874
18	Customer Meter Deposits	2,100			2,100
19	Deferred Income Taxes	(1,938,781)			(1,938,781)
20	Investment Tax Credits	-			-
21					
22					
23	Plus:				
24	Deferred Debits	642,628			642,628
25	Working capital	309,400			309,400
26	Utility Plant Acquisition Adjustment	-			-
27					
28	Total	<u>\$ 24,960,997</u>	<u>\$ (10,293)</u>	<u>\$ 345,218</u>	<u>\$25,295,922</u>
29					
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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

MIKE GLEASON, Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE APPLICATION OF
ARIZONA-AMERICAN WATER COMPANY,
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VALUE OF ITS UTILITY PLANT AND
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RATES AND CHARGES BASED THEREON
FOR UTILITY SERVICE BY ITS SUN CITY
WATER DISTRICT

DOCKET NO. W-01303A-07-0209

**REJOINDER TESTIMONY
OF
JOSEPH E. GROSS, P.E.
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
DECEMBER 21, 2007**

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**REJOINDER TESTIMONY
OF
JOSEPH E. GROSS
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
DECEMBER 21, 2007**

TABLE OF CONTENTS

	EXECUTIVE SUMMARY	iii
I	INTRODUCTION AND QUALIFICATIONS	1
II	PURPOSE OF TESTIMONY.....	2
III	SUN CITY FIRE FLOW COST ESTIMATE	2
EXHIBIT JEG-RJ1:	REVISED SUN CITY FIRE FLOW IMPROVEMENT PROJECT COST ESTIMATE	

1 **EXECUTIVE SUMMARY**

2
3 In his rejoinder testimony, Joseph E. Gross responds to Staff's testimony that the estimated cost
4 is too high for the Sun City fire-flow improvements. Mr. Gross agrees that the estimated cost for
5 a fire hydrant replacement is too high, if it is completed at the same time as an associated main
6 replacement.

7
8 Mr. Gross testifies that Staff's estimate is otherwise too low, to the extent that it relies on the
9 2004 Brown & Caldwell engineering estimate associated with the Sun City District Fire Flow
10 Study. The Brown & Caldwell estimate requires four adjustments to more accurately
11 approximate expected project costs over the period 2009 to 2012.

- 12
13 1. The Brown & Caldwell estimate did not include any construction contingencies for
14 utilities conflicts, traffic control, and other unexpected costs. The construction budget
15 should include 15% of the construction costs as a contingency cost.
16 2. Brown & Caldwell's estimate did not take into account the design engineer's
17 construction-administration costs associated with the Fire Flow Project. The estimate
18 should include 10% of the construction costs for construction administration.
19 3. The estimate should incorporate Arizona-American's internal costs, such as labor, labor
20 overhead, general overhead, and AFUDC. This is estimated at 15% of the construction
21 cost.
22 4. Brown & Caldwell's estimate was based on 2004 construction costs. This does not
23 reflect the inflated project construction costs, assuming a start date in 2009 and an
24 estimated completion date in late 2012. The estimated costs of each project were inflated
25 to the years when the costs are expected. The inflation factors used in the revised
26 estimate are based upon Engineering News Record's construction cost index.

27
28 Based on these adjustments, Mr. Gross sponsored Exhibit JEG-RJ1, Revised Sun City Fire Flow
29 Improvement Project Cost Estimate.

30
31 Mr. Gross also responds to RUCO's witness, Ms. Diaz Cortez. Mr. Gross explains that existing
32 pressures in the Sun City System are adequate, under normal operating conditions. However, it
33 is not a normal operating condition to provide water flows and pressures to support fire-fighting
34 efforts. Fire-flow requirements place an extreme demand on the existing system, which the
35 system cannot meet. The recommended improvements would rectify the existing situation.

36
37 Mr. Gross also explains that the Sun City and Paradise Valley water systems are configured quite
38 differently. Because of these differences, to support fire flows the Paradise Valley system
39 requires the installation of 12-inch mains, while, in Sun City, Arizona-American will only need
40 to install additional hydrants, connect existing mains to create redundancy, and upsize 4-inch
41 mains to 6-inch mains.

1 **I INTRODUCTION AND QUALIFICATIONS**

2 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND TELEPHONE**
3 **NUMBER.**

4 A. My name is Joseph E. Gross. My business address is 19820 N. 7th Street, Suite 201,
5 Phoenix, Arizona 85024, and my telephone number is 623-445-2401.

6 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

7 A. I am employed by Arizona American Water ("Arizona-American") as Director of
8 Engineering for Arizona, New Mexico, Hawaii, and Texas.

9 **Q. PLEASE BRIEFLY OUTLINE YOUR RESPONSIBILITIES IN ARIZONA AS**
10 **THE DIRECTOR OF ENGINEERING.**

11 A. I am responsible for the planning, programming, and project delivery of Arizona-
12 American's capital program; first providing input to the budgeting process, then
13 providing oversight of the design and construction contracts to ensure compliance with
14 assigned budget and schedule. One of the capital projects I oversee for Arizona-
15 American is the implementation of the Paradise Valley Fire Flow Improvement Program.

16 **Q. DESCRIBE YOUR EDUCATIONAL BACKGROUND.**

17 A. I received a Bachelor of Science degree from the United States Military Academy in civil
18 engineering and a Master of Science degree from the Ohio State University in Geodetic
19 Science.

20 **Q. HAVE YOU HAD ANY OTHER FORMAL TRAINING?**

21 A. I attended two-week senior executive management training programs at Carnegie Mellon
22 University in 1986 and at Arizona State University in 1994.

23 **Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.**

1 A. I joined Arizona-American in October 2004. I was previously employed by the City of
2 Scottsdale for fourteen years in the positions of Capital Project Management Director,
3 Water Campus Project Director, and Water Resources Director. Before that, I had
4 extensive field-level and executive-level experience in the US Army Corps of Engineers,
5 including large projects located in the United States, Iran, and Saudi Arabia. Among
6 other responsibilities, I supervised the Corps' extensive flood-control projects in the
7 Phoenix metropolitan area from 1979 to 1982.

8 **Q. ARE YOU A REGISTERED PROFESSIONAL ENGINEER?**

9 A. I am a registered Professional Engineer in the states of Arizona and Pennsylvania.

10 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

11 A. I submitted testimony in Arizona-American's White Tanks Hook-up Fee Application
12 (Docket No. W-1303A-05-0718), arsenic-cost-recovery mechanism ("ACRM") case for
13 its Agua Fria, Sun City West, and Havasu Water Districts (Docket No. W-01303A-05-
14 0280, *et. al*), and Paradise Valley Water District rate case (Docket No. W-01303A-05-
15 0405).

16 **II PURPOSE OF TESTIMONY**

17 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?**

18 Please refer to the Executive Summary, which precedes my rejoinder testimony.

19 **III SUN CITY FIRE FLOW COST ESTIMATE**

20 **Q. HAVE YOU REVIEWED STAFF'S TESTIMONY CONCERNING THE**
21 **PREVIOUSLY SUBMITTED SUN CITY FIRE FLOW COST ESTIMATE?**

22 A. Yes. Ms. Hains estimated that the fire-flow project would cost \$2.7 million. This is
23 substantially less than the \$4.9 million estimate provided by Mr. Broderick in his direct
24 testimony.

1 **Q. HOW DID MS. HAINS ARRIVE AT HER \$2.7 MILLION ESTIMATE?**

2 A. I believe Ms. Hains based her estimate on the \$3.1 million Sun City Water Fire Flow
3 Improvement Project ("Fire Flow Project") cost estimate, which was discussed in Mr.
4 Biesemeyer's direct testimony. This estimate was originally created by the engineering
5 firm of Brown & Caldwell as part of its 2004 Sun City Water District Fire Flow Study.
6 Ms. Hains generally accepted Brown & Caldwell's estimate, except for the cost of fire-
7 hydrant replacement, which Ms. Hains believed was too high. She reduced this cost by
8 \$400,000 to arrive at her \$2.7 million estimate.

9 **Q. DO YOU AGREE WITH MS. HAINS' \$2.7 MILLION ESTIMATE?**

10 A. No. Ms. Hains' estimate is too low.

11 **Q. WHY IS MS. HAINS' ESTIMATE FOR THE FIRE-FLOW PROJECT TOO**
12 **LOW?**

13 A. To evaluate Ms. Hains' opinion, I first reviewed Brown & Caldwell's 2004 cost estimate
14 of \$3.1 million, I then reviewed Exhibit TMB-1, attached to Mr. Broderick's direct
15 testimony. Because Brown & Caldwell's estimate was based on a 2004 project
16 completion date, Mr. Broderick updated the Brown & Caldwell estimate to \$4,896,126,
17 based on assumed inflation rates and a 2012 project-completion date.

18 Ms. Hains raised some valid issues and three years have passed since the Study was
19 completed, so I decided that it would be useful to update the 2004 engineering estimate,
20 based on current data and our best projection for completing the project. I have worked
21 directly with Brown & Caldwell to revise the project cost estimate.

22 **Q. WHAT IS THE REVISED SUN CITY FIRE FLOW IMPROVEMENT PROJECT**
23 **COST ESTIMATE?**

1 A. My revised Fire Flow Project cost estimate is \$5,118,000. I have attached my revised
2 estimate as Exhibit JEG-RJ1.

3 **Q. WHY IS THE REVISED ESTIMATE HIGHER THAN THE ESTIMATE**
4 **CONTAINED IN THE 2004 SUN CITY WATER DISTRICT FIRE FLOW**
5 **STUDY?**

6 A. After reviewing the estimate contained in the Fire Flow Study and numerous discussions
7 with Brown & Caldwell, I made four adjustments to better reflect the total costs of the
8 Fire Flow Project. First, I learned from Brown & Caldwell that the estimate did not
9 include any construction contingencies for utilities conflicts, traffic control, and other
10 unexpected costs. Based on my experience, a construction program of this magnitude
11 will incur costs associated with re-routing or altering mains and hydrants locations to
12 avoid conflicts with existing utilities, setting up traffic control notices and barricades, and
13 other unforeseen costs during construction. I believe it is reasonable to budget 15% of
14 the construction costs as a contingency cost.

15 Second, Brown & Caldwell's estimate did not take into account the design engineer's
16 construction-administration costs associated with the Fire Flow Project. These costs
17 include responding to contractors' requests for clarification of the engineer's plans and
18 reviewing submittals for purchase of pipe, hydrants, etc., to insure the equipment meets
19 contract specifications. After reviewing the project scope, I estimated 10% of the
20 construction costs for construction administration.

21 Third, I added the company's internal costs, such as labor, labor overhead, general
22 overhead, and AFUDC. This is estimated at 15% of the construction cost.

23 Fourth, Brown & Caldwell's estimate was based on 2004 construction costs. The
24 estimate does not reflect the inflated project construction costs, assuming a start date in

1 2009 and an estimated completion date in late 2012. I therefore inflated the estimated
2 costs of each project to the year when Arizona-American expects to incur such costs.
3 The inflation factor used in the revised estimate is based upon the Engineering News
4 Record's past construction cost index.

5 **Q. DO YOU AGREE WITH STAFF THAT "IT IS PREMATURE TO ESTABLISH**
6 **OR ARGUE FOR A SPECIFIC COST" FOR THE FIRE FLOW PROJECT?**

7 A. Yes. Exhibit JEG-RJI is an estimate based on the best information available today. Mr.
8 Broderick will address this matter further.

9 **Q. YOU PREVIOUSLY DISCUSSED MS. HAINS' OPINION THAT THE**
10 **ESTIMATE WAS TOO HIGH FOR FIRE HYDRANT REPLACEMENTS. DO**
11 **YOU AGREE?**

12 A. Yes, in part. I agree that some restoration costs, such as landscaping and repaving, may
13 be saved when constructing pipeline and hydrant replacements simultaneously. I also
14 reviewed Mr. Cole's testimony. I agree with his estimated cost for fire hydrant
15 replacement, if there will be no associated pipeline replacement. Therefore, I reviewed
16 the Fire Flow Study, identified those hydrant replacements which may be installed
17 simultaneously with pipeline construction, and reduced the costs of these hydrants to the
18 amount recommended by Ms. Hains.

19 Of course, Arizona-American will, to the extent practicable, do its best to reduce
20 restoration costs associated with the Fire Flow Project.

21 **Q. DO YOU AGREE WITH MS. DIAZ CORTEZ FOR RUCO THAT FIRE-FLOW**
22 **IMPROVEMENTS ARE NOT NEEDED IF EXISTING PRESSURES ARE**
23 **ALREADY ADEQUATE?**

1 A. No. It is true that existing pressures in the Sun City System are adequate, under normal
2 operating conditions. However, it is not a normal operating condition to provide water
3 flows and pressures to support fire-fighting efforts. Fire-flow requirements place an
4 extreme demand on the existing system. Pipes with diameters less than 6-inches cannot
5 deliver the required fire flow and still maintain sufficient pressure to protect the
6 remainder of the water system. Dead-end pipes also cannot deliver the required fire
7 flows. The recommended improvements would rectify the existing situation.

8 **Q. MS. DIAZ CORTEZ ALSO QUESTIONS THE NEED FOR 12-INCH MAIN**
9 **REPLACEMENTS IN PARADISE VALLEY, IF 10-INCH MAINS OR SMALLER**
10 **ARE SUFFICIENT TO DELIVER DESIRED FIRE FLOW IN SUN CITY. CAN**
11 **YOU CLEAR THIS UP?**

12 A. Yes. The short answer is that the Sun City and Paradise Valley water systems are
13 configured quite differently. The Paradise Valley system has only one source of water at
14 the far end of the system, with no large-sized backbone mains to convey the water for
15 delivery. Furthermore, the Paradise Valley system has 10 separate pressure zones that
16 share no pumping and storage capacity. All these factors contribute to the need to install
17 12-inch mains in the Paradise Valley system to generate the desired fire flow.

18 On the other hand, the Sun City system has an 18-inch backbone main, with numerous
19 water sources placed throughout the system. Therefore, in Sun City, Arizona-American
20 will only need to install additional hydrants, connect existing mains to create redundancy,
21 and upsize 4-inch mains to 6-inch mains to achieve the desired fire flow.

22 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY IN THIS CASE?**

23 A. Yes.

REVISED SUN CITY FIRE FLOW IMPROVEMENT PROJECT COST ESTIMATE

Project #	Description		Total Cost
2009			
1	Sun City/Youngtown Pressure Reducing/Pressure Sustaining Valve Modifications	\$	17,000
3	Youngtown Neighborhood Commercial - 111th Avenue south of Youngtown Ave	\$	95,000
4	Youngtown Residential	\$	122,000
4a	Youngtown - Install fire hydrants on existing pipe	\$	474,000
5a	Install Fire Hydrants on existing piping	\$	408,000
Total - 2009 Dollars			\$ 1,116,000
2010			
4b	Youngtown - Install new 6" pipe for fire hydrants	\$	460,000
5	Sun City Residential	\$	589,000
6	City of Peoria - Paradise MHP	\$	141,000
Total - 2010 Dollars			\$ 1,190,000
2011			
4b	Youngtown - Install new 6" pipe for fire hydrants	\$	749,000
5b	Sun City - 6" piping and fire hydrants	\$	529,000
Total - 2011 Dollars			\$ 1,278,000
2012			
4b	Sun City - 6" piping and fire hydrants	\$	289,000
5b	Sun City - Install new 6" pipe for fire hydrants	\$	806,000
2	Piping Improvements - Youngtown Commercial	\$	439,000
Total - 2012 Dollars			\$ 1,534,000
Total Dollars: 2009-2011			\$ <u>5,118,000</u>

ARIZONA AMERICAN WATER
 SUN CITY/YOUNGTOWN FIRE FLOW STUDY
 RECOMMENDED PROJECTS WITH ESTIMATED COSTS

No. Description	Quantity	Unit	Size	Unit Price	Construction	Engineering	Contingency	Admin	Co. Costs	Total - 2004 Dollars	Inflation Factor	Year	Total - Future Year \$\$\$
1 Sun City/Youngtown Pressure Reducing/Pressure Sustaining Valve Modified													
1	1	LS	NA	\$ 10,000	\$ 10,000	\$ 10,000	\$ 1,200	\$ 2,000	\$ 2,000	\$ 13,500	1.20692080	2009	\$ 16,293
2 Piping Improvements - Youngtown Commercial													
2	1,050	LF	10"	\$ 66	\$ 68,300	\$ 9,930	\$ 76,230	\$ 6,930	\$ 13,860	\$ 107,415	1.34863193	2012	\$ 144,892
	272	LF	6"	\$ 48	\$ 13,176	\$ 1,251	\$ 13,755	\$ 1,877	\$ 2,502	\$ 19,394	1.34863193	2012	\$ 26,178
	1	LS	NA	\$ 10,000	\$ 10,000	\$ 10,000	\$ 1,200	\$ 2,000	\$ 2,000	\$ 15,500	1.34863193	2012	\$ 20,822
	1	LS	NA	\$ 5,000	\$ 5,000	\$ 5,000	\$ 600	\$ 1,000	\$ 1,000	\$ 7,750	1.34863193	2012	\$ 10,461
	498	LF	6"	\$ 46	\$ 22,908	\$ 2,281	\$ 25,189	\$ 3,436	\$ 4,622	\$ 35,607	1.34863193	2012	\$ 47,929
	775	LF	6"	\$ 46	\$ 35,650	\$ 3,565	\$ 39,215	\$ 5,248	\$ 7,130	\$ 55,258	1.34863193	2012	\$ 74,588
	488	LF	6"	\$ 47	\$ 23,006	\$ 2,341	\$ 25,747	\$ 3,511	\$ 4,691	\$ 36,279	1.34863193	2012	\$ 49,971
	11	EA	NA	\$ 3,000	\$ 33,000	\$ 3,300	\$ 36,300	\$ 4,850	\$ 6,500	\$ 47,650	1.34863193	2012	\$ 64,589
					\$ 241,776	\$ 21,776	\$ 232,654	\$ 31,788	\$ 42,368	\$ 324,383	1.34863193	2012	\$ 439,692
3 Youngtown Neighborhood Commercial - 111th Avenue south of Youngtown Av													
3	700	LF	6"	\$ 56	\$ 39,200	\$ 3,920	\$ 43,120	\$ 5,880	\$ 7,940	\$ 60,750	1.20692080	2009	\$ 73,333
	4	EA	NA	\$ 3,000	\$ 12,000	\$ 1,200	\$ 13,200	\$ 1,800	\$ 2,400	\$ 17,400	1.20692080	2009	\$ 21,000
					\$ 81,200	\$ 6,120	\$ 66,920	\$ 7,680	\$ 10,240	\$ 78,160	1.20692080	2009	\$ 94,333
4 Youngtown Residential													
4	1,400	LF	6"	\$ 48	\$ 67,200	\$ 6,440	\$ 73,640	\$ 9,860	\$ 13,440	\$ 96,600	1.20692080	2009	\$ 116,588
	1	EA	NA	\$ 3,000	\$ 3,000	\$ 300	\$ 3,300	\$ 450	\$ 600	\$ 4,350	1.20692080	2009	\$ 5,236
					\$ 67,400	\$ 6,440	\$ 73,640	\$ 10,110	\$ 14,040	\$ 100,950	1.20692080	2009	\$ 121,296
4a Youngtown - Install fire hydrants on existing pipe													
4a	5,720	LF	6"	\$ 48	\$ 273,120	\$ -	\$ 283,120	\$ 39,468	\$ 569,388	\$ 39,468	1.24799650	2010	\$ 489,772
	8,963	LF	6"	\$ 48	\$ 411,838	\$ -	\$ 411,838	\$ 61,776	\$ 91,184	\$ 576,573	1.24799650	2011	\$ 746,343
	4b	Youngtown - Install new 6" pipe for fire hydrants		\$ 46	\$ 27,508	\$ -	\$ 27,508	\$ 4,126	\$ 2,751	\$ 38,611	1.34863193	2012	\$ 51,984
	4b	Youngtown - Install new 6" pipe for fire hydrants		\$ 46	\$ 135,000	\$ -	\$ 135,000	\$ 20,250	\$ 20,250	\$ 175,500	1.34863193	2012	\$ 236,896
	4c	Youngtown - fire hydrants		\$ 837,486	\$ -	\$ 837,486	\$ 126,620	\$ 70,247	\$ 126,620	\$ 1,166,652	Varies	Varies	
					\$ 280,000	\$ -	\$ 280,000	\$ 42,000	\$ 42,000	\$ 362,000	1.20692080	2009	\$ 473,119
5 Sun City Residential													
5	5,200	LF	6"	\$ 48	\$ 249,600	\$ 23,820	\$ 283,120	\$ 35,880	\$ 35,880	\$ 368,800	1.24799650	2010	\$ 447,781
	3	EA	NA	\$ 3,000	\$ 9,000	\$ -	\$ 9,000	\$ 1,350	\$ 1,350	\$ 12,500	1.24799650	2010	\$ 15,725
	1,400	LF	6"	\$ 48	\$ 67,200	\$ 6,440	\$ 73,640	\$ 9,860	\$ 13,440	\$ 96,600	1.24799650	2010	\$ 120,569
	1	EA	NA	\$ 3,000	\$ 3,000	\$ -	\$ 3,000	\$ 450	\$ 600	\$ 4,050	1.24799650	2010	\$ 5,067
					\$ 316,000	\$ 30,360	\$ 346,960	\$ 47,240	\$ 47,240	\$ 471,800	1.24799650	2010	\$ 589,929
5a Install Fire Hydrants on existing piping													
5a	52	EA	NA	\$ 5,000	\$ 260,000	\$ -	\$ 260,000	\$ 38,000	\$ 38,000	\$ 338,000	1.20692080	2009	\$ 407,939
5b	9,378	LF	6"	\$ 46	\$ 431,028	\$ -	\$ 431,028	\$ 64,683	\$ 96,974	\$ 528,002	1.28791532	2011	\$ 678,931
	7,888	LF	6"	\$ 46	\$ 361,974	\$ 1	\$ 361,975	\$ 54,296	\$ 81,197	\$ 497,268	1.34863193	2012	\$ 668,047
	23	EA	NA	\$ 3,000	\$ 69,000	\$ -	\$ 69,000	\$ 10,350	\$ 13,800	\$ 93,150	1.34863193	2012	\$ 121,080
					\$ 722,062	\$ 1	\$ 722,063	\$ 108,309	\$ 108,309	\$ 1,003,388	Varies	Varies	
6 City of Peoria - Paradise MHP													
6	1,260	LF	6"	\$ 56	\$ 70,560	\$ 7,000	\$ 77,560	\$ 10,500	\$ 10,500	\$ 105,000	1.24799650	2010	\$ 131,040
	1	LS	NA	\$ 5,000	\$ 5,000	\$ 500	\$ 5,500	\$ 750	\$ 1,000	\$ 7,250	1.24799650	2010	\$ 9,000
					\$ 76,000	\$ 7,500	\$ 83,500	\$ 11,250	\$ 11,250	\$ 112,000	1.24799650	2010	\$ 140,399
					\$ 2,830,604	\$ 70,699	\$ 2,901,103	\$ 424,576	\$ 498,224	\$ 3,964,463			

Assumptions:
 Unit costs are in 2004 dollars
 Engineering cost based on 10% of construction cost
 Construction Administration based on 10% of construction cost
 Contingency based on 15% of construction cost
 Co. Costs (Labor, Overhead, & AFUDC) based on 15% of construction cost
 Inflation factors are based on the Construction Cost Index history and ENR projections