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BEFORE THE ARIZONA CORPORATION COMMISSION

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JEFF HATCH-MILLER, Chairman
WILLIAM A. MUNDELL, AZ CORP COMMISSION
MARC SPITZER, DOCUMENT CONTROL
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KRISTIN K. MAYES

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 PARADISE
VALLEY DISTRICT

DOCKET NO. W-01303A-05-0405

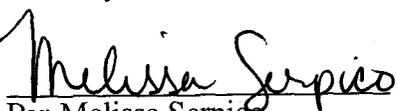
**ARIZONA-AMERICAN'S
NOTICE OF FILING
REBUTTAL TESTIMONY**

1 Arizona-American Water Company hereby files in the above-referenced matter its

2 Rebuttal Testimony for each of the following witnesses:

- 3 • Joel M. Reiker;
- 4 • Paul G. Townsley;
- 5 • Thomas M. Broderick;
- 6 • David L. Weber;
- 7 • A. Lawrence Kolbe;
- 8 • Brian K. Biesemeyer;
- 9 • Joseph E. Gross; and
- 10 • Ronald L. Kozoman.

11 Please note that each testimony contains an executive summary, which is intended to
12 satisfy the requirement contained in the August 15, 2006, Procedural Order that each party
13 prepare and file a brief written summary of the prefiled testimony of each witness.

1 Copies of the foregoing mailed
2 on February 13, 2006, to:
3
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10
11 
12
13 By: Melissa Serpico

Reiker

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**REBUTTAL TESTIMONY
OF
JOEL M. REIKER
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
FEBRUARY 13, 2006**

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10	Supporting Documentation for Company Rate Base Adjustment AAW-3	JMR-RB5
11	Decision No. 68303, dated November 14, 2005	JMR-RB6
12	Staff's response to Company data request AAW-2.1	JMR-RB7
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15	Annual Incentive Plan	JMR-RB10

EXECUTIVE SUMMARY

1
2
3 The direct testimony of Company witness Joel M. Reiker addresses the following issues:
4

5 Mr. Reiker adopts portions of the direct testimony of Company witness David Stephenson
6 related to rate base, the cost of debt, capital structure, and various test year expense adjustments.
7 Mr. Reiker also responds to the direct testimony of Arizona Corporation Commission Staff
8 witnesses Igwe and Dorf, and Residential Utility Consumer Office ("RUCO") witnesses Moore
9 and Coley.

10
11 Mr. Reiker presents Arizona-American Water's updated proposed revenue requirement for
12 Paradise Valley, which is \$5,607,523. This represents a \$528,328 increase over adjusted test
13 year revenues, or 10.40%. This change in the Company's proposed revenue increase is largely
14 due to the Company's acceptance of Staff's recommendation to include in rate base, public
15 safety/fire flow related plant improvements added after the test year, as well as additional
16 adjustments proposed by the Company.

17
18 Mr. Reiker explains why the Company cannot accept several of Staff's rate base and income
19 statement adjustments including the following: Staff Rate Base Adjustment 1 to eliminate plant
20 held for emergency use; Staff Rate Base Adjustment 4 to eliminate deferred maintenance; Staff
21 Rate Base Adjustment 5 to eliminate working cash; Staff Income Statement 2 to reduce
22 purchased power expense; Staff Income Statement Adjustment 5 to reduce rate case expense;
23 and Staff Income Statement Adjustment 6 to eliminate allocated expenses.
24

25 Mr. Reiker explains why the Company cannot accept several of RUCO's rate base and income
26 statement adjustments, including the following: RUCO Rate Base Adjustment 1 to eliminate
27 plant held for emergency use; RUCO Rate Base Adjustment 2/RUCO Income Statement
28 Adjustment 8 regarding the Company's proposal to share 50% of the gain on the sale of land
29 with customers; RUCO Rate Base Adjustment 4 to reduce working capital; RUCO Income
30 Statement 5 to reduce rate case expense; RUCO Income Statement Adjustments 9 and 10 to
31 reduce property taxes.

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME, OCCUPATION, AND BUSINESS ADDRESS.**

3 A. My name is Joel M. Reiker. I am a Regulatory Analyst employed by American Water
4 Works Service Company ("American Water") in its Western Region. My business
5 address is 19820 North 7th Street, Suite 201, Phoenix, Arizona 85024-1694. My
6 telephone number is (623) 445-2490.

7
8 **Q. BRIEFLY DESCRIBE YOUR RESPONSIBILITIES WITH AMERICAN WATER.**

9 A. In my capacity as a Regulatory Analyst with American Water, I am responsible for the
10 preparation of regulatory filings for our Western Region subsidiaries. Our Western
11 Region subsidiaries include Arizona-American Water Company ("Arizona-American" or
12 "Company"), California-American Water Company, Hawaii-American Water Company,
13 New Mexico-American Water Company, and Texas-American Water Company.

14
15 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**
16 **PROFESSIONAL EXPERIENCE.**

17 A. In 1998, I graduated cum laude from the Arizona State University School of
18 Management, receiving a Bachelor of Science degree in global business with a
19 specialization in financial management. My course of studies included classes in
20 corporate and international finance, investments, accounting, statistics, and economics.
21 From 1999 to 2005, I was employed by the Arizona Corporation Commission
22 ("Commission") as a Staff Rate Analyst in the Utilities Division. While at the
23 Commission, I provided recommendations regarding rate of return, mergers and
24 acquisitions, divestitures, and financings, and I occasionally acted as an arbitrator in

1 disputes brought before the Utilities Division. I have attended various educational
2 programs and classes on regulatory and business issues, including the National
3 Association of Regulatory Utility Commissioners and the Institute of Public Utilities'
4 Regulatory Studies Program at Michigan State University. I have participated in over
5 fifty regulatory proceedings. Appendix A contains a listing of my regulatory experience.
6

7 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS**
8 **CASE?**

9 A. I adopt portions of the direct testimony of Company witness David P. Stephenson in this
10 case. Those areas include Paradise Valley's rate base and associated adjustments, the
11 cost of debt, capital structure, and various test year expense adjustments. In addition to
12 adopting portions of Mr. Stephenson's direct testimony, I respond to the direct testimony
13 of Arizona Corporation Commission ("ACC") Staff witnesses Igwe and Dorf, and
14 Residential Utility Consumer Office ("RUCO") witnesses Moore and Coley.
15

16 **Q. PLEASE DISCUSS YOUR HISTORY WITH AMERICAN WATER AND YOUR**
17 **ROLE WITHIN AMERICAN WATER'S NEWLY-FORMED ARIZONA RATES**
18 **AND REGULATION TEAM.**

19 A. I began my employment with American Water in January 2005 after working as an ACC
20 Staff rate analyst for approximately five and one-half years. I joined the Company in the
21 wake of what many of my current colleagues considered to be among the most
22 disappointing regulatory results in the American Water family of subsidiaries. The
23 Company's 2002 general rate case, in which I appeared as a Staff witness, lead in part, to
24 a number of changes in the face of a deteriorating financial situation for Arizona-

1 American Water. Those changes included the development of what will ultimately be a
2 fully-staffed Arizona-based Rates & Regulation team, including an in-house regulatory
3 attorney, and experts in the fields of cost of service, rate design, and cost of capital. The
4 structural changes are on-going and should lead to ever-increasing efficiencies with each
5 case we file in the coming months and years. The already-strained resources of Staff,
6 RUCO and other parties to these cases will ultimately benefit from the ability to interact
7 with Company representatives directly and informally. In a sense, we are a new company
8 - albeit faced with the task of greatly improving our financial condition. We simply
9 cannot accomplish this task without cooperating with Staff and RUCO in the most
10 professional manner. Throughout the course of Staff's and RUCO's initial review in this
11 case, we have made a concerted effort to be available to respond to informal clarifications
12 of data requests and help to resolve issues of disagreement. We have stumbled at times,
13 but I believe we are improving as resources are added and knowledge gained.

14
15 **Q. HOW WILL YOUR TESTIMONY BE ORGANIZED?**

16 **A.** My testimony is presented in four sections. In section two, I present the Company's
17 updated revenue requirement. In section three, I address rate base and respond to the
18 direct testimony of Staff witness James J. Dorf and Ruco witness Timothy J. Coley. In
19 Section four, I address the income statement and associated adjustments, and respond to
20 the direct testimony of Staff witness Alexander Ibhade Igwe and RUCO witness Rodney
21 L. Moore.
22

1 A. The Company's original application also sought an estimated Step 1 increase in the Public
2 Safety surcharge ("PSS") of approximately \$581,830 or 11.47 percent, effective at the
3 same time as new permanent rates in this case - a total increase of about 16.95 percent
4 when the base rate increase is added. Because the Commission Staff recommends, and
5 the Company accepts, the inclusion of public safety/fire flow improvement projects
6 added to date in base rates, the Step-1 PSS increase is now included in the base rate
7 increase. In other words, the Company's requested rate increase effective upon new
8 permanent rates in this case is no longer 16.95 percent but is 10.40 percent.

9
10 **Q. DOESN'T THIS MEAN THAT, BUT FOR THE PUBLIC SAFETY/FIRE FLOW**
11 **RATE BASE ADDITIONS, THE COMPANY IS PROPOSING LITTLE, IF ANY,**
12 **RATE INCREASE?**

13 A. Yes, that is a reasonable way to look at it. The Company's revised base rate increase is
14 related almost entirely to those now-completed public safety/fire flow projects. It is
15 important for the Commission to keep this overall fact in mind as it delves into the
16 myriad of adjustments in this case.

17
18 However, this fact will not repeat for several upcoming rate cases in the Company's other
19 districts. Those other districts are former Citizens properties, which have a legacy of
20 plant currently excluded from rate base. Such plant will be brought into rate base in the
21 coming years as per a prior settlement with the Commission.

22

1 backup purposes plant held for future use. Again in Decision No. 61831, dated July 20,
2 1999, (Paradise Valley's most recent rate case) the Commission included \$168,129 of
3 plant held for future use in rate base. This amount is currently in rate base and earning a
4 return.

5
6 **Q. HOW DOES THE COMPANY RESPOND TO STAFF'S TESTIMONY THAT**
7 **"THE COMPANY HAS EVIDENTLY NOT USED THIS EQUIPMENT IN OVER**
8 **TEN YEARS." AND HAS NOT INFORMED STAFF OF ANY DEFINITIVE**
9 **PLAN TO USE THIS EQUIPMENT?**

10 A. Certain backup plant items located at Well 17 were, in fact, temporarily placed into
11 service at Well 16 during the test year when the motor at that well failed, thus
12 exemplifying the benefit of maintaining such backup equipment for our customers. The
13 Commission foresaw such a benefit in its 1995 rate decision, and nothing over the course
14 of time has reduced the customer benefit of maintaining these items. Arizona-American
15 Water has a definitive plan to maintain quality, uninterrupted service to its customers in
16 Paradise Valley. Maintaining these backup plant items is an integral part of that plan.

17
18 **Q. DOES PARADISE VALLEY CONTINUE TO RELY ON ITS PLANT HELD FOR**
19 **FUTURE USE TO REDUCE THE RISK OF A SIGNIFICANT INTERRUPTION**
20 **IN SERVICE TO ITS CUSTOMERS?**

21 A. Yes. In particular, the network supervisor in Paradise Valley informs me that the
22 Company continues to rely, as it did in 2004, on its plant held for future use to reduce the
23 possibility of a significant interruption in the summer. Absent the ability to place backup
24 plant into service on short notice, the Company would immediately be forced to restrict

1 service to The Camelback Inn, Mountain Shadows Resort, and the Paradise Valley
2 Country Club in the event a system repair was needed.

3
4 Paradise Valley's plant held for future use is held for service in the future as emergency
5 backup equipment. Such a definitive plan satisfies the requirement of the NARUC
6 Uniform System of Accounts ("USOA") as referenced by Staff. In addition, Paradise
7 Valley's plant held for future use is both used and useful. The Company requests that the
8 Staff reconsider its position and support Arizona-American Water's request to include
9 this item in rate base, as the Commission has done in the past.

10
11 *Staff Rate Base Adjustment 2: Public Safety Plant Additions*

12 **Q. DOES THE COMPANY ACCEPT STAFF RATE BASE ADJUSTMENT 2 TO**
13 **INCLUDE IN RATE BASE \$3,018,867 OF NET PUBLIC SAFETY PLANT**
14 **(JACKRABBIT/INVERGORDON AND MCDONALD MAINS) ADDED AFTER**
15 **THE END OF THE TEST YEAR?**

16 **A.** Yes. The Company appreciates and will accept Staff's adjustment to include post-test
17 year plant in rate base. However, we propose minor changes to the amount.

18
19 **Q. WHAT CHANGES DOES THE COMPANY PROPOSE?**

20 **A.** The Company proposes to adjust the \$3,018,867 amount to reflect an additional \$105,164
21 related to various additional items which have closed to the Jackrabbit/Invergordon and
22 McDonald main work orders. These additional amounts include contractual services and
23 AFUDC. The work orders are now closed and the cost of these improvements is final.
24 These additional amounts are reflected in Company Rate Base Adjustment AAW-2,

1 shown on Schedule JMR-RB3, page 1, column D, and all supporting documentation is
2 attached hereto as Exhibit JMR-RB2.

3
4 **Q. WHY IS IT NECESSARY TO INCLUDE THESE ADDITIONAL AMOUNTS?**

5 A. It is necessary to include these additional amounts because they are prudent and absent
6 recognition as post-test year plant related to the Jackrabbit/Invergordon and McDonald
7 main work orders, the Company fears they may never be recovered. This would occur if
8 in Paradise Valley's next rate case, utility plant in service was a function of plant
9 balances approved in this case adjusted for subsequent additions and retirements.

10
11 *Staff Rate Base Adjustment 3: Accumulated Depreciation*

12 **Q. DOES THE COMPANY ACCEPT STAFF RATE BASE ADJUSTMENT 3 TO**
13 **INCREASE ACCUMULATED DEPRECIATION BY \$107,315 TO REFLECT**
14 **ADDITIONS, RETIREMENTS, AND DEPRECIATION EXPENSE SINCE**
15 **PARADISE VALLEY'S LAST RATE CASE?**

16 A. Yes. The Company worked with Staff informally to resolve this issue prior to the filing
17 of Staff's testimony and as a result, this issue is settled. The Company's acceptance of
18 this adjustment is reflected in Company Rate Base Adjustment AAW-4, shown on
19 Schedule JMR-EB3, page 1, column F.

20
21 *Staff Rate Base Adjustment 4: Deferred Maintenance*

22 **Q. DOES THE COMPANY ACCEPT STAFF RATE BASE ADJUSTMENT 4, TO**
23 **REDUCE WORKING CAPITAL BY \$90,286, THE BALANCE OF DEFERRED**
24 **MAINTENANCE?**

1 A. No. The Company does not accept Staff Rate Base Adjustment 4 because we cannot
2 accept the basis for the adjustment as set forth by the Staff witness as follows:

3
4 The USOA only permits painting costs to be capitalized if it is
5 "Painting, first cost." The second and subsequent painting,
6 whether "costly" or not should be expensed, not deferred.¹
7

8 Staff cites the USOA, account 304 – Structures and Improvements, as the basis for their
9 adjustment. The Company does not dispute that the USOA prohibits the capitalization
10 and depreciation of such subsequent tank painting costs. However, we have not
11 "capitalized" tank painting to account 304, as the Staff testimony suggests. Rather, the
12 Company has appropriately recorded the cost of tank painting to account 186 –
13 Miscellaneous Deferred Debits, which according to the USOA, allows for the inclusion
14 of unusual or extraordinary expenses. I am aware of no provision of account 186 that
15 prohibits the recording of tank painting, whether first painting or subsequent.
16

17 **Q. IS IT APPROPRIATE FOR THE COMPANY TO RECEIVE RATE BASE**
18 **TREATMENT OF THIS DEFERRED DEBIT?**

19 A. Yes. The general theory held by commissions is that if the deferred cost benefits the
20 customer and not the stockholder, then that cost should be funded by the customer and
21 included in rate base. Arizona-American's shareholder is funding the entire amount of
22 numerous other deferrals. We only ask for fair regulatory treatment in this case.
23

24 **Q. IS DEFERRED MAINTENANCE CURRENTLY IN RATE BASE?**

¹ Dorf direct, p. 6 at 4 – 7.

1 A. My research indicates that it is. In Paradise Valley's last rate case the Company included
2 \$272,439 of deferred programmed maintenance in its application and the Commission
3 ultimately included \$254,701 of deferred debits in rate base. Exhibit JMR-RB3 is a
4 workpaper and rate base detail from that case. If the Commission did not include this
5 deferred debit in rate base, then I stand to be corrected.

6
7 *Staff Rate Base Adjustment 5: Working Cash*

8 **Q. DOES THE COMPANY ACCEPT STAFF RATE BASE ADJUSTMENT 5 TO**
9 **ELIMINATE THE COMPANY'S PROPOSED \$168,133 WORKING CASH**
10 **ALLOWANCE?**

11 A. No. The Company does not accept this adjustment.

12
13 **Q. WHY DID STAFF ELIMINATE THE COMPANY'S PROPOSED WORKING**
14 **CASH REQUIREMENT?**

15 A. As explained by Staff witness Dorf on page 6, lines 11 – 21 of his direct testimony, Staff
16 has typically found that most "sophisticated" utilities will have a *negative* working cash
17 requirement. The witness goes on to state that the Company erroneously calculated
18 property taxes to have a *positive* effect on its working cash requirement. For these
19 reasons Staff eliminates the Company's proposed working cash requirement.

20
21 **Q. HOW DOES THE COMPANY RESPOND?**

22 A. We do not agree that most sophisticated utilities necessarily have a negative rather than a
23 positive working cash requirement, assuming a proper lead/lag study. As regards the
24 Staff witness' testimony regarding the effect of property taxes; I must assume this is a

1 misstatement, as property taxes indeed have a *negative* effect on the working cash
2 requirement in the Company's lead/lag study.
3

4 **Q. DOES THE COMPANY'S ORIGINAL LEAD/LAG STUDY CONTAIN ERRORS?**

5 A. Yes. The Company's original lead/lag study contains errors in that certain expenses do
6 not match the adjusted amounts shown on Schedule C-1 of the Company's application,
7 and other expenses were overlooked.
8

9 **Q. DID THE COMPANY PREPARE A CORRECTED LEAD/LAG STUDY?**

10 A. Yes, that study is attached hereto as Exhibit JMR-RB4. In preparing the corrected
11 lead/lag study, the Company adjusted expenses to reflect adjusted test year expenses,
12 added expenses not included in the original study, and accepted certain adjustments to the
13 original study proposed by RUCO. The Company's revised working cash requirement is
14 \$115,182. Company Rate Base Adjustment AAW-5, shown on Schedule JMR-RB3,
15 page 1, column H, adjusts working cash to reflect the Company's updated lead/lag study.
16 I discuss the Company's corrected lead/lag study in more detail when I respond to the
17 testimony of RUCO witness Coley.
18

19 **Q. DOES THIS CONCLUDE YOUR RESPONSE TO THE DIRECT TESTIMONY
20 OF STAFF WITNESS DORF?**

21 A. Yes, it does.
22

1 **B. Response to the Direct Testimony of RUCO Witness Coley**

2 *RUCO Rate Base Adjustment 1: Plant Held for Future Use*

3 **Q. DOES THE COMPANY ACCEPT RUCO RATE BASE ADJUSTMENT 1 TO**
4 **EXCLUDE FROM RATE BASE PLANT HELD FOR FUTURE USE?**

5 A. No. The Company does not accept this adjustment for the same reasons we do not accept
6 Staff Rate Base Adjustment 1. RUCO's adjustment lacks recognition of the significant
7 benefit of maintaining Paradise Valley's plant held for future use for the very customers
8 RUCO is charged with protecting.

9
10 *RUCO Rate Base Adjustment 2: Gain on Sale of Land*

11 **Q. DOES THE COMPANY ACCEPT RUCO RATE BASE ADJUSTMENT 2, TO**
12 **REDUCE RATE BASE BY 50 PERCENT OF THE COMPANY'S PRE-TAX GAIN**
13 **ON THE SALE OF LAND?**

14 A. No. RUCO Rate Base Adjustment 2 is accompanied by an income statement adjustment
15 proposed by RUCO witness Moore (RUCO Income Statement Adjustment No. 8) to
16 reduce depreciation expense by one-fifth of one-half of the pre-tax gain on the sale of
17 land. According to RUCO witness Coley, the adjustment is necessary to correct the
18 Company's proposed method of sharing the gain which "would result in double taxation"
19 (Coley direct, p. 7 at 18 - 22), while witness More explains that the adjustment is
20 necessary to compensate customers for "the time value of their portion of the gain"
21 (Moore direct, p. 20 at 11 - 18.) I address both of RUCO's adjustments here.

22
23 **Q. WHY DOES THE COMPANY NOT ACCEPT RUCO RATE BASE**
24 **ADJUSTMENT 2 AND RUCO INCOME STATEMENT ADJUSTMENT 8?**

1 A. The Company will not accept these adjustments for multiple reasons, the most apparent
2 of which is that we already propose to share this gain with our customers. As explained
3 by Company witness David Stephenson on pages 35 – 37 of his direct testimony,
4 Arizona-American Water already proposes to give 50 percent of the *after-tax* gain on the
5 sale of this property to customers as a monthly fixed cost sur-credit based on meter size
6 over five years. RUCO's proposal to reduce rate base by half of the *pre-tax* gain and
7 reduce depreciation expense by one-fifth of that amount ignores the fact that the
8 Company has already incurred the taxes associated with the portion of the gain we wish
9 to give to customers and complicates Paradise Valley's cost of service. For additional
10 reasons, we believe our existing proposal to give 50 percent of the *after-tax* gain to
11 customers in the form of a sur-credit is more than fair.

12
13 **Q. WHAT ARE THOSE REASONS?**

14 A. As already explained by Mr. Stephenson (Stephenson direct, p. 37 at 3 – 6), the subject
15 land was in rate base over an extended period of time at a very small value -
16 approximately \$14,000. Earnings on the land were probably close to only \$2,000
17 annually. The Company's proposal to give approximately \$48,000 annually to customers
18 over the next five years is more than fair when considering that the Company's investors,
19 and not its customers, provided the original capital related to this investment and
20 therefore bore all of the related risk. The Commission should accept the Company's
21 current proposal to share 50 percent of the after tax gain on the sale of this land with its
22 customers and resist any attempt to extract additional amounts related to taxes and
23 interest.

1 **Q. WHAT DOES RUCO RECOMMEND WITH RESPECT TO THE COMPANY'S**
2 **EXISTING PROPOSAL TO GIVE 50 PERCENT OF THE GAIN TO**
3 **CUSTOMERS?**

4 A. RUCO makes no recommendation. Therefore, it is unclear whether RUCO intends their
5 adjustment to be in lieu of, or in addition to, the Company's existing proposal. The latter
6 of which would effectively require the Company to give 100 percent of the gain to
7 customers.

8
9 **Q. WAS THE COMPANY'S PORTION OF THE GAIN RETAINED AS EQUITY?**

10 A. Yes. This gain was retained as equity within the Company. In fact, Arizona-American
11 Water has not paid a dividend since 2003 and will not pay one in 2006. Company
12 witness Mr. Broderick provides a comprehensive discussion of Arizona-American
13 Water's current financial condition and the goal, which Staff shares, of improving our
14 equity ratio.

15
16 *RUCO Rate Base Adjustment 3: Capitalized Expenses*

17 **Q. DOES THE COMPANY ACCEPT RUCO RATE BASE ADJUSTMENT 3 TO**
18 **INCREASE RATE BASE BY \$10,495 TO REFLECT THE CAPITALIZATION OF**
19 **CERTAIN EXPENSES?**

20 A. Yes. This adjustment is accompanied by RUCO Income Statement Adjustment 13
21 sponsored by RUCO witness Moore, which the Company also accepts. The Company's
22 acceptance of this adjustment is reflected in Company Rate Base Adjustment AAW-6,
23 shown on Schedule JMR-RB3, page 2, column K.

24

1 *RUCO Rate Base Adjustment. 4: Working Capital*

2 **Q. DOES THE COMPANY ACCEPT RUCO RATE BASE ADJUSTMENT 4 TO**
3 **DECREASE WORKING CAPITAL BY \$231,827?**

4 **A.** The Company accepts portions of this adjustment and some, but not all, of the amounts.
5 We cannot accept the total amount of this adjustment, in part, because the witness'
6 testimony and schedules do not reconcile with his electronic workpapers. The
7 Company's position on the individual components of RUCO's adjustment is summarized
8 below:

- 9
- 10 a. Reconcile lead/lag study expenses with adjusted expenses shown on Schedule C-1 of
11 the Company's application: The Company agrees with this adjustment.
- 12 b. Increase working capital by \$7,774 to reflect the authorized amortization of the
13 Mummy Mountain acquisition adjustment: The Company agrees with this adjustment.
- 14 c. Include interest expense in the lead/lag study: The Company will accept this
15 adjustment given a corresponding adjustment to include all capital costs, including the
16 cost of equity.
- 17 d. Restate Paradise Valley's revenue lag to 38.3 days: The Company accepts this
18 number, although we do not necessarily agree with RUCO's calculation.
- 19 e. Restate property tax lag days to reflect the date before the taxes become delinquent as
20 opposed to when the payment was actually made: The Company does not accept this
21 adjustment.
- 22

23 **Q. DOES THE COMPANY ACCEPT RUCO'S ADJUSTMENT TO INCLUDE**
24 **INTEREST EXPENSE IN ITS LEAD/LAG STUDY?**

1 A. Yes. However, if the cost associated with the debt component of the return is included,
2 then a corresponding adjustment to include the cost associated with the equity component
3 should be made as well. The equity portion of the cost of capital should be recognized in
4 the lead/lag study with a full revenue lag and a zero payment lead.

5
6 **Q. WHY MUST YOU ALSO CONSIDER THE COST ASSOCIATED WITH EQUITY**
7 **IF YOU INCLUDE THE COST ASSOCIATED WITH DEBT IN A LEAD/LAG**
8 **STUDY?**

9 A. To be consistent, if you include one element of the return you should include them all.
10 The cost associated with equity is as much a cost of providing service as the cost
11 associated with debt, and the Company should be compensated for its implicit additional
12 investment related to the 38.3 days it must wait to be compensated for this cost.

13
14 **Q. DOES THE COMPANY AGREE WITH RUCO'S ADJUSTMENT TO RESTATE**
15 **PROPERTY TAX LAG DAYS TO REFLECT THE DATE BEFORE THE TAXES**
16 **BECOME DELINQUENT INSTEAD OF WHEN THE PAYMENT WAS**
17 **ACTUALLY MADE?**

18 A. No. The lead/lag methodology requires an examination of the net lag days between the
19 time lag between services rendered and the receipt of revenues for such services, and the
20 time lag between the recording of costs and the *payment* of such costs.² The Company's
21 lead/lag study does this. In the context of a lead/lag study, the date on which Arizona-
22 American Water pays property taxes is no more inappropriate than the dates on which it

² See Hahne, Robert L., & Gregory E. Aliff. *Accounting for Public Utilities*. 2002. p. 5-10.

1 pays its employees. The Company's calculation of 177.5 property tax lag days is
2 reasonable and we ask that the Commission adopt it.

3
4 **Q. PLEASE DISCUSS THE REMAINING CHANGES MADE TO THE COMPANY'S**
5 **LEAD/LAG STUDY.**

6 **A.** In addition to the changes described thus far, the Company made additional changes to its
7 lead/lag study to reflect operating expenses originally not included, and a more precise
8 calculation of certain expense lag days. They are:

- 9
- 10 a. The amount of Service Company/Management Fees was inadvertently left out of the
11 Company's original study, although negative 15.0 lag days was reported. The
12 Company included management fees in its corrected lead/lag study and re-calculated
13 lag days to be negative 3.88.
 - 14 b. The Company re-calculated lag days for Group Insurance to be negative 4.64 rather
15 than negative 6.5 originally reported.
 - 16 c. The Company calculated Pension lag days to be 45 rather than zero originally
17 reported.
 - 18 d. The Company included Insurance other than Group on a separate line and calculated
19 lag days to be 45.
 - 20 e. The Company re-calculated the number of lag days for Rent to be negative 10.68
21 rather than the original negative 8.5.
 - 22 d. Depreciation expense was included with zero lag days.
- 23

1 **Q. WHY DID THE COMPANY INCLUDE DEPRECIATION EXPENSE WITH**
2 **ZERO LAG DAYS?**

3 A. The company included depreciation expense in its corrected lead/lag study to properly
4 recognize that as it stands currently, the balance of accumulated depreciation will be
5 under-funded by 38.3 days worth of depreciation expense. Absent an adjustment to
6 reduce accumulated depreciation to account for this lag, depreciation expense must be
7 included in the lead/lag study with a zero payment lag.
8

9 **Q. WHAT AMOUNT OF WORKING CASH IS THE COMPANY PROPOSING?**

10 A. The Company proposes working cash in the amount of \$115,182 based on its corrected
11 lead/lag study. The Company's acceptance of RUCO's adjustment to reflect the correct
12 amortization of the Mummy Mountain acquisition adjustment is reflected in Company
13 Rate Base Adjustment AAW-7, shown on Schedule JMR-RB3, page 2, column L. As
14 mentioned previously, the Company's revised working cash requirement is reflected in
15 Company Rate Base Adjustment AAW-5 shown on Schedule JMR-RB3, page 1, column
16 H.
17

18 **Q. DOES THIS CONCLUDE YOUR RESPONSE TO THE DIRECT TESTIMONY**
19 **OF RUCO WITNESS COLEY?**

20 A. Yes, it does.
21

1 C. Other Rate Base Issues

2 *Additional Public Safety Plant added to Date*

3 **Q. HAS ARIZONA-AMERICAN WATER MADE ADDITIONAL PUBLIC**
4 **SAFETY/FIRE FLOW PLANT IMPROVEMENTS OTHER THAN THE**
5 **JACKRABBIT/INVERGORDON AND MCDONALD MAIN PROJECTS SINCE**
6 **THE END OF THE TEST YEAR?**

7 A. Yes. In addition to the Jackrabbit/Invergordon and McDonald main projects placed into
8 service in October 2005, Arizona-American Water has completed \$420,755 in public
9 safety/fire flow improvements along Nauri Valley Drive in Paradise Valley. Company
10 witness Joseph Gross discusses this project further in his rebuttal testimony.

11 **Q. IS THE COMPANY PROPOSING TO INCLUDE THE NAUNI VALLEY DRIVE**
12 **IMPROVEMENTS IN RATE BASE AT THIS TIME?**

13 A. Yes. In light of Staff Rate Base Adjustment 2, and more precisely Staff witness Dorf's
14 recommendation that the public safety/fire flow improvement costs incurred to date be
15 included in rate base, the Company proposes to include this additional project in rate base
16 at this time. This project is reflected in Company Rate Base Adjustment AAW-3 shown
17 on Schedule JMR-RB3, page 1, column E, and all supporting documentation related to
18 the Nauri Valley Drive project is attached hereto as Exhibit JMR-RB5.
19

20
21 *Public Safety/Fire Flow Accounting Order Deferral*

22 **Q. IS THE COMPANY PROPOSING AN ADDITIONAL RATE BASE**
23 **ADJUSTMENT?**

1 A. Yes. In Decision No. 68303, dated November 14, 2005 (attached hereto as Exhibit JMR-
2 RB6) the Commission authorized the deferral of depreciation expense and the accrual of
3 post-in-service AFUDC related to public safety/fire flow improvement projects placed
4 into service in Paradise Valley. According to Finding of Fact 9, "a determination
5 regarding the recovery of the deferral will be made in the Company's instant rate case or
6 the Company's future rate cases for the Paradise Valley water district."

7
8 As mentioned previously, the Company is very appreciative of Staff's recognition of the
9 Jackrabbit/Invergordon and McDonald main projects as post-test year plant additions.
10 However, while Staff's recommendation will allow the Company to recover its return and
11 depreciation on these projects sooner rather than later, the effect will be a loss of return
12 and depreciation incurred prior to the setting of new rates. The Company will, in effect,
13 be made less than whole – a result contrary to what the Company believes was the spirit
14 and purpose of the November 2005 accounting order. Therefore, we respectfully request
15 that the Commission include in rate base deferred depreciation expense and accrued post-
16 in-service AFUDC related to the public safety/fire flow improvement projects included as
17 post-test year plant additions in this case.
18

19 **Q. WHAT AMOUNT OF DEFERRED DEPRECIATION EXPENSE AND ACCRUED**
20 **POST-IN-SERVICE AFUDC IS THE COMPANY PROPOSING TO INCLUDE.**

21 A. The total amount related to the Jackrabbit/Invergordon, McDonald, and Nauri Valley
22 Drive main projects will be \$168,590 at the time new rates are expected to go into effect
23 in this case. This amount includes deferred depreciation and accrued post-in-service
AFUDC from October 2005 to July 2006 for the Jackrabbit/Invergordon and McDonald

1 main projects, and from February 2006 to July 2006 for the Nauni Valley drive
2 improvements. These additions are reflected in Company Rate Base Adjustment AAW-8
3 shown on Schedule JMR-RB3, page 2, column M.

4
5 **Q. IS THE COMPANY PROPOSING A COUNTERVAILING ADJUSTMENT TO**
6 **ACCUMULATED DEPRECIATION?**

7 A. Yes. The total amount of deferred depreciation expense the Company proposes to
8 recover is \$56,481. The Company will accept an adjustment to increase accumulated
9 depreciation by this amount. This adjustment is reflected in Company Rate Base
10 Adjustment AAW-9 shown on Schedule JMR-RB3, page 2, column N.

11
12 **IV. INCOME STATEMENT**

13 **A. Response to the Direct Testimony of Staff Witness Igwe**

14 *Staff Income Statement Adjustment 1: Purchased Water Expense*

15 **Q. DOES THE COMPANY ACCEPT STAFF INCOME STATEMENT**
16 **ADJUSTMENT 1 TO REDUCE OPERATIONS EXPENSE BY \$38,660 RELATED**
17 **TO PURCHASED WATER?**

18 A. Yes. The Company agrees with Staff's testimony regarding purchased water expense and
19 will accept this adjustment. The Company's acceptance of this adjustment is reflected in
20 Company Income Statement Adjustment AAW-1 shown on Schedule JMR-RB5, page 1,
21 column B.

22

Staff Income Statement Adjustment 2: Purchased Power Expense

1
2 **Q. DOES THE COMPANY ACCEPT STAFF INCOME STATEMENT**
3 **ADJUSTMENT 2, TO REDUCE PURCHASED POWER EXPENSE BY \$15,381**
4 **RELATED TO WHAT THE STAFF WITNESS DESCRIBES AS AN ESTIMATE**
5 **OF FUTURE COSTS?**

6 **A.** No. The Company does not accept this adjustment. As explained by Company witness
7 David Weber in his rebuttal testimony, the Company's adjusted test year purchased
8 power expense is consistent with twelve monthly invoices for purchased power. These
9 costs were actually incurred, not estimated.

10
11 *Staff Income Statement Adjustment 3: Contractual Services*

12 **Q. DOES THE COMPANY ACCEPT STAFF INCOME STATEMENT**
13 **ADJUSTMENT 3 TO REDUCE OPERATIONS EXPENSE BY \$32,389 RELATED**
14 **TO A CONTRACT EMPLOYEE WHO BECAME A COMPANY EMPLOYEE?**

15 **A.** Yes. As Company witness Mr. Weber discusses in his rebuttal testimony, the Company
16 accepts this adjustment. RUCO witness Moore proposes this same adjustment as a
17 component of RUCO Income Statement Adjustment 8, and the Company will accept it as
18 well. The Company's acceptance of this adjustment is reflected in Company Income
19 Statement Adjustment AAW-2 shown on Schedule JMR-RB5, page 1, column D.

20
21 *Staff Income Statement Adjustment 4: Materials & Supplies Inventory*

22 **Q. DOES THE COMPANY ACCEPT STAFF INCOME STATEMENT**
23 **ADJUSTMENT 4 TO REDUCE OPERATIONS EXPENSE BY \$11,184 RELATED**
24 **TO THE WRITE-OFF OF MATERIALS & SUPPLIES?**

1 A. Yes. The Company agrees with Staff's testimony regarding the write-off of materials &
2 supplies and will accept this adjustment. RUCO makes this same adjustment (RUCO
3 Income Statement Adjustment 6) and the Company will accept it as well. The
4 Company's acceptance of this adjustment is reflected in Company Income Statement
5 Adjustment AAW-3 shown on Schedule JMR-RB5, page 1, column E.

6
7 *Staff Income Statement Adjustment 5: Rate Case Expense*

8 **Q. DOES THE COMPANY ACCEPT STAFF INCOME STATEMENT**
9 **ADJUSTMENT 5 TO REDUCE RATE CASE EXPENSE BY \$24,714 RELATED**
10 **TO ITS ESTIMATE OF TOTAL RATE CASE EXPENSE?**

11 A. No. Company witness Thomas Broderick addresses rate case expense in his rebuttal
12 testimony. Mr. Broderick estimates rate case expense to be \$301,832, or \$100,611
13 annually. This represents a \$6,331 increase over the Company's original estimate, and is
14 reflected in Company Income Statement Adjustment AAW-4 shown on Schedule JMR-
15 RB5, page 1, column F.

16
17 *Staff Income Statement Adjustment 6: Allocated Corporate Miscellaneous Expenses*

18 **Q. DOES THE COMPANY ACCEPT STAFF INCOME STATEMENT**
19 **ADJUSTMENT 6 TO REDUCE OPERATING EXPENSES BY \$145,648, THE**
20 **ENTIRE AMOUNT OF ALLOCATED CORPORATE MISCELLANEOUS**
21 **EXPENSES?**

22 A. No. The Company cannot accept this adjustment because the account in question
23 contains utility operating expenses that Arizona-American Water cannot afford to incur
24 without recovery.

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Q. WHY DID STAFF REMOVE ALL CHARGES IN THIS ACCOUNT?

A. According to the Staff witness, in reviewing the Company's responses to RUCO data requests, Staff noted that the Company "made no attempt to segregate miscellaneous corporate expenses from miscellaneous direct expenses that should have been allocated to specific operating districts."³ Staff states:

...this account is not just corporate miscellaneous expenses but also includes a myriad of other miscellaneous expenses that should have been charged directly to its various operating districts.⁴

Staff witness Igwe testifies that the Company did not provide enough information to enable Staff to make any adjustments or otherwise correct the account. For this reason, Staff removed all charges.

Q. HOW DOES THE COMPANY RESPOND TO STAFF'S CLAIM THAT THE RUCO DATA RESPONSES DID NOT CONTAIN ENOUGH INFORMATION TO ENABLE IT TO MAKE ANY ADJUSTMENTS OR OTHERWISE CORRECT THE ACCOUNT?

A. The Company doesn't doubt Staff's claim, and adds that they probably wouldn't have had enough time to make adjustments given the time frame in which this issue arose. For this reason, the Company understands the *reason* for Staff's adjustment. However, that is not to say that the Commission should eliminate an entire account composed of legitimate utility operating expenses. We hope that after an explanation of the

³ Igwe direct, p. 12 at 14 – 16.
⁴ Igwe direct, p. 13 at 13 – 18.

1 Company's allocation methodology and a clarification of which of these charges were,
2 and were not, actually charged to corporate accounts, Staff will change its position on this
3 issue.

4
5 **Q. DID RUCO ADJUST THIS ACCOUNT?**

6 A. Yes. RUCO reduced allocated corporate miscellaneous expenses by \$19,437 (RUCO
7 Income Statement Adjustment 12) and the Company accepts \$3,446 of RUCO's
8 reduction. The basis for RUCO's adjustment is validity, whereas the basis for Staff's
9 adjustment is allocation. I address RUCO's adjustment further when I respond to the
10 direct testimony of RUCO witness Moore.

11
12 **Q. HOW ARE COSTS ALLOCATED AT ARIZONA-AMERICAN WATER?**

13 A. Consistent with NARUC Guidelines, all costs incurred by Arizona-American Water are
14 allocated to the maximum extent practicable on a direct basis. This means that all costs
15 such as labor, purchased water, purchased power, chemicals, and miscellaneous expenses
16 incurred by each of the Company's twelve regulated operating districts are charged
17 directly to those districts to the maximum extent reasonably possible. Expenses related to
18 public relations, employment advertising, environmental compliance, and employee
19 certifications and awards, are incurred at the corporate level. Costs incurred at the
20 divisional corporate level are assumed to benefit all operating districts in that division
21 and costs incurred at the statewide corporate level are assumed to benefit all Arizona-
22 American Water operating districts. For ratemaking purposes, these costs must be
23 allocated to each district using the Company's four-factor allocation methodology.

1 **Q. AT WHAT LEVEL WERE THE COSTS INCLUDED IN STAFF'S**
2 **ADJUSTMENT INCURRED?**

3 A. The subject costs were incurred at the Central Division Corporate district and Arizona
4 Corporate levels. In the test year, the Central Division Corporate district office located in
5 Sun City incurred \$538,251 in miscellaneous expenses and the Arizona-American Water
6 corporate office located in Phoenix incurred \$1,271,773 in miscellaneous expenses. Of
7 this amount, the Company removed \$16,328 related to employees who transferred to the
8 Service Company during the test year, to arrive at an adjusted total figure of \$1,793,696
9 (\$1,810,024 - \$16,328). This amount was then allocated to Paradise Valley using its
10 four-factor allocation of 8.12 percent to arrive at adjusted test year allocated corporate
11 miscellaneous expenses in the amount of \$145,648, which Staff then removed.

12
13 **Q. DID STAFF IDENTIFY THE COSTS IT BELIEVES SHOULD HAVE BEEN**
14 **CHARGED DIRECTLY TO THE VARIOUS OPERATING DISTRICTS**
15 **RATHER THAN THE CENTRAL AND ARIZONA CORPORATE DIVISIONS?**

16 A. According to their response to Company data request AAW 2.1, Staff reviewed the items
17 provided to RUCO and identified which of those subject expenses should have been
18 directly allocated to the operating districts. In certain cases Staff provided other reasons
19 it believes the expense should be disallowed. I have attached Staff's response to AAW
20 2.1 hereto as Exhibit JMR-RB7.

21
22 **Q. REALIZING THAT STAFF DID NOT REVIEW ALL EXPENSES INCLUDED IN**
23 **THE ACCOUNT, CAN YOU ADDRESS THE ONES THEY DID REVIEW AND**

**RESPOND TO THEIR CLAIM THAT THEY WERE INCORRECTLY
 CHARGED TO A CORPORATE BUSINESS UNIT?**

A. Yes. Virtually all of the miscellaneous plant items listed by Staff in Exhibit JMR-RB7 were, in fact, correctly charged to the appropriate operating district. Such charges include the following items listed by Staff:

Table 3

Description of Charge	Operating District item was Charged to
Interstate Battery (Northwest Reclam.) - \$84.01	Northwest Valley WTF
Interstate Battery (Northwest Reclam.) - \$106.26	Northwest Valley WTF
IP Steel (shade for lift station) - \$396.00	Sun City Wastewater
Steven Diaz Lawn Maint. - \$150.00	Agua Fria Water
Steven Diaz Lawn Maint. - \$300.00	Agua Fria Water
Steven Diaz Lawn Maint. - \$850.00	Agua Fria Water
Steven Diaz Lawn Maint. - \$300.00	Agua Fria Water
Steven Diaz Lawn Maint. - \$200.00	O&M Contract
Steven Diaz Lawn Maint. - \$250.00	Agua Fria Water
Steven Diaz Lawn Maint. - \$300.00	Agua Fria Water
Steven Diaz Lawn Maint. - \$250.00	Agua Fria Water
Steven Diaz Lawn Maint. (Sun City Blvd. main break) - \$701.50	Sun City Water
Ace Hardware (plant supplies) - \$30.06	Anthem Wastewater
Ace Hardware (plant supplies) - \$29.30	Anthem Wastewater
Ace Hardware (saw blades) - \$29.32	Anthem Wastewater
Ace Hardware (misc. repair parts) - \$12.29	Anthem Wastewater
Ace Hardware (misc. repair parts) - \$8.48	Anthem Wastewater
Southwest Rubber (hoses for sludge truck) - \$541.40	Northwest Valley WTF
Fry's Food & Drug (Sun City fire flow mtg.) - \$5.67	Sun City Water
Chick-fil-A (Sun City fire flow mtg.) - \$4.00	Sun City Water
Safeway Stores (Sun City fire flow mtg.) - \$12.22	Sun City Water

1 **Q. IF THE CHARGES LISTED IN THE ABOVE TABLE WERE ACTUALLY**
2 **CHARGED TO THE APPROPRIATE OPERATING DISTRICTS, HOW DO YOU**
3 **EXPLAIN STAFF'S POSITION?**

4 A. The plant items and expenses listed in the above table were purchased using Company
5 issued employee purchasing cards ("P-cards"). To reduce the time and labor necessary to
6 respond to RUCO's data request (which was very lengthy) the Company provided the
7 weekly P-card statements that contained the particular charge RUCO was questioning.
8 However, those P-card statements show all purchases that were made in a particular
9 week, not just those charged to a corporate business unit. A cursory review of the
10 invoices attached to the P-card statements provided in response to the RUCO data request
11 would very likely lead one to believe that expenses benefiting individual operating
12 districts were charged to the corporate office. However, a more detailed examination of
13 the P-card statement reveals the exact Arizona-American Water business unit and
14 account to which each item was charged. Given the short time Staff had to review this
15 information before filing testimony and the personnel changes mentioned by Staff
16 witness Carlson on page 1 of his direct testimony, Staff's conclusions are understandable.

17
18 **Q. ACCORDING TO EXHIBIT JMR-RB7, THE COMPANY CHARGED TO THE**
19 **CENTRAL DIVISION CORPORATE DISTRICT \$90 IN GIFT CERTIFICATES**
20 **FOR ANTHEM AND SUN CITY "EMPLOYEES OF THE QUARTER". PLEASE**
21 **EXPLAIN WHY THIS IS APPROPRIATE.**

22 A. This is appropriate because the Anthem and Sun City "employees of the quarter" were
23 quite possibly, and very likely, also employees of Paradise Valley and Agua Fria. The
24 only way to charge these expenses directly to the appropriate operating districts would be

1 via a journal entry based on the percent of time the employee charged to each district
2 (including the corporate districts) during that quarter. These types of allocations would
3 most certainly over-complicate the accounting process and burden the Company's
4 accounting department to the point where some of the cost benefits of being a multi-
5 district water utility would be diminished.

6
7 Despite that fact that the Company believes these expenses were properly allocated, we
8 are no longer seeking to recover them in rates. RUCO has eliminated these charges in
9 RUCO Income Statement Adjustment 12, and the Company accepts this component of
10 RUCO's adjustment.

11
12 **Q. EXHIBIT JMR-RB7 ALSO CONTAINS CHARGES RELATED TO**
13 **CHARITABLE CONTRIBUTIONS IN A NUMBER OF THE COMPANY'S**
14 **OPERATING DISTRICTS AS WELL AS VARIOUS DUES TO CHAMBERS OF**
15 **COMMERCE AND OTHER ORGANIZATIONS. ARE THESE CHARGES**
16 **APPROPRIATE?**

17 **A.** These specific charges are appropriately allocated but not appropriate for recovery. As I
18 mentioned previously, the Company charges all public relations expenses to the corporate
19 business unit. This is appropriate because, arguably, regardless of where a public
20 relations dollar is spent, it benefits the Company as a whole. However, this is not as
21 much an issue of proper allocation, as it is appropriateness. The Company should not
22 have sought recovery of these charges in its original application. RUCO has removed
23 these charges and the Company will accept this portion of RUCO's adjustment.
24

1 **Q. DOES STAFF TAKE ISSUE WITH CHARGES FOR ENVIRONMENTAL FEES**
2 **AND COMPLIANCE?**

3 A. Yes. As noted on Exhibit JMR-RB7, Staff takes issue with charges for federally
4 mandated Small System Consumer Confidence Reports and a \$700 Maricopa County
5 operating permit that should have been charged to the Sabrosa Water system. RUCO has
6 removed both of these charges and the Company will accept this portion of RUCO's
7 adjustment.

8
9 **Q. DOES THE COMPANY CHARGE EXPENSES RELATED TO EMPLOYEE**
10 **TRAINING AND CERTIFICATION TO THE CORPORATE BUSINESS UNIT?**

11 A. Yes. Expenses related to employee training and certifications are charged to the
12 corporate business unit for the same reasons discussed above with regard to awards for
13 employees of the quarter. As a result, employee training and certifications related to
14 water and wastewater would be allocated to all operating districts for regulatory
15 purposes.

16
17 **Q. WHAT TYPES OF CHARGES DID STAFF NOTE AS INAPPROPRIATE FOR**
18 **REASONS OTHER THAN PROPER ALLOCATION?**

19 A. According to Exhibit JMR-RB7, Staff believes the following charges are inappropriate
20 for recovery; legal fees related to the Citizens acquisition, an employment services fee
21 related to the recruitment of the Company's engineering manager, and "extensive board
22 member fees and travel expenses." All of these charges were eliminated by RUCO in
23 RUCO Income Statement Adjustment 12. The Company accepts RUCO's adjustment to
24 remove the legal fees related to the Citizens acquisition. However, the Company believes

1 the remaining charges should be recovered. These will be addressed later in my
2 testimony and in the testimony of other Company witnesses.

3
4 **Q. ARE THERE ANY ADDITIONAL CHARGES SHOWN ON EXHIBIT JMR-RB7**
5 **WHICH YOU HAVE NOT YET ADDRESSED?**

6 A. Yes. The remaining charges listed on Exhibit JMR-RB7 include; a \$48.00 subscription
7 to the West Valley View newspaper in Agua Fria, \$31.94 for propane to fuel a forklift in
8 Anthem, and a \$176.22 charge for the rental of fencing in Anthem. RUCO has
9 eliminated the \$176.22 charge for fence rental and the Company will accept RUCO's
10 adjustment. Of the remaining two items that were improperly allocated to other operating
11 districts, \$6.49 was allocated to Paradise Valley ($\$48.00 + \$31.94 \times 8.12\%$) and is
12 therefore included in adjusted test year operating expenses. The Company will accept an
13 adjustment to reduce operating expenses by \$6.49 if Staff proposes such an adjustment.

14
15 **Q. BASED ON THE PRECEDING DISCUSSION AND RESPONSE TO THE STAFF**
16 **TESTIMONY, DOES THE COMPANY BELIEVE STAFF'S ADJUSTMENT IS**
17 **REASONABLE AND SHOULD BE ADOPTED?**

18 A. No. The Company believes its method of allocating costs, as demonstrated in the
19 preceding testimony, is reasonable and Staff's adjustment is not necessary. Arizona-
20 American Water is a large multi-district water utility and is unlike the majority of water
21 utilities regulated by the Commission. Many functions of the Company are centralized
22 and resources are shared. Creating an overly detailed or complex cost allocation system
23 could increase business costs and diminish the benefits that come with being a multi-

1 district water utility. As the Company has shown, costs are allocated to the maximum
2 extent reasonably practicable on a direct basis, consistent with NARUC guidelines.

3
4 *Staff Income Statement Adjustment 7: Depreciation Expense*

5 **Q. DOES THE COMPANY ACCEPT STAFF'S CALCULATION OF**
6 **DEPRECIATION EXPENSE?**

7 A. Yes. The Company accepts Staff's calculation of depreciation expense, including the
8 elimination of \$32,634 related the amortization of comprehensive planning studies.

9
10 **Q. STAFF INCLUDED IN DEPRECIATION EXPENSE \$6,570 RELATED TO THE**
11 **AMORTIZATION OF THE MUMMY MOUNTAIN ACQUISITION**
12 **ADJUSTMENT. DOES THE COMPANY STILL PROPOSE THIS AMOUNT?**

13 A. No. Although the Company should recover the Mummy Mountain acquisition
14 adjustment, the amount should be \$5,256 rather than \$6,570. This change is a result of
15 the Company's acceptance of the portion of RUCO Income Statement Adjustment 8
16 related to the correct amortization of the Mummy Mountain acquisition adjustment. I
17 discuss this issue further when I respond to the direct testimony of RUCO witness Mr.
18 Moore. The Company's revised depreciation expense calculation is reflected in
19 Company Income Statement Adjustment AAW-14 shown on Schedule JMR-RB5, page
20 3, column V.

21
22 *Staff Income Statement Adjustment 8: Property Taxes*

23 **Q. ARE THE COMPANY AND STAFF IN AGREEMENT ON THE ISSUE OF THE**
24 **CALCULATION OF PROPERTY TAXES?**

1 A. Yes. The Company and Staff use the same formula to calculate property taxes and are
2 therefore in agreement on this issue. The Company's revised property tax calculation is
3 reflected in Company Income Statement Adjustment AAW-15 shown on Schedule JMR-
4 RB5, page 3, column W.

5
6 *Staff Income Statement Adjustment 9: Income Taxes*

7 **Q. ARE THE COMPANY AND STAFF IN AGREEMENT ON THE MANNER IN**
8 **WHICH INCOME TAXES ARE CALCULATED?**

9 A. Yes. The Company and Staff are in agreement on this issue. The Company's revised
10 income tax calculation is reflected in Company Income Statement Adjustment AAW-16
11 shown on Schedule JMR-RB5, page 3, column X.

12
13 **Q. DOES THIS CONCLUDE YOUR RESPONSE TO THE DIRECT TESTIMONY**
14 **OF STAFF WITNESS IGWE?**

15 A. Yes, it does.

16
17 **C. Response to the Direct Testimony of RUCO Witness Moore**

18 *RUCO Income Statement Adjustment 1: Reclassification of Office Lease*

19 **Q. DOES THE COMPANY ACCEPT RUCO INCOME STATEMENT**
20 **ADJUSTMENT 1 TO DECREASE OPERATIONS EXPENSE BY \$14,593**
21 **RELATED TO THE RECLASSIFICATION OF OFFICE LEASE EXPENSE?**

22 A. The Company agrees with RUCO's adjustment but not the amount. The portion of office
23 lease expense that the RUCO witness testifies was erroneously recorded was actually
24 recorded to the Central Division Corporate district and then allocated down to Paradise

1 Valley. Therefore, only a portion of the \$14,593 is included in the Company's adjusted
2 test year expenses, and only that portion should be removed. Multiplying the \$14,593 by
3 Paradise Valley's 4-factor allocation of 8.12 percent yields an actual adjustment of
4 negative \$1,185. This adjustment is reflected in Company Income Statement Adjustment
5 AAW-5 shown on Schedule JMR-RB5, page 1, column H and all supporting
6 documentation is attached hereto as Exhibit JMR RB-8.

7
8 *RUCO Income Statement Adjustment 2: Normalize Group Insurance*

9 **Q. DOES THE COMPANY ACCEPT RUCO INCOME STATEMENT**
10 **ADJUSTMENT 2 TO REDUCE GROUP INSURANCE BY \$2,972.**

11 A. Yes. Company witness David Weber addresses RUCO Income Statement Adjustment 2
12 in his rebuttal testimony. The Company's acceptance of this adjustment is reflected in
13 Company Income Statement Adjustment AAW-6 shown on Schedule JMR-RB5, page 1,
14 column I.

15
16 *RUCO Income Statement Adjustment 3: OPEB Expense Normalization*

17 **Q. DOES THE COMPANY ACCEPT RUCO INCOME STATEMENT**
18 **ADJUSTMENT 3 TO REDUCE OPEB EXPENSE BY \$2,093 TO REFLECT THE**
19 **ACTUAL PERCENTAGE OF EACH EMPLOYEE'S TIME ALLOCATED TO**
20 **PARADISE VALLEY DURING THE TEST YEAR?**

21 A. Yes. Company witness Mr. Weber addresses RUCO Income Statement Adjustment 3 in
22 this rebuttal testimony. The Company's acceptance of this adjustment is reflected in
23 Company Income Statement Adjustment AAW-7 shown on Schedule JMR-RB5, page 1,
24 column J.

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RUCO Income Statement Adjustment 4: Rate Case Expense

**Q. DOES THE COMPANY ACCEPT RUCO INCOME STATEMENT
ADJUSTMENT 4 TO REDUCE OPERATIONS EXPENSE BY \$79,644 RELATED
TO ITS ESTIMATE OF RATE CASE EXPENSE?**

A. No. Company witness Mr. Broderick addresses rate case expense in this rebuttal testimony. As previously mentioned, the Company's revised estimate of rate case expense is reflected in Company Income Statement Adjustment AAW-4 shown on Schedule JMR-RB5, page 1, column F.

RUCO Income Statement Adjustment 5: Pension Expense

**Q. DOES THE COMPANY ACCEPT RUCO INCOME STATEMENT
ADJUSTMENT 5 TO REDUCE PENSION EXPENSE BY \$12,037?**

A. As explained by Mr. Weber in his rebuttal testimony, the Company accepts RUCO's adjustment with the exception of the pension cost associated with the increase in labor expense proposed by the Company. The Company's partial acceptance of this adjustment is reflected in Company Income Statement Adjustment AAW-8 shown on Schedule JMR-RB5, page 2, column L.

RUCO Income Statement Adjustment 6: Write-off of Materials and Supplies

**Q. DOES THE COMPANY ACCEPT RUCO INCOME STATEMENT
ADJUSTMENT 6 TO REDUCE OPERATIONS EXPENSE BY \$11,184 RELATED
TO THE WRITE-OFF OF MATERIALS AND SUPPLIES?**

1 A. Yes. The Company accepts both RUCO Income Statement Adjustment 6 and Staff
2 Income Statement Adjustment 4 to reduce operations expense by \$11,184 related to the
3 write-off of materials and supplies. The Company's acceptance of this adjustment is
4 reflected in Company Income Statement Adjustment AAW-3 shown on Schedule JMR-
5 RB5, page 1, column E.

6
7 *RUCO Income Statement Adjustment 7: Normalized Labor*

8 **Q. DOES THE COMPANY ACCEPT RUCO INCOME STATEMENT**
9 **ADJUSTMENT 7 TO REDUCE LABOR BY \$161,443?**

10 A. As explained by Mr. Weber in his rebuttal testimony, the Company accepts RUCO's
11 proposed level of hours for all employees except for those associated with three job
12 classifications: meter readers, field customer service representatives (CSRs), and plant
13 operators. The Company's partial acceptance of this adjustment is reflected in Company
14 Income Statement Adjustment AAW-9 shown on Schedule JMR-RB5, page 2, column N.

15
16 *RUCO Income Statement Adjustment 8: Depreciation Expense*

17 **Q. DOES THE COMPANY AGREE WITH RUCO'S CALCULATION OF**
18 **DEPRECIATION EXPENSE?**

19 A. The Company agrees with RUCO's method of calculating depreciation expense as well
20 as its adjustment to reflect the correct amortization of the Mummy Mountain acquisition
21 adjustment. However, we do not accept RUCO's proposal to reduce depreciation
22 expense by one-fifth of one-half of the Company's pre-tax gain on the sale of land. I
23 have explained why the Company does not accept this adjustment and why the
24 Commission should accept our existing proposal to give 50 percent of the after-tax gain

1 on the sale of land to our customers in my response to RUCO witness Coley. As
2 mentioned previously, the Company's revised depreciation expense calculation is
3 reflected in Company Income Statement Adjustment AAW-14 shown on Schedule JMR-
4 RB5, page 3, column V.

5
6 *RUCO Income Statement Adjustment 9: Property Taxes*

7 **Q. DOES THE COMPANY ACCEPT RUCO INCOME STATEMENT**
8 **ADJUSTMENT 9 TO DECREASE PROPERTY TAXES BY \$56,844 RELATED**
9 **TO WHAT THE WITNESS CLAIMS ARE PROPERTY TAXES RELATED TO**
10 **THE MILLER ROAD TREATMENT FACILITY ("MRTF") AND THEREFORE**
11 **RECOVERED FROM MOTOROLA?**

12 A. No. The Company does not accept this adjustment because the Company's adjusted test
13 year property taxes are already implicitly reduced for amounts that would be related the
14 MRTF. This was accomplished by way of the current methodology used by the
15 Company, Staff, and the Commission to calculate property taxes for regulatory purposes.
16 This methodology utilizes *adjusted* revenues from regulated operations to calculate
17 property taxes⁵, therefore excluding any property taxes that may be attributable to the
18 MRTF. Assuming the actual property taxes that would be attributed to MRTF were
19 anywhere close to the \$56,844 figure used by RUCO, this adjustment is a double-dip.
20

⁵ Commission Staff and the Company use adjusted utility revenues to calculate property taxes. RUCO uses unadjusted revenues, which include non-utility revenues.

1 **Q. WHY DO YOU IMPLY THAT THE \$56,844 FIGURE IS NOT**
2 **REPRESENTATIVE OF THE PROPERTY TAXES THAT WOULD BE**
3 **ATTRIBUTABLE TO THE MRTF?**

4 A. Because RUCO's figure is very likely significantly over-stated. The \$56,844 amount was
5 simply what the Company accrued for the MRTF during the test year. RUCO took this
6 amount and subtracted it from the Company's adjusted test year property taxes (which
7 were already implicitly reduced by the correct amount.) Had RUCO estimated MRTF
8 property taxes using monies received from Motorola and the Commission's current
9 property tax calculation methodology, their adjustment would be significantly lower than
10 currently proposed – roughly only \$14,000. Regardless of the appropriate calculation,
the Company will not accept RUCO's adjustment because it is simply unnecessary.

12
13 **Q. HAS THE COMPANY EVER BEEN REIMBURSED BY MOTOROLA FOR**
14 **PROPERTY TAXES RELATED TO THE MRTF?**

15 A. No. The Company has never been reimbursed for property taxes by Motorola. The
16 MRTF is included in centrally assessed property whereby property taxes are based on
17 revenues from customers, and not property values. The monies received from Motorola
18 are, arguably, "reimbursement" for operating expenses and not "revenues from
19 customers." For this reason Motorola has disputed the issue of property taxes related to
20 the MRTF.

21
22 *RUCO Income Statement Adjustment 10: Property Taxes*

23 **Q. DOES THE COMPANY ACCEPT RUCO'S PROPERTY TAX CALCULATION?**

1 A. No. The Company does not accept this adjustment because the Commission has
2 repeatedly found RUCO's property tax calculation to be unreasonable and inappropriate
3 for ratemaking purposes. Attached hereto as Exhibit JMR-RB9, I have included excerpts
4 from recent decisions in which the Commission explains why RUCO's adjustment is
5 unacceptable.

6
7 **Q. SHOULD THE COMMISSION ACCEPT THE "EVIDENCE" THAT RUCO'S**
8 **PROPERTY TAX CALCULATION IS MORE APPROPRIATE, PRESENTED BY**
9 **THE WITNESS ON PAGE 23, LINES 14 – 21 OF HIS TESTIMONY?**

10 A. No. The "evidence" provided by the witness simply does not reflect the information
11 RUCO was provided. When asked to explain the basis for RUCO's testimony in
12 Company data request AAW 5.1, the witness stated:

13
14 In response to RUCO Data Request 4.01.b the Company
15 provided documentation that the 2004 Property Tax
16 *assessment* of \$56,844.00 for the MRTF was recorded in
17 the Company's General Ledger under account code
18 685200. (emphasis added)
19

20 The above statement is inaccurate. RUCO has misinterpreted the Company's general
21 ledger as indicating that property taxes of \$56,844 were *assessed* for the MRTF when
22 that is not the case. The Company's general ledger clearly indicates that \$56,844 was the
23 amount *accrued* by the Company.

24
25 **Q. DOES THE ARIZONA DEPARTMENT OF REVENUE "ASSESS" PROPERTY**
26 **TAXES EXPLICITLY FOR THE MRTF?**

1 A. No. As I've explained in the previous sub-section, the MRTF is included in centrally
2 assessed property. To my knowledge, RUCO has made no attempt to estimate the
3 amount of property taxes that would be attributable, or "assessed", to the MRTF using the
4 appropriate methodology.

5
6 Had RUCO estimated property taxes using the correct methodology (used by the
7 Company, Staff, and the Commission) using both regulated revenues from operations and
8 monies received from Motorola, they would have found that the difference between their
9 estimate and the total amount actually assessed for Paradise Valley for 2005 is only
10 approximately \$3,900. In other words, contrary to the witness' testimony, the evidence
11 supports the Company's property tax calculation methodology and not RUCO's.

12
13 *RUCO Income Statement Adjustment 11: Normalize Payroll Taxes*

14 **Q. DOES THE COMPANY ACCEPT RUCO INCOME STATEMENT**
15 **ADJUSTMENT 11 TO REDUCE PAYROL TAXES BY \$17,204?**

16 A. As explained by Mr. Weber in his rebuttal testimony, the Company accepts RUCO's
17 adjustment with exceptions. The Company's partial acceptance of this adjustment is
18 reflected in Company Income Statement Adjustment AAW-10 shown on Schedule JMR-
19 RB5, page 2, column R.

20
21 *RUCO Income Statement Adjustment 12: Administrative and General Allocated Costs*

22 **Q. RUCO INCOME STATEMENT ADJUSTMENT 12 CONSISTS OF THREE SUB-**
23 **ADJUSTMENTS. PLEASE SUMMARIZE THOSE ADJUSTMENTS.**

24 A. The components of RUCO Income Statement Adjustment 12 are:

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- a. Reduce Arizona Corporate allocated Management Fees by \$62,478.
- b. Reduce Central Division Corporate district allocated Miscellaneous Expenses by \$1,204.
- c. Reduce Arizona Corporate allocated Miscellaneous Expenses by \$18,233.

Q. WHY DID RUCO REDUCE ARIZONA CORPORATE ALLOCATED MANAGEMENT FEES BY \$62,478?

A. According to the testimony of RUCO witness Moore:

Through discovery and the Company's response to RUCO Data Request 9.04, I removed all expenses associated with the Annual Incentive Plan and the Long-term Incentive Plan.⁶

Q. IS THE WITNESS' TESTIMONY AN ACCURATE DEPICTION OF WHAT HE ACTUALLY DID?

A. No. A review of his electronic workpapers and information the Company provided to RUCO indicates that the witness also removed numerous other costs not associated with the annual incentive plan ("AIP").

Q. PLEASE PROVIDE A BREAKDOWN OF THE COSTS RUCO ACTUALLY REMOVED.

A. See the following table:

⁶ Moore direct, p. 26 at 21 - 23.

Table 4

American Water Incentive Plan (AIP)	\$18,517
Performance Pay, Stay Bonus	1,520
Other Reorganization/Downsizing and non- incentive pay expenses	42,441
Total	\$62,478

If the Commission were to accept this portion of RUCO's adjustment, it should only accept the \$20,037 (\$18,517 + \$1,520) actually related to AIP.

Q. IS IT APPROPRIATE FOR ARIZONA-AMERICAN TO RECOVER AIP EXPENSES?

A. Yes. Company witness Paul Townsley thoroughly discusses this issue in his rebuttal testimony.

Q. DOES THE RUCO TESTIMONY CONCERNING AIP CONTAIN ADDITIONAL INACCURACIES?

A. Yes. For example, the witness testifies that:

"The Company has a bonus award plan, which states no awards are payable unless the Company meets its financial performance target or if the employee does not meet his/her performance goals."⁷

As Mr. Townsley explains, the above statement is inaccurate and implies that the Company's AIP is tied solely to financial performance. The 2004 American Water AIP,

⁷ See Moore direct, p. 27 at 3 - 5.

1 which has been provided to RUCO, clearly states that an employee can earn part of her
2 award for each component; financial, operational, or individual - independent of the other
3 components.

4
5 **Q. HOW DOES THE COMPANY RESPOND TO RUCO'S SUGGESTION THAT IN**
6 **THE CONTEXT OF THE AIP, EMPLOYEE PERFORMANCE IS REFLECTED**
7 **BY A REDUCTION IN THE EMPLOYEE-TO-CUSTOMER RATIO?**

8 A. The witness alludes to such a performance gauge on page 27, lines 15 to 20 of his
9 testimony. He states:

10
11 Likewise, the achievement of the employee performance goals
12 benefits stockholders. If the Company is successful in reducing its
13 number of employees while maintaining its customer base, the
14 additional profit will accrue to stockholders between rate cases.
15

16 The above statement cannot be based on any information that was provided to RUCO
17 regarding the American Water AIP. That information clearly states that of the
18 operational component, 50 percent is weighted toward customer satisfaction, 25 percent
19 toward environmental measures and goals, and 25 percent toward health and safety
20 measures and goals. The individual component is based on 5 key performance indicators
21 ("KPI's") agreed by upon by the AIP participant and their supervisor.

22
23 To provide the Commission with an accurate description of the Company's AIP plan, I
24 have attached a copy hereto as Exhibit JMR-RB10. RUCO's testimony on this issue is
25 misleading to the Commission and the basis provided for their adjustment inaccurate.

1 For a more complete discussion on this issue, and additional response to RUCO's
2 testimony, please see the rebuttal testimony of Mr. Townsley.

3
4 **Q. WHY DID RUCO REDUCE CENTRAL DIVISION CORPORATE DISTRICT**
5 **ALLOCATED MISCELLANEOUS EXPENSES BY \$1,204?**

6 A. According to the testimony:

7
8 ...I determined there were test-year expenses that were non-
9 recurring, previously disallowed by the ACC, and/or not required
10 for the provisioning of water service, such as, expenses related to
11 payments to Chambers of Commerce, non-profit organizations,
12 donations, club memberships, gives, awards, extravagant corporate
13 events and for various meals, lodging and refreshments.

14
15 **Q. DOES THE COMPANY ACCEPT THIS ADJUSTMENT?**

16 A. The Company will partially accept this adjustment with the exception of those amounts
17 related to; ice used for preserving water samples and hydrating meter readers, grounds
18 keeping at the Sun City office, and security services at the Paradise Valley office. As
19 explained by Company witness Brian Biesemeyer in his rebuttal testimony, these items
20 are reasonable operating expenses and should be recovered. As Mr. Biesemeyer
21 explains, amounts allocated to Paradise Valley related to ice, grounds keeping, and
22 security services are \$162, \$741, and \$102, respectively, for a total of \$1,005. Therefore,
23 the Company accepts \$199 (\$1,204 - \$1,005) of RUCO's adjustment. Partial acceptance
24 of this component of RUCO Income Statement Adjustment 12 is reflected in Company
25 Income Statement Adjustment AAW-11 shown on Schedule JMR-RB5, page 2, column
26 S.

1 **Q. WHY DID RUCO REDUCE ARIZONA CORPORATE ALLOCATED**
2 **MISCELLANEOUS EXPENSES BY \$18,233?**

3 A. RUCO reduced Arizona Corporate Allocated Miscellaneous expenses for the same
4 reasons stated above with respect to Central Division Corporate district allocated
5 expenses.

6
7 **Q. DOES THE COMPANY ACCEPT THIS ADJUSTMENT?**

8 A. As with the previous component of RUCO Income Statement Adjustment 12, the
9 Company will partially accept this adjustment with exceptions. Those exceptions include
10 the following items addressed by Mr. Biesemeyer in his rebuttal testimony: \$428 related
11 to classified advertising to fill positions in Arizona, \$44 related to the maintenance of
12 plants at the Phoenix office, \$83 related to a preliminary study of security renovation at
13 the Sun City office, and \$435 related to employee recruitment. Exceptions addressed by
14 Mr. Broderick in his rebuttal testimony include: \$2,733 related to the filling of an
15 executive position, \$8,536 related to the amortization of the Call Center and Shared
16 Services Center project costs, \$1,453 related to the non-lobbying portion of the
17 Company's National Association of Water Companies ("NAWC") dues, and \$1,274
18 related to directors fees. In total, and as shown on Schedule JMR-RB5, page 10, the
19 Company takes exception to \$14,986 of RUCO's adjustment. Therefore, we accept
20 (\$18,233 - \$14,986) \$3,247 of RUCO's adjustment. Partial acceptance of this component
21 of RUCO Income Statement Adjustment 12 is reflected in Company Income Statement
22 Adjustment AAW-12 shown on Schedule JMR-RB5, page 2, column T.
23

1 *RUCO Income Statement Adjustment 13: Capitalization of Expenses*

2 **Q. DOES THE COMPANY ACCEPT RUCO INCOME STATEMENT**
3 **ADJUSTMENT 13 TO REDUCE OPERATIONS AND MAINTENANCE**
4 **EXPENSES BY \$10,495 TO REFLECT THE CAPITALIZATION OF CERTAIN**
5 **EXPENSES?**

6 A. Yes. The Company accepts this adjustment. The Company's acceptance of this
7 adjustment is reflected in Company Income Statement Adjustment AAW-13 shown on
8 Schedule JMR-RB5, page 3, column U.

9
10 *RUCO Income Statement Adjustment 16: Income Taxes*

11 **Q. ARE THE COMPANY AND RUCO IN AGREEMENT ON THE MANNER IN**
12 **WHICH INCOME TAXES ARE CALCULATED?**

13 A. Yes. The Company and RUCO are in agreement on this issue. As mentioned previously,
14 the Company's updated income tax calculation is reflected in Company Income
15 Statement Adjustment AAW-16 shown on Schedule JMR-RB5, page 3, column X.

16
17 **D. Additional Revenue and Expense Adjustments**

18 *New Paradise Valley Country Club Contract Rate*

19 **Q. IS THE COMPANY PROPOSING ANY REVENUE ADJUSTMENTS AT THIS**
20 **TIME?**

21 A. Yes. As explained by Mr. Broderick in his rebuttal testimony, on December 22, 2005,
22 the company filed with the Commission a new contract with the Paradise Valley Country
23 Club. Based on the terms of that contract and the assumption that it will be approved, the
24 Company has included in the test year, additional annual revenue in the amount of

1 \$8,515. This additional revenue is reflected in Company Income Statement Adjustment
2 AAW-17 shown on Schedule JMR-RB5, page 3, column Y.

3

4 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

5 **A. Yes, it does.**

Filed testimony and/or Staff report in the following proceedings:

Jurisdiction	Company Name(s)	Case No.	Type of Proceeding
Arizona	Ajo Improvement Co. - Electric	E-01025A-99-0564	Cost of Capital
Arizona	Alltel	T-03285A-00-0874	Sale of Assets
Arizona	Anway Manville Water	W-03233A-99-0360	Financing
Arizona	Arizona Public Service	E-01345A-03-0437	Cost of Capital
Arizona	Arizona Public Service	E-01345A-01-0878	Financing
Arizona	Arizona Public Service	E-01345A-02-0125	Financing
Arizona	Arizona Water Company	W-01445A-00-0962	Cost of Capital
Arizona	Arizona Water Company	W-01445A-02-0619	Cost of Capital
Arizona	Arizona-American Water Company	WS-01303A-02-0867	Cost of Capital
Arizona	Arizona-American Water Company	W-01303A-01-0983	Restructure of Holding Co.
Arizona	Avra Water Co-op	W-02126A-00-0269	Rate of return
Arizona	Bella Vista Water	W-02465A-01-0776	Cost of Capital
Arizona	Bella Vista Water	W-02465A-99-0466	Financing
Arizona	Black Mountain Gas	G-03703A-0283	Cost of Capital
Arizona	Black Mountain Gas	G-03703A-01-0263	Cost of Capital
Arizona	Black Mountain Gas/Northern States Pwr.	G-03703A-99-0525	Restructure of Holding Co.
Arizona	BLT, Touch One, MCI	T-03394A-00-0881	Merger
Arizona	Continental Divide Electric Co-op	E-01824A-00-0504	Sale of Assets
Arizona	Eschelon Telecom	T-03406A-01-0270	Financing
Arizona	Gateway Technologies/T-NETIX (COPT)	T-02979B-99-0459	Merger
Arizona	Gold Canyon Sewer Company	SW-02519A-00-0638	Cost of Capital
Arizona	Golden Shores Water	W-01815A-99-0390	Financing
Arizona	Green Valley Water Co.	W-02025A-01-0559	Cost of Capital
Arizona	GST Net/Time Warner Telecom	T-03943A-00-0782	Sale of Assets
Arizona	Lago Del Oro Water Company	W-01944E-00-0206	Financing
Arizona	Litchfield Park Service Co.	W-01427A-01-0487	Cost of Capital
Arizona	Midvale Telephone	T-02532A-00-0512	Cost of Capital
Arizona	Mountain Pass Utility	SW-03841A-01-0166	Financing
Arizona	Navopache Electric Co-op	E-01787A-00-0820	Financing
Arizona	New River Utility	W-01737A-01-0662	Cost of Capital
Arizona	North Mohave Valley Water	W-02259A-99-0295	Financing
Arizona	Picacho Sewer Co.	SW-03709A-01-0165	Financing
Arizona	Picacho Water	W-03528A-01-0169	Financing
Arizona	Pine Water Company	W-03512A-03-0279	Cost of Capital
Arizona	Premiere Communications/Telecare	T-02668-00-0787	Sale of Assets
Arizona	Qwest Communications	T-01051B-03-0454	Cost of Capital
Arizona	Ridgeview Utility	W-03861A-01-0167	Financing
Arizona	Rio Rico Utilities, Inc.	WS-02676A-03-0434	Cost of Capital
Arizona	SBC Telecom	T-03811A-00-0762	Waiver
Arizona	Southwest Gas/Black Mountain Gas	G-01551A-02-0425	Merger
Arizona	Southwestern Telephone	T-01072B-00-0379	Cost of Capital
Arizona	Sulphur Springs Valley Electric Co-op	E-01575A-00-0629	Financing
Arizona	Table Top Telephone	T-02724A-99-0595	Cost of Capital

Joel M. Reiker
 American Water Works
 Relevant Regulatory Experience

Arizona	Teligent	T-0336A-00-01521	Merger
Arizona	Trico/AEPCO	E-01461A-00-0660	Lease
Arizona	Tucson Electric Power Company	E-01933A-00-0550	Sale of Assets
Arizona	Tucson Electric Power Company	E-01933A-99-0573	Capital Lease Amendment
Arizona	Tucson Electric Power Company	E-01933A-02-0276	Financing
Arizona	UniSource Energy Corporation	E-04230A-03-0933	Reorganization/Merger
Arizona	Water Utility of Greater Buckeye	W-02451A-98-0326	Financing
Arizona	Winstar Wireless	T-03670A-00-0446	Encumbrance of Assets
Arizona	Yucca Water Co.	W-01937A-99-0260	Financing
Arizona	Graham Co. Utilities Water	G-02527-97-0407	Financing
Arizona	Mount Tipton	W-02105A-01-0557	Financing
Arizona	Northern States Power/Black Mountain Gas	G-03703A-00-0235	FUCO Certification
Arizona	Valley Pioneers Water Company	W-02033A-00-0696	Financing
California	California American Water Company	A.06-01-005	Cost of Capital
New Mexico	New Mexico American Water Company	05-00353-UT	Approval of Special Contract

LINE NO.	DESCRIPTION	[A] COMPANY ORIGINAL AS FILED	[B] COMPANY REVISED REBUTTAL
1		\$ 11,651,216	\$ 15,166,114
2	Adjusted Rate Base	742,769	864,157
3			
4	Adjusted Operating Income/(Loss)	6.38%	5.70%
5			
6	Current Rate of Return	7.84%	7.84%
7			
8	Required Rate of Return	913,455	1,188,556
9			
10	Required Operating Income	170,686	324,399
11			
12	Operating Income Deficiency/(Excess)	1,6286	1,6286
13			
14	Gross Revenue Conversion Factor	277,980	528,328
15			
16	Required Revenue Increase/(Decrease)	5,070,660	5,079,195
17			
18	Adjusted Test Year Revenue	5,348,660	5,607,523
19			
20	Proposed Annual Revenue		
21			
22	Required Increase/Decrease in Revenue (%)	5.48%	10.40%
23			
24			

References:
 Column [A]: Company Schedules A-1, A-2, & D-1
 Column [B]: Schedules JMR-RB2, JMR-RB4, Column [A]

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LINE NO.	[A] COMPANY ORIGINAL AS FILED	[B] COMPANY ADJUSTMENTS	[C] COMPANY REVISED ADJUSTED
1	\$ 29,478,687	\$ 3,723,872	\$ 33,202,558
2			950
3			
4			
5	9,913,869	163,796	10,077,665
6			
7	\$ 19,565,768	\$ 3,560,076	\$ 23,125,844
8			
9	6,486,559	-	6,486,559
10			
11	635,912	-	635,912
12			
13	3,500	-	3,500
14			
15			
16			
17			
18	1,139,528	-	1,139,528
19	\$ 8,265,499	\$ -	\$ 8,265,499
20			
21	350,946	(45,177)	305,769
22			
23			
24			
25			
26			
27	350,946	(45,177)	305,769
28			
29	\$ 11,651,215	\$ 3,514,899	\$ 15,166,114
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MONA-AMERICAN WATER COMPANY
PARADISE VALLEY WATER DISTRICT
Docket No. WS-01303A-05-0405
Test Year Ended December 10, 2004
Company Rate Base Adjustment AAM-2

Line No.	(A) Project	(B) Work Order	(C) Account No.	(D) Description	(E) Amount
1					
2					
3					
4					
5	Jackrabbi/Invergordon Main	50069621	23020003.105150.31	CWIP M&S-Plant	42.60
6			23020003.105200.31	CWIP Co Labor-Plant	18,982.73
7			23020003.105250.31	CWIP Labor OH-Plant	10,849.03
8			23020003.105260.21	CWIP Overhead-Infrastr	12,678.55
9			23020003.105260.31	CWIP Overhead- Plant	58,854.63
10				Additional Amounts at Closing:	2,172.50
11			23020003.105275.21	CWIP Contr Svc-Infrastr	10,575.71
12			23020003.105275.31	CWIP Contr Svc-Plant	1,666,131.42
13				Additional Amounts at Closing:	28,855.02
14			23020003.105280.31	CWIP Retainage-Plant	168,698.05
15			23020003.105350.31	CWIP AFUDC Debt-Plant	40,143.29
16				Additional Amounts at Closing:	148.70
17			23020003.105375.31	CWIP AFUDC Eqty-Plant	74,380.33
18				Additional Amounts at Closing:	275.50
19			23020003.105390.31	CWIP Tran PY Chg-Plant	(11,221.11)
20				Total Additional at Closing	31,451.72
21				Total for Project	<u>2,081,566.95</u>
22					
23					
24					
25					
26	McDonald Main Extension	50076718	23020501.105200.21	CWIP Co Labor-Infrastr	5,500.78
27			23020501.105250.21	CWIP labor OH-Infrastr	3,947.90
28			23020501.105260.21	CWIP Overhead-Infrastr	22,020.99
29				Additional Amounts at Closing:	5,103.45
30			23020501.105275.21	CWIP Contr Svc-Infrastr	314,155.57
31				Additional Amounts at Closing:	68,603.08
32			23020501.105275.31	CWIP Contr Svc-Plant	392,041.09
33			23020501.105350.21	CWIP AFUDC Debt-Infrastr	3,471.38
34			23020501.105375.21	CWIP AFUDC Eqty-Infrastr	6,432.76
35				Total Additional at Closing	73,712.53
36				Total for Project	<u>821,283.00</u>
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Total Additional at Closing (both projects)

105,164.25

Line No.	Contract Amount	Amount Invoiced	Balance for Naumi	Overall Total (NTE)
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Notes:

- Total "Bid Services" amount paid of \$12,317.00 is for multiple B&C projects but three projects have been bid with amount paid being \$9,237.75; thus, Naumi portion equates to 1/3 of the total (\$3,079.25).
- Total "Construction Admin Services" amount of \$38,576.00 is for multiple B&C projects but two projects are being executed with amount paid being \$15,430.40; thus, Naumi portion equates to 1/2 of the total (\$7,715.20).
- Total change order number 1 (task order amendment #1) is inclusive of the Naumi Valley Drive scope change.
- A 10% retainage has not been released to the Contractor; figures represent "booked" values.
- Estimated price was preliminary estimate from landscaper to resident, more to follow.
- Amount invoiced/factual based on 50% of payroll distribution report total of \$17,689.92 (time split assumes Lincoln Drive design at 30% & balance of others, Tatum Blvd in particular, at 20% of overall total).
- AFUDC at 8.74% (per input from Asset & Capital Planning Group)
- Overhead at 7% (rate fluctuates, ok to use per input from Asset & Capital Planning Group).

\$420,755.13

ARIZONA-AMERICAN WATER COMPANY
 PARADISE VALLEY WATER DISTRICT
 Docket No. WS-01303A-05-0405
 Test Year Ended December 10, 2004
 Company Rate Base Adjustment AAW-5

LINE NO.	Description	Amount
1	Company Adjustment to Working Cash Requirement	
2		
3	Original Working Cash requirement - Per Application	\$ 168,133
4		
5	Revised Working Cash requirement - Per Exhibit JMR-RB4, Corrected Lead/lag Study	115,182
6		
7	Increase/(decrease) in Working Cash Requirement	<u>\$ (52,950.75)</u>
8		
9	Increase/(decrease) in Rate Base	<u>\$ (52,950.75)</u>
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ARIZONA-AMERICAN WATER COMPANY
PARADISE VALLEY WATER DISTRICT
Docket No. WS-01303A-05-0405
Company Rate Base Adjustment AAW-8 & AAW-9

Line No.	[A] Asset No.	[B] Description	[C] Date in Svc.	[D] Amount	[E] Depr Rate	[F] October	[G] November	[H] December	[I] January	[J] February	[K] March	[L] April	[M] May	[N] June	[O] July	[P] Total
2	30087568	Jackrabbit/Invergordon Main	Oct. 2005	\$ 2,081,567	2.34%	\$ 2,030	\$ 4,059	\$ 4,059	\$ 4,059	\$ 4,059	\$ 4,059	\$ 4,059	\$ 4,059	\$ 4,059	\$ 4,059	\$ 34,502
3	30101100	McDonald Main Extension	Oct. 2005	821,283	2.34%	801	1,602	1,602	1,602	1,602	1,602	1,602	1,602	1,602	1,602	13,617
4	30069173	Fire Hydrants	Oct. 2005	235,204	2.10%	206	412	412	412	412	412	412	412	412	412	3,502
5		Total Deferral														51,621
11					AFUDC Debt Rate											
12	30087568	Jackrabbit/Invergordon Main	Oct. 2005	\$ 2,081,567	4.77%	\$ 2,069	\$ 8,274	\$ 8,274	\$ 8,274	\$ 8,274	\$ 8,274	\$ 8,274	\$ 8,274	\$ 8,274	\$ 8,274	\$ 68,261
13	30101100	McDonald Main Extension	Oct. 2005	821,283	4.77%	816	3,265	3,265	3,265	3,265	3,265	3,265	3,265	3,265	3,265	26,936
14	30069173	Fire Hydrants	Oct. 2005	235,204	4.77%	234	935	935	935	935	935	935	935	935	935	7,714
15		Total Deferral														102,911
16																
17																
18																
19																
20		Subtotal Deferral - 10-inch & Above Mains														143,316
21		Subtotal Deferral - Hydrants														11,216
22		Subtotal Deferral - Jackrabbit/Invergordon & McDonald Mains & Hydrants														154,532
23																
24																
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LINE NO.	DESCRIPTION	[A] COMPANY ORIGINAL ADJUSTED TEST YEAR AS FILED	[B] COMPANY REBUTTAL TEST YEAR ADJUSTMENTS	[C] COMPANY REBUTTAL TEST YEAR AS ADJUSTED	[D] COMPANY REBUTTAL PROPOSED CHANGES	[E] COMPANY REBUTTAL AT PROPOSED RATES
1	REVENUES:					
2	Operating Revenue	\$ 5,070,680	\$ 8,515	\$ 5,079,195	\$ 528,328	\$ 5,607,523
3	Total Operating Revenues	\$ 5,070,680	\$ 8,515	\$ 5,079,195	\$ 528,328	\$ 5,607,523
4						
5	OPERATING EXPENSES:					
6	Operations	2,826,742	(153,317)	2,673,425	-	2,673,425
7	Maintenance	296,930	(28,473)	267,457	-	267,457
8	Depreciation Expense	720,578	78,655	799,233	-	799,233
9		\$ 3,844,250	\$ (104,135)	\$ 3,740,115	\$ -	\$ 3,740,115
10	TAXES					
11	Property Taxes	213,241	2,973	216,214	-	216,214
12	Payroll	54,716	(12,311)	42,405	-	42,405
13	State Income	38,940	108	39,048	36,814	75,862
14	Federal Income	176,765	491	177,256	167,115	344,371
15	Total Taxes	\$ 483,662	\$ (8,739)	\$ 474,923	\$ 203,929	\$ 678,852
16						
17	Total Operating Expenses	\$ 4,327,912	\$ (112,874)	\$ 4,215,038	\$ 203,929	\$ 4,418,967
18	Operating Income (Loss)	\$ 742,768	\$ 121,389	\$ 864,157	\$ 324,399	\$ 1,188,556
19						
20	References:					
21	Column [A]: Company Schedule C-1					
22	Column [B]: Schedule JMR-RB5, Pages 1-3					
23	Column [C]: Column [A] + Column [B]					
24	Column [D]: Schedules JMR-RB1 & JMR-RB5, Pages 12 - 13					
25	Column [E]: Column [C] + Column [D]					
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ARIZONA-AMERICAN WATER COMPANY
PARADISE VALLEY WATER DISTRICT
Docket No. WS-01303A-05-0405
Test Year Ended December 10, 2004
Summary Income Statement Adjustments

LINE NO.	DESCRIPTION	[K]	[L]	[M]	[N]	[O]	[P]	[Q]	[R]	[S]	[T]
1	REVENUES:										
2	Operating Revenue										
3	Total Operating Revenues										
4											
5	OPERATING EXPENSES:										
6	Operations		(9,158)		(56,714)					(199)	(3,247)
7	Maintenance				(20,825)						
8	Depreciation Expense										
9			(9,158)		(77,539)					(199)	(3,247)
10	TAXES										
11	Property Taxes								(12,311)		
12	Payroll										
13	State Income										
14	Federal Income										
15	Total Taxes								(12,311)		
16			(9,158)		(77,539)				(12,311)	(199)	(3,247)
17	Total Operating Expenses										
18	Operating Income (Loss)		9,158		77,539				12,311	199	3,247
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[K] Blank [L] ADJ AAW-8 Partially Accept RUCO ADJ #5 Pension [M] Blank [N] ADJ AAW-9 Partially Accept RUCO ADJ #7 Labor [O] Blank [P] Blank [Q] Blank [R] ADJ AAW-10 Partially Accept RUCO ADJ #11 Payroll Tax [S] ADJ AAW-11 Partially Accept RUCO ADJ #12 Gen. Div. [T] ADJ AAW-12 Partially Accept RUCO ADJ #12 AZ. Corp.

Line No.			
1	<u>Revised Rate Case Expense</u>		
2		\$	301,832
3	Updated Rate Case Expense (Broderick Rebuttal)		
4			100,611
5	Annual Rate Case Expense based on three year amortization		
6			94,280
7	Annual Rate Case Expense in application		
8		\$	<u>6,331</u>
9	Adjustment to Operations Expense		
10		\$	<u>6,331</u>
11	Adjustment to Revenues/Expense		
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Line No.			
1	Correct RUCO Income Statement Adjustment 1: Reclassification of Office Lease		
2			
3	Total adjustment to Office Lease expense per Moore direct testimony	\$	(14,593)
4			
5	Paradise Valley 4-Factor Allocation		8.12%
6			
7	Adjustment to Operations Expense	\$	<u>(1,185)</u>
8			
9	Adjustment to Revenues/Expense	\$	<u>(1,185)</u>
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PARADISE VALLEY DISTRICT
Docket No. WS-01303A-05-0405
Test Year Ended December 10, 2004
Company Income Statement Adjustment AAW-8

Line No.	Description	Amount
1	<u>Partially Accept RUCO ADJ #5: Pension Expense</u>	
2		
3		
4	See rebuttal testimony of Company witness David L. Weber, Exhibit DLW-1	
5		
6	Company accepted portion of RUCO adjustment	
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\$ (9,158)

Line No.	Description	Amount
1	<u>Partially Accept RUCO ADJ #7: Labor</u>	
2		
3		
4	See rebuttal testimony of Company witness David L. Weber, Exhibit DLW-1	
5		
6	Company accepted portion of RUCO adjustment to Operations Labor Expense	(\$56,714)
7	Company accepted portion of RUCO adjustment to Maintenance Labor Expense	(\$20,825)
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ALABAMA-AMERICAN WATER COMPANY, INC. - PARADISE VALLEY DISTRICT
Docket No. WS-01303A-05-0405
Test Year Ended December 10, 2004
Company Income Statement Adjustment AAW-10

Line

No.

1 Partially Accept RUCO ADJ #11: Payroll Tax

2

3

4 See rebuttal testimony of Company witness David L. Weber, Exhibit DLW-1

5

6 Company accepted portion of RUCO adjustment

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(\$12,311)

Line No.			
1	Partially Accept RUCO ADJ #12 Related to Central Division Corporate District Allocated Misc. Expenses		
2	Total RUCO Adjustment to Operations Expense (Moore Dir., Sch. TLM-12, p. 1, line 3)	\$	(1,204)
3	Paradise Valley's portion of miscellaneous expenses related to ice (Biesemeyer Rebuttal)		162
4	Paradise Valley's portion of grounds keeping at Sun City operations center (Biesemeyer Rebuttal)		741
5	Security Service Expense related to Paradise Valley Office (Biesemeyer Rebuttal)		102
6			
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10			
11	Adjustment to Operations Expense	\$	(199)
12	Adjustment to Revenues/Expense	\$	(199)
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Line No.	Description	Amount
1	<u>Partially Accept RUCO ADJ #12 Related to Arizona Corporate Allocated Misc. Expenses</u>	
2		
3	RUCO Adjustment to Arizona Corporate Allocated Misc. Exp.	
4	(Moore Dir. Sch. RLM-12, p. 1, line 4)	
5		
6	Human Resources classified advertising to fill positions in AZ and maintenance	428
7		
8	Maintenance of indoor plants at Phoenix Offices (Biesemeyer Rebuttal)	44
9		
10	Preliminary study for security renovation of Sun City office (Biesemeyer Rebuttal)	83
11		
12	Employment Recruitment (Biesemeyer Rebuttal)	435
13		
14	Executive search fee related to Engineering Manager position (Broderick Rebuttal)	2,733
15		
16	Amortization of Call Center & SSC proj. costs. (Broderick Rebuttal)	8,536
17		
18	NAWC non-lobbying annual dues (Broderick Rebuttal)	1,453
19		
20	Directors Fees (Broderick Rebuttal)	1,274
21		
22	Adjustment to Operations Expense	
23		
24	Adjustment to Revenues/Expense	<u>(3,247)</u>
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LINE NO.	DESCRIPTION	ORIGINAL COST	RATE	EXPENSE
1	300000 Property Held For Future Use	\$ 138,682	0.00%	\$ -
2	301000 Organization	15,350	0.00%	-
3	303500 Land & Land Rights TD	8,324	0.00%	-
4	304100 Structures & Improvements SS	7,953	14.59%	1,160
5	304200 Structures & Improvements P	79,626	3.99%	3,177
6	304300 Struct & Imp WT	3,038,848	2.00%	60,777
7	304400 Struct & Imp TD	23,864	1.50%	358
8	304500 Struct & Imp AG	20,130	4.63%	932
9	304700 Struct & Imp Stone,Shop,Gar	93,285	4.63%	4,319
10	304800 Struct & Imp Misc	149,284	4.63%	6,912
11	307000 Wells & Springs	1,252,563	2.48%	31,064
12	311200 Pump Equip Electric	3,337,081	4.39%	146,498
13	311300 Pump Equip Diesel	59,421	4.39%	2,609
14	320100 WT Equip Non-Media	5,825,149	7.06%	411,255
15	330000 Dist Reservoirs & Standpipes	912,619	3.15%	28,747
16	331100 TD Mains 4in & Less	706,252	4.17%	29,451
17	331200 TD Mains 6in to 8in	4,409,791	2.52%	111,127
18	331300 TD Mains 10in to 16in	8,522,708	2.34%	199,431
19	333000 Services	2,178,857	4.72%	102,842
20	334100 Meters	328,579	7.21%	23,691
21	334200 Meter Installations	103,799	1.51%	1,567
22	335000 Hydrants	988,184	2.10%	20,752
23	340100 Office Furniture & Equip	63,617	4.04%	2,570
24	340200 Comp & Periph Equip	99,216	15.89%	15,765
25	340300 Computer Software	164,275	37.71%	61,948
26	340500 Other Office Equipment	25,224	7.13%	1,798
27	341100 Trans Equip Lt Duty Trks	14,087	28.05%	3,951
28	341300 Trans Equip Autos	19,307	7.80%	1,506
29	341400 Trans Equip Other	13,606	0.93%	127
30	343000 Tools,Shop,Garage Equip	83,867	3.61%	3,028
31	345000 Power Operated Equipment	147,066	4.64%	6,824
32	346100 Comm Equip Non-Telephone	290,493	9.76%	28,352
33	346300 Comm Equip Other	81,454	7.91%	6,443
34	Total	\$ 33,202,558		\$ 1,318,981
35	Corporate Allocation (already included in above amounts)			5,256
36	Amortization of Mummy Mountain Acquisition Costs (Per RUCO Income Statement Adjustment 8)			(525,004)
37	Less: Amortization of CIAC			
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\$ 799,233
 \$ 720,578
 \$ 78,655

Company Revised Depreciation Expense
 Company Original Proposed Depreciation Expense
 Company Adjustment

LINE NO.	DESCRIPTION	AMOUNT
1	Adjusted Test Year Revenues	\$ 5,079,195
2	Weight Factor	2
3	Subtotal (Line 1 x Line 2)	10,158,390
4	Company Proposed Revenue	5,607,523
5	Subtotal (Line 3 + Line 4)	15,765,913
6	Number of Years	3
7	Three Year Average (Line 5 / Line 6)	\$ 5,255,304
8	Department of Revenue Multiplier	2
9	Revenue Base Value (Line 7 x Line 8)	\$ 10,510,609
10	Plus: 10% of CWIP	8,933
11	Less: Net Book Value of Licensed Vehicles	\$ 10,501,676
12	Full Cash Value (Line 9 + Line 10 - Line 11)	25%
13	Assessment Ratio	\$ 2,625,419
14	Assessment Value (Line 12 x Line 13)	8,235,40%
15	Composite Property Tax Rate	\$ 216,214
16	Company Revised Property Tax Expense	\$ 213,241
17	Company Original Proposed Property Tax Expense	\$ 2,973
18	Company Rebuttal Adjustment	
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Line No.	Calculation of Income Taxes at Proposed Rates	Company Rebuttal Adjusted Test Year	Company Revised Proposed
1	Operating Income Before Inc. Taxes	\$ 1,080,461	\$ 1,608,789
2	Interest Expense	520,071	520,071
3	Arizona Taxable Income	\$ 560,390	\$ 1,088,718
4	Less Arizona Income Tax	39,048	75,862
5	Arizona Income Tax Rate =		6.968%
6	Federal Income Before Taxes	\$ 521,342	\$ 1,012,856
7	Less Arizona Income Taxes	177,256	344,371
8	Federal Income Taxes:		34,000%
9	Total Income Tax	\$ 216,304	\$ 420,233
10	Tax Rate	38.60%	38.60%
11	Effective Income Tax Rates	6.968%	6.968%
12	State	31.63%	31.63%
13	Federal	1.6286	1.6286
14	Revenue Conversion Factor		
15	Original Company Test Year State Income Taxes	\$ 38,940	
16	Revised Company Test Year State Income Taxes	39,048	
17	Adjustment to State Income Taxes	\$ 108	
18	Original Company Test Year Federal Income Taxes	\$ 176,765	
19	Revised Company Test Year Federal Income Taxes	177,256	
20	Adjustment to Federal Income Taxes	\$ 491.37	
21	Calculation of Interest Synchronization:		
22	Rate Base (Schedule JMR-RB1, Col. [B], Line 1)	\$ 15,166,114	\$ 15,166,114
23	Weighted Average Cost of Debt	3.43%	3.43%
24	Synchronized Interest (L36 x L37)	\$ 520,071	\$ 520,071

Line No.	Calculation of Interest Synchronization:	Company Rebuttal Adjusted Test Year	Company Revised Proposed
25	Rate Base (Schedule JMR-RB1, Col. [B], Line 1)	\$ 15,166,114	\$ 15,166,114
26	Weighted Average Cost of Debt	3.43%	3.43%
27	Synchronized Interest (L36 x L37)	\$ 520,071	\$ 520,071

Exhibit 1

EXHIBIT JMR-RB1

Decision No. 59079, Dated May 5, 1995

BEFORE THE ARIZONA CORPORATION COMMISSION

Arizona Corporation Commission
DOCKETED

MAY 5 1995

DOCKETED BY ES

RENZ D. JENNINGS
CHAIRMAN
MARCIA WEEKS
COMMISSIONER
CARL J. KUNASEK
COMMISSIONER

IN THE MATTER OF THE APPLICATION OF)
PARADISE VALLEY WATER COMPANY, AN)
ARIZONA CORPORATION, FOR)
ADJUSTMENTS TO ITS RATES AND)
CHARGES FOR UTILITY SERVICE.)

DOCKET NO. U-1303-94-182

DECISION NO. 59079

OPINION AND ORDER

PRE-HEARING:

January 19, 1995

DATES OF HEARING:

January 23, 24, and 25, 1995

PLACE OF HEARING:

Phoenix, Arizona

PRESIDING OFFICER:

Jerry L. Rudibaugh

IN ATTENDANCE:

Renz D. Jennings, Chairman
Marcia Weeks, Commissioner

APPEARANCES:

RYLEY, CARLOCK & APPLEWHITE, by Mr.
Norman D. James, on behalf of Paradise Valley Water
Company;

FENNEMORE CRAIG, P.C., by Mr. C. Webb
Crockett, on behalf of Paradise Valley Country Club;

Ms. Elaine A. Williams, Attorney, on behalf of the
Residential Utility Consumer Office; and

Mr. Paul A. Bullis, Chief Counsel, and Ms. Karen E.
Nally, Staff Attorney, Legal Division, on behalf of the
Utilities Division of the Arizona Corporation
Commission.

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BY THE COMMISSION:

On April 29, 1994, Paradise Valley Water Company ("Applicant" or "Company") filed an application with the Arizona Corporation Commission ("Commission") requesting a hearing to determine the "fair value" of its property for ratemaking purposes, to fix a just and reasonable rate of return, and thereafter to approve rate schedules designed to produce said return. On May 31, 1994, the Commission's Utilities Division Staff ("Staff") filed a notice in this docket that the application met the sufficiency requirements of A.A.C. R14-2-103 and that the Company has been classified as a Class B utility.

On June 15, 1994, the Residential Utility Consumer Office ("RUCO") requested intervention which was granted on June 27, 1994. On September 21, 1994, the Paradise Valley Country Club ("Country Club") requested intervention which was granted on October 18, 1994.

This matter came before a duly authorized Hearing Officer of the Commission at the Commission's offices in Phoenix, Arizona on January 23, 1995. Applicant, the Country Club, RUCO and Staff appeared through counsel. Evidence was presented and, after a full public hearing, this matter was adjourned pending submission of a Recommended Opinion and Order by the Presiding Officer to the Commission.

I. INTRODUCTION

Applicant provides water service within portions of the Town of Paradise Valley, the City of Scottsdale, and certain unincorporated areas within Maricopa County, Arizona. All of the Company's certificated area is located within the Phoenix Active Management Area. During the test year ("TY") ended December 31, 1993, the Company provided water service to approximately 4,300 customers. The majority of Applicant's customers are residential customers, many of whom own large dwellings situated on large lots with extensive landscaping and improvements. Applicant serves the Country Club and two other turf-related facilities, several large resorts, and other commercial customers who require relatively large quantities of water. Applicant also sells water for resale to Mummy Mountain Water Company, another certificated utility. The Company requested an increase in revenues of \$508,323 or approximately 20 percent. Staff recommended a gross revenue increase of \$278,432 or 11.02 percent. RUCO recommended a gross revenue increase of \$23,698 or less than one percent.

II. RATE BASE

1
2 The Company proposed an original cost rate base ("OCRB") of \$3,792,726. This was a
3 substantial increase over the \$2,251,947 OCRB as determined in Decision No. 58419, dated
4 September 30, 1993. The majority of the increase in OCRB occurred because of the addition of Well
5 No. 17 into service subsequent to the issuance of Decision No. 58419. Both Staff and RUCO
6 recommended several adjustments to the Company's proposed OCRB. Staff and RUCO's
7 recommended OCRB were \$3,674,960, and \$3,410,779, respectively.

A. Post-In-Service AFUDC

8
9 RUCO, Staff and the Company were in agreement that the accounting standards promulgated
10 by the National Association of Regulatory Utility Commissioners ("NARUC") normally require
11 allowance for funds used during construction ("AFUDC") to cease once the plant is completed and
12 placed in service. In this case, the Company has requested to extend the AFUDC allowance to
13 include the period from its "in service" date of Well No. 17 through May 1995 to compensate the
14 Company for the perceived effects of "regulatory lag".

15 Staff and RUCO both opposed the Company's post-in-service AFUDC. Staff was critical of
16 the Company for not requesting prior approval to continue to record post-in-service AFUDC. Further,
17 Staff was of the opinion that NARUC Accounting Instruction No. 19, subpart 17, requires that
18 "AFUDC shall cease" when a project is placed in operation or is ready for service. RUCO asserted
19 that the Company's alleged regulatory lag works in both directions in that there is also plant included
20 in rate base earning a return on a certain amount even though that amount will be depreciated each
21 year. As an example, RUCO indicated that in 1992 the Company added plant-in-service in the
22 amount of \$133,000 while depreciation accruals totaled \$148,000. In response to the Company's
23 citations of cases in other state jurisdictions which permitted post-in-service AFUDC, RUCO asserted
24 those cases dealt primarily with billion dollar nuclear projects which often take years to build.
25 According to RUCO, the Company's construction of Well No. 17 did not result in "dire financial"
26 problems comparable to construction of a nuclear plant.

27 We concur that the general rule is to cease accruing AFUDC when the plant is placed in
28 service. Further, we believe that RUCO's "two-sided effects" argument provides an insight as to why

1 it is normally fair to cease accruing AFUDC. In this case however, we are presented with the issue
2 as to whether or not the relative size of the Company's investment in Well No. 17 would merit
3 departure from normal accounting treatment. We believe such departure is justified under the
4 circumstances of this case: the investment in question is approximately 40 percent of the Company's
5 previous investment in its entire system; the in-service date occurred shortly after the Company's
6 previous rate case decision; and the Company has done an excellent job of keeping its interest costs
7 at a reasonable level.¹ As a result of the above, we will approve the Company's post-in-service-
8 AFUDC in the amount of \$40,498. We note that Staff had an additional disallowance for AFUDC
9 in the amount of \$12,523 which the Company did not oppose.

10 B. Plant Held for Future Use

11 The Company included a back-up pump in its OCRB in the amount of \$7,544.38. RUCO
12 recommended removal of this amount since it was property that was being held for future use and was
13 not currently being used in the provision of water service.

14 In response, the Company indicated that the pump on Well No. 15 had become inoperable and
15 a new pump was installed. Subsequently, the Company had the old pump rebuilt to be used in the
16 case of another pump failure. According to the Company, it can take up to three weeks to rebuild
17 or purchase a new pump. Consequently, the Company was of the opinion that maintaining a spare
18 pump was a benefit to its customers.

19 RUCO disagreed with the Company's response. RUCO indicated that if the Company's
20 rationale was accepted, the Company could replicate its entire plant to be held as stock in case of an
21 emergency.

22 Although the rebuilt pump is not currently being used, we do find it useful and prudent to
23 maintain it as a backup pump. Accordingly, we must deny RUCO's recommended removal of
24 \$7,544.38 from OCRB.

25 C. Materials and Supplies Inventory

26 The Company had included the end of the TY amount of \$28,293 as representative of its on-

27 _____
28 ¹ The Company has requested post-in-service AFUDC based on a short-term borrowing
rate of 4.32 percent.

1 going materials and supplies inventory. Because that amount was significantly above the two previous
2 year ending levels. Staff reduced the inventory level by \$6,216 to reflect the average balance over the
3 last three years. According to Staff, it is more appropriate to use an average value to reflect a
4 normalized level for a fluctuating inventory amount rather than an end of TY amount which may not
5 be reflective of the average inventory level.

6 In response, the Company indicated that the inventory level has increased as a result of
7 changed procedures by the Company. According to the Company, it has determined that its parent
8 company, American Water Works Company ("AWWC"), can purchase materials and supplies on a
9 national contract at a significant savings over purchasing materials from a local vendor on an
10 emergency basis. As a result, the Company had to increase its inventory level. The Company
11 provided a copy of its response to Staff data request JLF-109 as an exhibit to the rebuttal testimony
12 of Mr. David Stephenson apparently to demonstrate the savings resulting from a national purchasing
13 contract.

14 We concur with Staff. In this case, we find an average inventory level is more representative
15 of the on-going level rather than the high end of TY level. Although the Company has put forward
16 a reasonable argument for increasing its on-going inventory level, we are unable to conclude from the
17 JLF-109 data response that there are demonstrative savings resulting from a national purchasing
18 contract.

19 D. Construction Work-In-Progress

20 Staff recommended the Company's proposed rate base be adjusted by \$24,175 for removal of
21 construction work-in-progress ("CWIP"). According to Staff, this amount was already included in the
22 Company's pro forma adjustments to rate base.

23 In response, the Company indicated that Staff had only allowed \$60,933 for construction costs
24 for the Miller Road Booster Station Project. The Company acknowledged that the \$60,933 amount
25 was provided to Staff by the Company. According to the Company, the \$60,933 amount was only
26 for the 1992 period and did not include \$24,175 of construction costs from 1993. Consequently, the
27 Company asserted that Staff's proposed \$24,175 adjustment was not proper.

28 Staff subsequently agreed with the Company's position. We concur.

1 E. Chlorinator Parts

2 The Company included \$3,161 in TY expenses for the rebuilding of four chlorinator units.
3 According to Staff, the rebuilding of these units would increase the life of the units by three to five
4 years. Staff was of the opinion that this would constitute a plant betterment as defined in the NARUC
5 Uniform System of Accounts. As a result, Staff recommended disallowing the expense amount of
6 \$3,161 and increasing rate base by \$6,812.²

7 In response, the Company agreed that repairing the chlorinator facilities will extend the life
8 of the plant. However, the Company indicated that the replacement of the parts is an anticipated
9 maintenance item in order for the original expected life of the chlorinator facilities to be reached. The
10 items that were repaired or replaced were clamp rings, o-rings, valve bodies, springs, valve seats,
11 filters, valve heads, spare parts, yokes and switchover modules. Since these are clearly not retirement
12 units, the Company asserted they should not be capitalized.

13 We concur with the Company. While it appears these items could be either expensed or
14 capitalized, we find that the Company's approach is reasonable and should be approved.

15 F. Meter Boxes

16 The Company included \$1,066 in TY expenses for work on 15 meter boxes. According to
17 Staff, the meter boxes represent a retirement unit and should be capitalized since they benefit more
18 than the current year. Staff recommended disallowance of the expense amount of \$1,066 and
19 increasing rate base by \$4,806.³

20 In response, the Company asserted the meter boxes were not a retirement unit. According to
21 the Company, the cost of these items is very minor while the amount of paperwork to retire and
22 capitalize every meter box would be substantial.

23 We concur with the Company. Based on the average cost of \$71.07 per meter box repaired,
24 these appear to be minor repairs which were appropriately expensed.

26 ² The difference in Staff's capital adjustment and expense adjustment resulted from
27 Staff's sampling method as subsequently discussed.

28 ³ The difference in Staff's capital adjustment and expense adjustment resulted from
Staff's sampling method as subsequently discussed.

1 G. Miscellaneous Adjustments

2 The following are adjustments which RUCO or Staff proposed and the Company subsequently
3 concurred with:

	<u>Adjustment</u>	<u>Amount</u>
5	1. Staff adjustment to accumulated depreciation	(\$51,129) ⁴
6	2. RUCO adjustment for retired meters	0 ⁵
7	3. Staff and RUCO adjustments to Cash Working Capital	
8	A. Accrued Vacation Pay	(\$17,400)
9	B. Prepaid CAP Costs	(\$30,695)
10	C. Deferred CAP Expenses	(\$29,260)
11	4. Staff and RUCO adjustments for a double count for costs for a Comprehensive Planning Study ("CPS")	(\$ 7,448)

11 H. Working Capital

12 The Company performed a lead/lag study of its cash working capital requirements. That study
13 showed a requirement of \$6,100, which the Company included as a component of the working capital
14 portion of rate base. Staff and RUCO recommended downward adjustments to the Company's
15 proposed cash working capital in the amount of \$38,200 and \$42,623, respectively.

16 The primary adjustment made by Staff and RUCO were removal of "non-cash" items such as
17 depreciation expenses and deferred income taxes from the calculation. RUCO removed rate case
18 expense amortization from the lead/lag study. RUCO also determined that the Company had
19 inadvertently failed to include TY pension expenses in the expense lag calculation for which RUCO
20 made an adjustment using a 45-day lag period.

21 In response, the Company was critical of the proposed adjustments for the "non-cash" items
22 as well as the rate case expense amortizations. According to the Company, the appropriateness of
23 these adjustments are based on "opinions and not requirements or hard and fast rules". Further, the
24 Company asserted that the Company rate base will be understated unless the depreciation accrual and
25

26 ⁴ A reduction in accumulated depreciation will result in a corresponding increase to
27 OCRB.

28 ⁵ The adjustment to plant-in-service is offset by a corresponding adjustment to
accumulated depreciation.

1 rate case expense amortization are accounted for in the cash working capital calculation. Although
2 the Company concurred with RUCO's inclusion of TY pension expenses, the Company indicated the
3 appropriate lag day should have been zero, not 45 days as used by RUCO. The Company also
4 acknowledged that it had originally provided RUCO with the erroneous 45 day information.

5 As we have stated in numerous other decisions, the calculation is for "cash working capital"
6 and not "cash and non-cash working capital". Similarly, the Commission recently indicated in
7 Decision No. 58360, dated July 23, 1993, that it was appropriate to remove rate case expenditures
8 from the cash working capital requirement. Based on all the above, we will approve RUCO's
9 proposed adjustment, as corrected, using a zero lag period for the pension expenses. The resulting
10 adjustment would be a decrease in cash working capital of \$40,228.

11 I. Monthly Compounding of AFUDC

12 RUCO was critical of the Company for compounding AFUDC on a monthly basis. According
13 to RUCO, such compounding artificially inflates the Company's construction expenditures and
14 corresponding rate base. This problem was recognized by the Federal Power Commission in Order
15 No. 561 in which it prohibited monthly compounding of AFUDC:

16 We agree that the compounding of AFUDC is proper in theory and
17 necessary as a matter of sound cost determination; however, we believe
18 that a monthly compounding of AFUDC as suggested by some
19 respondents may result in excessive amounts capitalized since cash
outlays for interest and dividends are not normally made on a monthly
basis. We therefore permit compounding but no more frequently than
semiannually.

20 In addition, RUCO noted that the Commission has previously accepted Order No. 561 in Consolidated
21 Water Company, Decision No. 58260, dated April 23, 1992.

22 The Company acknowledged it does not pay dividend payments on a monthly basis, but it does
23 pay interest expense monthly. Further, the Company asserted that funds for construction are supplied
24 by internally generated funds and retained earnings. When those sources are not available, the
25 Company must use new debt. Since it must pay interest costs on a monthly basis on total debt, the
26 Company opined that the avoided cost method would require monthly compounding. The Company
27 also noted that Order No. 561 applies to federally regulated gas utilities and not medium-sized
28 Arizona water utilities.

1 We concur with RUCO that compounding of interest can artificially inflate rate base especially
 2 if done on a monthly basis. Further, consistent with Decision No. 58260, if any compounding of
 3 interest is to be allowed it should not be more frequent than semi-annually. Accordingly, we will
 4 order the Company to modify its AFUDC accrual methodology and compound no more frequently
 5 than semi-annually.

6 J. Payment-in-Lieu-of-Revenues

7 The Commission in Decision Nos. 58221, dated March 24, 1993, and 58423, dated October
 8 14, 1993, granted the Company's request to approve agreements entered into with developers for the
 9 Monterey Homes and Lincoln Estates subdivisions, respectively. Each of the agreements contained
 10 the following provisions:

- 11 A) The developers will construct the distribution facilities necessary to service the homes
 12 they will build;
- 13 B) Upon completion of the distribution facilities, the developers will transfer ownership
 14 of the facilities to the Company in exchange for a loan to the Company in the amount
 15 of the total construction cost; and
- 16 C) The developers agreed to make payments to the Company for each lot which does not
 17 have permanent water service in order to compensate the Company for the cost of
 18 owning, operating, and maintaining the facilities within the development that are not
 19 serving customers. These payments are referred to as payments-in-lieu-of-revenues
 20 ("PILORS").

21 RUCO was critical of the manner in which the Company treated PILORS for rate-making
 22 purposes. In particular, RUCO criticized the Company for including the cost of the line extensions
 23 in rate base and for including depreciation expenses on 100 percent of the line extension costs. Since
 24 the PILORS offset the debt payments that the Company makes to the developer(s) for each
 25 unoccupied lot, RUCO was of the opinion the PILORS are nothing more than another name for
 26 advances-in-aid-of-construction ("advances"). As a result, RUCO recommended several adjustments
 27 to the Company's proposed ratemaking treatment including the following:

- 28 A) Removal of the debt associated with the line extensions from the capital structure;
- B) Remove any unrefunded advance from rate base; and
- C) Remove the depreciation expense on the net advance amount from operating expenses.

Based on the above, RUCO recommended a reduction in rate base in the amount of \$185,705.

1 In response, the Company asserted the PILOR arrangements are clearly not the same as
 2 advances. Unlike an advance, PILORS involve an actual loan which must be repaid. If the Company
 3 had utilized advances, this would have constituted taxable income to the utility at a "gross-up" rate
 4 of approximately 70 percent. In addition, the Company asserted that even if these were advances,
 5 depreciation expense would still be allowed.

6 We share some of RUCO's concerns regarding the PILOR financing arrangements. However,
 7 we find that because of the gross-up of taxes on advances and contributions, that a PILOR
 8 arrangement is a reasonable alternative to minimize the risk and costs to the Company and its
 9 ratepayers. We do find there is a legitimate loan arrangement and as a result the Company does have
 10 an investment in the cost of the line extension. It is also important to note that the two developments
 11 in question are building out quickly. In fact, the Company indicated that the Monterey Homes
 12 subdivision was almost entirely built-out. As a result, we do not find any shift of risk from the
 13 developers to the ratepayers. There may be different scenarios in which the development is a failure
 14 whereby RUCO's recommended rate-making approach would be appropriate in order to not shift the
 15 cost of the failed development to ratepayers. As a result, we want to make it clear that we will
 16 analyze each PILOR arrangement on a case by case basis for the proper rate-making treatment. Based
 17 on all the above, we will approve the Company's rate-making treatment of the PILOR arrangements
 18 for the Monterey Homes and Lincoln Estates subdivisions.

19 K. Original Cost Rate Base Summary

20 Based on the foregoing, the following statement details the adjusted TY OCRB for ratemaking
 21 purposes for Applicant:

22	<u>Applicants Proposed Adjusted Rate Base</u>	\$3,792,726
23	<u>Commission Approved Adjustments</u>	
	AFUDC	(\$ 12,523)
24	Materials and Supplies	(\$ 6,216)
	Miscellaneous	(\$ 33,674)
25	Working Capital	(\$ 40,228)
	PBOPs*	(\$ 5,804)
26	<u>Commission Adjusted Rate Base</u>	\$3,694,281

27
 28 * See subsequent PBOPs discussion involving operating expenses.

III. RECONSTRUCTION COST NEW RATE BASE

In Schedule B-1 of Applicant's Exhibit No. 1, Applicant presents a jurisdictional reconstruction cost new rate base ("RCNRB") of \$8,496,549. All of the adjustments reflected in our determination of the OCRB are equally applicable to the RCNRB. No change in these adjustments is necessary to restate them in terms of reconstruction cost new. Thus, the RCNRB is \$8,398,104.

IV. FAIR VALUE RATE BASE

The Commission has traditionally determined the "fair value" rate base ("FVRB") by taking the average of OCRB and RCNRB. No party has suggested that a different weighing be used in this proceeding. Consequently, we find that the adjusted FVRB for the Company is \$6,046,193.

V. OPERATING INCOME

A. Revenue Annualizations

Applicant had actual revenues during the TY of \$2,361,680. The Company adjusted that amount upward by \$168,677. The majority of the revenue adjustment was to normalize revenues to reflect new rates effective October 1, 1993.

The Company began to serve customers in the Monterey Homes and Lincoln Estates subdivisions during the TY. The Monterey and Lincoln subdivisions consisted of 113 and 15 lots, respectively. During the TY, 57 of the lots in the Monterey subdivision had homes which became occupied and 3 of the lots in the Lincoln subdivision had homes which became occupied. The Company removed the consumption for the occupied homes from TY consumption. In addition, the Company adjusted TY revenues to include PILOR revenues as if all 128 of the Monterey and Lincoln lots were unoccupied. The Company also included an adjustment to annualize the number of customers to TY-end levels. This adjustment was based on an annualized level of TY-end bill counts.

Staff included the consumption for the Monterey and Lincoln subdivisions in TY revenues. In addition, Staff recomputed the PILOR revenues to include only those lots which did not have occupied homes as of the end of the TY. The net result of Staff's adjustments was to decrease the Company's proposed TY revenues by \$4,734.

RUCO made an adjustment similar to Staff's related to the consumption of the Monterey and Lincoln customers. In addition, RUCO reversed a Company adjustment for water consumption by

1 Monterey Management, Inc. ("Developer"). During the TY, the Developer utilized water for
2 construction, model homes, and for common landscape areas, community pool, and recreation
3 facilities. The Company removed the Developer's consumption from TY revenues. In fact, of the
4 372 bills the Company removed from the TY bill count, 332 were Developer bills. RUCO argued
5 that even after completion of all construction, there will still be water consumption for the common
6 landscape areas, community pool, and recreational facilities. As to the other water consumption by
7 the Developer, RUCO asserted that permanent customers would replace the consumption of the
8 Developer.

9 While RUCO agreed that such an adjustment was necessary to annualize the customers to TY-
10 end levels, RUCO criticized the Company for not including an adjustment for water consumption.
11 RUCO computed the TY-end number of customers for each customer class and meter size and
12 multiplied the difference in the number of customers from the TY average number by the average
13 consumption for each customer class and meter size.

14 In response, the Company asserted that RUCO's proposed revenue adjustments were flawed
15 and misleading. RUCO has assumed that the customers in the Monterey and Lincoln developments
16 were consuming at the same level as the average of all of Applicant's 1-inch meter class of residential
17 customers. The Company indicated it provided in response to RUCO data request 1.37, the actual
18 consumption for the first six months of 1994 for the Monterey and Lincoln customers. The actual
19 consumption was 8,800 gallons of water per month which paled in comparison to RUCO's assumed
20 amount of 53,000 gallons per month.

21 RUCO did not dispute that some of the customers in the Monterey and Lincoln subdivisions
22 used less than the average for residential 1-inch meters. On the other hand, RUCO pointed out that
23 the Company has disregarded a Monterey customer whose average TY usage was in excess of 400,000
24 gallons a month. Lastly, RUCO asserted that if the Company believes the customers of the new
25 subdivisions will consume far less than the average for other 1-inch meters, the Company should not
26 have installed 1-inch meters in the subdivisions.

27 Finally, the Company emphasized that RUCO's revenue adjustment was not known and
28 measurable, and that RUCO did not adjust expenses (other than purchased power) to correspond to

1 its revenue adjustment. According to the Company, other expenses which would increase are postage,
2 data processing costs, bill forms, and lock box fees.

3 We concur with RUCO that it would be appropriate that the TY revenues be annualized to
4 reflect the Company's end-of-year customer level, including water consumption. While the Company
5 may be correct that the usage by the customers in the Monterey Homes and Lincoln Estates may be
6 less than the system wide average, we find that RUCO's methodology is reasonable under the
7 circumstances. We also must concur with RUCO's observation that if these customers are not
8 expected to use anywhere near the average use of other 1-inch meter customers, perhaps they should
9 be served with 5/8-inch meters at a lower cost. Further, we concur with RUCO's inclusion of the
10 water consumption by the Developer for the reasons set forth by RUCO. Although we concur with
11 the Company that expenses should also have been annualized for the increased consumption, we note
12 this issue was not raised by the Company until after RUCO had filed its surrebuttal testimony. Even
13 with that, we would have adopted an expense annualization if one had been provided by the Company
14 in its rejoinder testimony. Based on all the above, we will approve RUCO's proposed revenue
15 adjustment in the amount of \$88,933.

16 B. Annual Operating Expenses

17 Applicant had actual operating expenses for the TY of \$2,180,301. The Company proposed
18 pro forma adjustments of \$347,344 for TY adjusted expenses of \$2,527,645. Staff proposed
19 adjustments which resulted in TY adjusted expenses of \$2,366,513. RUCO proposed adjustments
20 which resulted in TY adjusted expenses of \$2,356,068.

21 1. Post-Retirement Benefits Other Than Pensions

22 The Company requested a change in the accounting treatment of post-retirement benefits other
23 than pensions ("PBOPs") from the cash method to the accrual method. According to the Company,
24 it was required to adopt the accrual method of accounting for financial reporting purposes pursuant
25 to the Statement of Financial Accounting Standards No. 106 ("FAS No. 106"), which became effective
26 for the Company as of January 1, 1993. The Company had also requested approval of the FAS No.
27 106 accrual expenses in its previous rate case. That request was denied in Decision No. 58419. The
28 Company's request at that time was criticized because: the Company did not have final approval to

1 fund accrual treatment of PBOPs; the assumptions required to be made to determine the proper level
2 of accrual rendered the accrual method not known and measurable; and the amortization of the
3 transition obligation presented retroactive ratemaking problems and may not have alleviated
4 intergenerational inequities.

5 Subsequent to Decision No. 58419, the Company entered into a trust agreement under which
6 it is obligated to fully fund the FAS No. 106 expense. As a result, the Company indicated the
7 conditions have changed since its last rate case.

8 Staff and RUCO both opposed the Company's request to switch to the accrual method for
9 PBOPs. Each cited previous decisions in which the Commission has denied recovery of the FAS No.
10 106 costs. Although the Company has begun to fund the FAS No. 106 expense. Staff and RUCO
11 indicated the remaining problems such as retroactive ratemaking, intergenerational inequities, and the
12 fact that the liability for future obligations to make PBOP payments is not known and measurable,
13 still exist.

14 According to Staff, the cash method for PBOPs would be the actual costs "paid-out" to current
15 retirees of the Company. The Company indicated its parent company did not currently compile the
16 actual costs for retiree benefits by operating company. As a result, the Company utilized an allocated
17 amount that is paid into the irrevocable trust fund as the cash amount for PBOPs. In a response to
18 a data request, the Company computed that amount to be \$32,872. Based on the information
19 available, Staff concluded that amount was reasonable and recommended approval of \$32,872 as the
20 cash amount for PBOPs for the TY. Consistent with that recommendation, Staff recommended
21 disallowance of the difference between the \$91,488 accrual amount and the \$32,872 cash amount or
22 \$58,617.

23 RUCO computed the costs to ratepayers over the next twenty-one years of the cash method
24 versus the accrual method and determined that the accumulated costs of the cash method was less by
25 over \$800,000. Furthermore, RUCO calculated it would take 40 years before the cumulative present
26 value of the cash payments would be greater than the accrual present value. As a result of the above
27

28 _____
The Company had included \$52,813 in expenses and capitalized \$5,804 in rate base.

1 calculations as well as the previous reasons listed, RUCO recommended the Commission continue to
2 set rates based on the cash method for PBOPs. RUCO recommended removal of \$52,813 from
3 operating expenses and \$5,804 from rate base for the Company's FAS No. 106 accrual costs.

4 In response, the Company reiterated its position regarding the accrual method for PBOPs. In
5 addition, the Company argued that Staff had not even allowed enough expenses for the cash method.
6 Although Staff indicated they had allowed \$32,872 of expenses for the cash method, the Company
7 asserted that Staff had actually allowed \$13,842 as part of the group insurance costs. According to
8 the Company, it had paid a net total of \$17,105.45 for retirees based on insurance premiums during
9 the TY. Further, the Company estimated the actual costs for the cash method for fiscal 1993-1994
10 was \$31,537. As a result, the Company indicated the minimum expense amount that should be
11 allowed under a cash approach is \$49,094⁸.

12 RUCO indicated that the Company's requested \$31,537 and \$17,557 amounts do not represent
13 cash outlays by the Company. The \$31,573 amount is an estimated amount that AWWC paid out
14 of its trust fund during the 1993-1994 fiscal year to cover retirees' claims while the \$17,557 amount
15 represents the amount of future post retirement benefits that current employees are deemed to have
16 earned in the current period.

17 We acknowledge that this Company, unlike most others who have come before the
18 Commission on the PBOP issue, does have a trust fund set up which is earning a return. We consider
19 this a positive difference from previous cases regarding the possible adoption of accrual accounting
20 for PBOPs. However, we are still not convinced that a change from the cash method to an accrual
21 method which includes past and current costs is appropriate at this time. We are making this decision
22 based upon an overall comparison of the cash method versus an accrual method which includes
23 amortization of unpaid obligations ("Transition Costs"). We share some of the Company's concerns
24 regarding intergenerational inequities. Ideally, each generation of customers will pay the PBOP costs
25 that directly benefit them and not pay those costs which directly benefit other generations of
26 customers. The existence of the Transition Costs demonstrates that the cash method does not meet
27

28 ⁸ This amount includes \$17,557 for the portion of PBOP related to current employees.

1 the ideal situation of matching costs and benefits. A change to the accrual method without
2 consideration of the Transition Costs could provide a better match of costs and benefits. However,
3 the Company has not indicated a willingness to switch to a straight accrual method without Transition
4 Costs. Based on the above, we will not recognize for ratemaking purposes the effect of the
5 accounting change proposed by the Company for post-retirement benefits.

6 That leads us to the next issue which is the appropriate amount to allow for TY expenses for
7 the cash method. Although the Commission has dealt with the PBOP issue numerous times, this is
8 the first time there has been disagreement as to the amount of the cash method. This disagreement
9 is the direct result of the Company's confusing presentation of PBOP costs, group insurance costs,
10 and various estimated costs. With that all said, we have found that the correct TY amount is the
11 retirees net group insurance amount of \$17,105.45. Furthermore, we will amend the group insurance
12 costs to reflect this amount. At the same time, we will remove \$52,813 from operating expenses and
13 \$5,804 from rate base for the Company's FAS No. 106 accrual costs.

14 2. Group Insurance

15 The Company proposed an upward adjustment to TY group insurance expense of \$22,082.
16 This adjustment was made to reflect the Company's fully staffed level of thirteen employees and to
17 include an estimated inflation factor of eight percent for projected costs at the end of 1994. Staff
18 supported the increase to reflect an employee level of thirteen but opposed the increase to reflect an
19 eight percent inflation factor. Staff determined that medical insurance premiums were increased by
20 an inflation factor of four percent in July 1994. Staff proposed a downward adjustment of \$2,040
21 from the Company's adjustment to reflect an actual four percent inflation rate in lieu of the estimated
22 eight percent rate. Staff included \$13,748 for insurance expenses related to the cash method for
23 PBOPs.

24 RUCO recommended a decrease in the Company's proposed group insurance expenses in the
25 amount of \$13,903. The primary adjustments made by RUCO were attributable to the use of twelve
26 employees since that was the number during the TY, and for the use of a zero inflation factor. RUCO
27 also included \$11,770 in group insurance expense as the net cost of insuring the current level of
28 retirees.

1 We generally concur with Staff's proposed adjustment. However, it is our understanding that
 2 the actual net costs for retirees based on insurance premiums was \$17,105 during the TY. As a result
 3 we will increase Staff's adjustment by \$17,105 - \$13,748 or \$3,357. The net adjustment would be
 4 an increase to the Company's group insurance expenses in the amount of \$3,357 - \$2,040 or \$1,317.

5 **3. Sampling Methodology**

6 Staff examined the Company's TY expenses by testing a sample of 264 expense items. Of
 7 those items reviewed, Staff disputed 21 items totaling \$12,266.70. Based on its sampling
 8 methodology, Staff recommended a disallowance of \$78,829.42. Pursuant to Staff's methodology,
 9 it was determined that each disallowance had a representative value of \$6.812. This value was
 10 determined by taking the total population of \$1,798,354 and dividing by the number of sample items
 11 of 264. If Staff reviewed an invoice and disputed the total amount, they recommended a disallowance
 12 of \$6,812 no matter what was the actual amount on the invoice. If only a portion of the invoice was
 13 disputed, then the corresponding ratio of Staff's representative sample amount was recommended for
 14 disallowance. The actual amounts disputed and the recommended disallowances are as follows:

Description	Actual Amount	Staff's Disallowance
1. U S West Late Charges	\$ 18.18	\$ 100.62
2. Chlorinator Parts - Capitalize	\$ 3,160.89	\$ 6,812.00
3. Meter Boxes-Capitalize	\$ 752.24	\$ 4,805.87
4. Safety Magazine	\$ 25.00	\$ 6,812.00
5. Prior Rate Case Expense	\$ 118.00	\$ 109.08
6. CAP Legal Fees	\$ 490.00	\$ 648.46
7. CAP Legal Fees	\$ 394.57	\$ 1,955.50
8. CAP Legal Fees	\$ 500.00	\$ 1,573.20
9. CAP Legal Fees	\$ 375.00	\$ 877.43
10. CAP Legal Fees	\$ 469.56	\$ 1,697.07
11. CAP Legal Fees	\$ 2,150.20	\$ 4,161.80
12. CAP Legal Fees	\$ 340.90	\$ 2,064.00
13. CAP Legal Fees	\$ 1,172.25	\$ 1,441.36
14. Director/Fiduciary Insurance	\$ 32.00	\$ 1,493.04
15. Safety Incentive Program	\$ 135.00	\$ 6,812.00
16. Safety Luncheon	\$ 549.91	\$ 6,812.00
17. Out of Period Tuition	\$ 101.00	\$ 6,812.00
18. Out of Period Tuition	\$ 139.00	\$ 6,812.00
19. Lobbying Legal Fees	\$ 928.00	\$ 6,812.00
20. Chamber of Commerce	\$ 290.00	\$ 6,812.00
21. Board of Director's Fees	\$ 125.00	\$ 3,406.00
Total	\$12,266.70	\$78,829.43

1 The Company criticized Staff's sampling interval as not being rational. The Company asserted
2 that Staff has erroneously assumed that all TY expenses have similar characteristics and probability
3 of errors. In addition, the sample interval was developed using the adjusted population instead of the
4 total dollar amount of sample items. According to the Company, it would have been more appropriate
5 to determine the percentage of disallowance from the sample items and relate that ratio to the entire
6 population.

7 As to the actual amounts disputed by Staff, the Company only challenged the chlorinator
8 expenses, meter box expenses, and the Board of Director ("BOD") fees. The Company indicated the
9 BOD fees were increased from \$125 to \$250 per meeting, per outside director, as of July 1, 1993.
10 According to the Company, this was a recurring, known and measurable change and should be
11 accepted.

12 As previously discussed, we concur with the Company regarding the chlorinator expenses and
13 meter box expenses. We also concur with the Company's inclusion of the BOD fees of \$250 per
14 meeting as being known and measurable. The aforementioned adjustments reduce the actual amount
15 disputed to \$8,228.57. As to the overall disallowance, we concur with the Company that Staff has
16 not demonstrated all TY expenses have similar characteristics and probability of error. Accordingly,
17 we will reject the representative value utilized by Staff. Although it would normally be appropriate
18 to apply the percentage of error from the sample to the total population, we will not do so in this
19 case. Since RUCO has also recommended disallowances, an application to the total population can
20 result in a duplicate disallowance.

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4. Miscellaneous Adjustments

Staff made several adjustments which were subsequently supported by the Company. As a result, we will approve those adjustments as listed below:

<u>Adjustment</u>	<u>Amount</u>
Arizona Department of Water Resources Groundwater Fee	\$ 55
Arizona Department of Environmental Quality Phase II and Phase V Water Treatment and Testing	\$ 800
Removal of Temporary Help	(\$ 2,405)
Removal of Main Repair outside of TY	(\$26,000)
Update Lobbying Percentage for National Association of Water Companies	(\$ 427)
Total	(\$27,977)

5. Rate Case Expenses

The Company had TY rate case expenses based on the two previous rate case Decision Nos. 57834 and 58419 of \$39,570. The Company has requested an additional \$70,000⁹ of forecasted rate case expense for this case amortized over two years or \$35,000 per year. In addition, the Company requested the balances for the previous rate case expenses be re-amortized over two years at an annual rate of \$26,000. As a result, the Company proposed a pro forma adjustment to rate case expense in the amount of [$\$35,000 + \$26,000 - \$39,570$] or \$21,430 for a total annual rate case expense of \$61,000.

Staff generally agreed with the Company's proposal for re-amortizing the previously approved rate case expense. However, Staff recommended using the balance as of May 1995 of \$35,560 which would result in an annual amortization of \$17,780 instead of the Company's proposed \$26,000. In addition, Staff criticized the Company's current rate case expenses as being excessive for a utility with less than 5,000 customers. In comparison to other utilities of similar size, Staff determined that the Company's rate case expenses were much higher. For example, the rate case expense for the most recent Pima Utility Company, Inc. ("Pima") case was \$10,000. Pima has over 5,000 customers and is both a water and sewer company. Another similar size company, the Consolidated Water Utilities, Ltd., was authorized \$21,000 for a recent rate case. Staff also indicated that the Sun City Water

⁹ The Company subsequently increased its forecast to \$76,300.

1 Company was authorized \$23,000 for a recent rate case with over 20,000 customers.

2 Staff determined that \$32,000 of the Company's \$70,000 of rate case expense was for legal
3 fees. Staff was of the opinion that many of the hourly estimates of the Company were inflated.
4 According to Staff, the following Company estimates could have been reduced by at least one-half:
5 the Company estimated 40 hours for the Hearing; 20 hours to prepare rebuttal testimony; 30 hours
6 for a post-hearing brief; and 32 hours to prepare cross-examination.

7 Staff was also critical of the Company's hours for non-legal preparation. While the Company
8 allowed 200 hours for rebuttal testimony preparation. Staff was of the opinion that 100 hours was a
9 more reasonable estimate. Staff recommended elimination of an amount of \$4,000 for a stipulation
10 meeting. According to Staff, it is unreasonable for the Company to request substantial time for a
11 hearing and at the same time include expense for a settlement meeting. Staff also recommended
12 elimination of one-half of the \$6,000 requested for a cost of service study. According to Staff, the
13 Company did not perform a cost of service study but had simply applied the revenue requirement
14 from the current case to a prior cost of service study prepared by Staff. Lastly, Staff recommended
15 disallowance of a \$3,000 expense for a "field trip" for personnel of the Western Region of American
16 Water Works Service Company ("AWWC Western Region") to familiarize themselves with the
17 Company's plant. According to Staff, the personnel of the AWWC Western Region should already
18 be familiar with the operating companies which it serves. Any additional information could be gotten
19 through telephone and/or written exchanges.

20 Based on all the above, Staff recommended rate case expense of \$44,850 for this case. The
21 following is a breakdown of that amount:

22	Legal	\$19,150
23	Case Preparation	\$ 9,000
24	Rebuttal Testimony	\$ 3,000
25	Hearing	\$ 9,200
26	Miscellaneous	<u>\$ 4,500</u>
27		\$44,850

1 RUCO also criticized the Company's request for a \$3,000 "field trip" for AWWC Western
2 Region personnel. According to RUCO, the AWWC Western Region already has the records of
3 Applicant in California and would not need to visit the plant location. As a result, RUCO
4 recommended disallowance of the \$3,000 amount. In addition, PJCO believed it would be
5 inappropriate to allow a utility to recover prior unrecovered rate case expense. RUCO was of the
6 opinion that the amortization period for rate case expense was the estimate of time that rates are
7 reasonably expected to be in effect. Since it is an estimate, it is normal for some under or over
8 recovery of rate case expense. Since over recovery of rate case expenses are never refunded to
9 ratepayers, RUCO asserted it is not fair to allow the Company to recover prior under collected rate
10 case expenses. Accordingly, RUCO recommended denial of the Company's request to reamortize
11 prior rate case expense.

12 In response, the Company concurred with Staff's recommendation on amortization of the
13 balance of the previous rate cases. The Company asserted that there was no justification for Staff's
14 adjustments for the current case. According to the Company, it has little control over the legal fees
15 incurred in a rate case since it must react to what Staff and intervenors recommend. The Company
16 believes that those recommendations largely control the rate case expense, and not the size of the
17 Company as Staff has attempted to utilize for comparison purposes. As to the cost of service study,
18 the Company indicated that it took a significant number of hours to input bill analysis data. In fact,
19 the Company witness deleted "many, many hours that could have been billed".

20 In reply, Staff criticized the Company for not presenting a straight-forward case and for
21 providing contradictory information or incomplete answers to data requests. Further, Staff noted that
22 personnel of the AWWC Western Region involved in the rate case are already allocating portions of
23 their time via the monthly charges already included in operating expenses. Lastly, even if there were
24 a significant amount of time to input bill analysis data for the cost of service study, Staff asserted that
25 data entry is a function which should not be billed at the same rate as a cost of service analysis.

26 The Company didn't dispute Staff's assertion that Staff had not asked an excessive number
27 of data requests. However, the Company argued that the number of RUCO's questions were clearly
28 excessive and that RUCO's intervention was the primary cause of the Company's rate case expense.

1 With one exception, the Company noted that the personnel involved in the preparation of the rate case
2 did not allocate any costs to the Company as part of the monthly AWWC Western Region invoices.
3 According to the Company, the data entry for the cost of service study was billed at 50 percent of
4 the normal rate of their cost of service expert.

5 The Company's rate case expenses are clearly excessive in comparison to other similarly sized
6 utilities. We concur with RUCO and Staff that the "field trip" for AWWC Western Region personnel
7 was either unnecessary or was a one-time nonrecurring plant visit. We concur there were other hourly
8 estimates that were excessive, such as 40 hours for hearing time and 30 hours for a post-hearing brief.
9 We also concur with Staff that it is unreasonable to include \$4,000 for a stipulation meeting while
10 including substantial time for a hearing. While there is evidence of excessive rate case expense, it
11 is difficult to precisely quantify the dollar amount. We note that this case was similar to the
12 Company's previous rate case in which the Commission allowed \$40,000 of rate case expense to be
13 amortized over a two year period. We acknowledge that the intervention of RUCO in this case
14 probably would have resulted in additional time and effort by the Company. We must conclude there
15 should be some increase in allowed rate case expense over the previous case but certainly not a 75
16 percent increase. Based on all the above, we will allow 50 percent of the proposed increase of
17 \$36,300 over the rate case expenses allowed in the Company's previous case. Accordingly, we will
18 allow total rate case expense of \$58,150 (current case) plus \$35,560 (previous rate cases) or \$93,710
19 amortized over two years at an annual rate of \$46,855. This will result in a reduction of \$14,145
20 from the Company's annual request of \$61,000.

21 6. Central Arizona Project Municipal and Industrial Capital Charges

22 The Company made a pro forma adjustment of \$67,851 to reflect the projected Municipal and
23 Industrial ("M&I") capital charges for 1995. The M&I charges are contractual annual charges
24 assessed by the Central Arizona Conservation Water District ("CAWCD") that the Company must pay
25 in order to retain its CAP allocation. There are charges which are required to be paid whether CAP
26 water is taken or not. The M&I charges are assessed based on the amount of CAP allocated to the
27 Company in question.

28 Staff recommended denial of any current recovery on the basis that existing customers were

1 receiving no benefits from the M&I charges. Staff acknowledges that the Commission has previously
 2 approved these charges for another water company¹⁰. however, that company was actually using CAP
 3 water. Staff listed several alternative recommendations in which the M&I costs would be included
 4 in rate base if the Company could provide a plan to use CAP water.

5 The Company did not dispute Staff's recommendation for removal of the \$67,851 of M&I
 6 charges from expenses. In fact, the Company proposed the use of Alternative I, CAP 2000, as
 7 presented in the November 9, 1994 Commission workshop. Pursuant to that methodology, the
 8 Company would amortize over a 25 year period the deferred CAP expenses above-the-line. Those
 9 deferred costs total \$190,882 as set forth below:

10	Prepaid Expenses	\$ 29,261
11	Supplemental Study Deferred Expenses	\$102,258
12	Deferred CAP Expenses	\$ 30,693
13	CAP Costs from Expenses	\$ 5,557
	CAP Cost paid Nov. 1994	\$ 23,113
		<u>\$190,882</u>

14 This would result in an annual charge to customers of \$7,635, which is more than offset by
 15 the benefits customers have received. Because of its CAP allocation, the Company was granted a 100
 16 year assured water supply status from the Arizona Department of Water Resources ("ADWR"). This
 17 has allowed the Company to serve new residential subdivisions with 150 residential customers which
 18 resulted in fixed costs being spread over a larger customer base. The Company estimated the annual
 19 savings to established customers would be approximately \$41,000 which would more than offset the
 20 \$7,635 cost. The Company recognized that adoption of Alternative I, CAP 2000 will preclude
 21 recovery of future CAP expenses.

22 In response, Staff indicated they would not recommend approval of Alternative I, CAP 2000
 23 until the following conditions are met by the Company:

- 24 (1) A feasibility plan should be filed for review and approved by Staff which details how,
 when and why CAP water will or will not be utilized;
- 25 (2) Staff should be allowed to audit the \$190,882 of deferred CAP charges to determine
 26 the appropriate amount for future recovery from ratepayers; and

27
 28 ¹⁰ See Decision No. 57395, dated May 23, 1991, concerning the Chaparral City Water
 Company.

- 1 (3) The Company must agree that it will not seek to recover from the general body of
2 ratepayers any future CAP charges related to current CAP allotment.

3 Subject to the aforementioned conditions, Staff recommended the Company be allowed to recover an
4 annual surcharge assessed against customers of record in December of each year commencing with
5 December of 1995. Based on the above, Staff recommended the Company be ordered to file its
6 feasibility plan by June 30, 1995. Staff would then conduct an audit of the Company's prior CAP
7 charges and file a report in this docket with comments and recommendations. As part of its rejoinder
8 testimony, the Company agreed to Staff's conditions and recommendations. We concur.

9 RUCO opposed Staff's recommendation to allow any recovery of CAP deferral costs.
10 According to RUCO, the Staff recommendation is contrary to Decision No. 58419 in which the
11 Commission stated, "CAP costs should not be recovered through rates until the utility is actually
12 receiving CAP water". RUCO asserted that a "feasibility plan" regarding CAP usage does not provide
13 any current benefit to ratepayers. RUCO was of the opinion that the Company should not be allowed
14 to recover the CAP deferrals if it decides not to use the CAP water.

15 We find that the developers of new subdivisions in the Company's service territory were the
16 primary beneficiaries of the Company's CAP allocation. Without the 100 year assured water supply
17 designation resulting from the CAP allocation, new subdivisions could not have been developed.
18 Even with that said, we must disagree with RUCO's assertion that current ratepayers have received
19 no benefits. The Company has demonstrated that the annual charges to customers from the CAP
20 deferrals would be more than offset by the benefits customers have received. Because the CAP costs
21 have been escalating, the Company has made a rational decision to not burden its general body of
22 ratepayers for future CAP costs. We believe the Company should be commended for modifying its
23 position on CAP water and not attempt to continue with a plan that may have been reasonable at
24 inception but would clearly be an economic burden to ratepayers. Based on all the above, we concur
25 with Staff's recommendations.

26 7. Property Taxes

27 The Company adjusted property taxes upward by \$20,411 to reflect the estimated property
28 taxes for Well No. 17. Staff annualized the Company's most recent property tax bill which resulted

1 in a \$18,321 increase over TY property taxes and a \$2,090 downward adjustment from the Company's
2 proposal. Staff and RUCO were critical of the Company's use of an Arizona Department of Revenue
3 ("DOR") formula which has been disallowed on numerous occasions by this Commission. According
4 to Staff and RUCO, the DOR formula is based on Company projections of plant and revenues as well
5 as many variables such as assessed value ratio. In fact, the assessed value ratio has decreased since
6 the Company's application and will continue to decrease one percent per year through 1997. Staff
7 did recompute the most recent property tax bill with the most recent assessed value ratio which
8 resulted in a \$11,000 reduction. However, Staff acknowledged that the most recent bill appeared to
9 not include Well No. 17 which may have offset the change in the assessed value ratio. Staff
10 concluded that the only known and measurable amount was the most recent property tax bill.

11 In response, the Company proposed an additional upward adjustment to property taxes in the
12 amount of \$13,107 or \$33,518 above the TY amount. The Company arrived at its revised property
13 tax amount by use of the most recent assessment value ratio and the revenue level recommended in
14 this proceeding.

15 We concur with Staff and RUCO. Consistent with the previous Commission decisions, the
16 Company's proposed property tax adjustment is not known and measurable.

17 8. Purchased Pumping Power

18 The Company made a pro forma adjustment of \$6,984 to increase purchased pumping power
19 expense in order to coordinate well production expense with the Company's adjusted level of
20 consumption and to reflect well usage to include Well No. 17.

21 As a result of its analysis, RUCO concluded that the Company's calculation contained a
22 number of errors. First, RUCO asserted that the historical power data used by the Company in its
23 pumping power calculations was inaccurate. In addition, RUCO indicated that the Company had
24 failed to update the energy costs based on the most recent APS rates. Based on RUCO's
25 recalculation, the Company's proposed pumping power should be reduced by \$21,505. RUCO's
26 proposed adjustment was offset by a \$5,598 increase in order to reflect RUCO's additional pumping
27 power requirements for its consumption annualization for year-end level of customers. Lastly, RUCO
28 proposed a downward adjustment of \$115 to non-pumping purchased power to reflect the APS rate

1 change.

2 Staff updated the Company's purchased power costs to reflect the most recent APS rates. As
3 a result, Staff recommended a downward adjustment of \$18,469 in TY power expenses. Staff also
4 proposed an increase of \$1,717 to reflect the consumption for the Monterey and Lincoln subdivisions.

5 The Company subsequently recalculated its purchased power expense based on adjusted power
6 usage for its wells, the availability of Well No. 17, and the most recent APS rates. Based on its
7 recalculation, the Company proposed a downward adjustment of \$25,185 to purchased power
8 expenses. The Company concurred with RUCO's proposed (\$115) adjustment for non-pumping
9 power. After review of the Company's revision, Staff revised its adjustment to an overall reduction
10 of \$25,286. The Company did not dispute Staff's revision.

11 Based on all the above, we concur with the adjustments to reflect the updated APS rates for
12 both the pumping and non-pumping power for a total adjustment of (\$25,401). Consistent with our
13 revenue adjustments herein, we also concur with RUCO's \$5,598 adjustment to reflect additional
14 power requirements for its consumption annualization. We will partly offset the RUCO adjustment
15 with the \$1,717 adjustment by Staff for increased consumption. According to the Company, the
16 purchased power would need to be increased by \$32,851. We will approve the Company's purchased
17 power adjustment to reflect the additional water production. The overall net result is an upward
18 adjustment of \$11,331 to the Company's original purchased power request.

19 9. Payroll Expenses

20 The Company made a \$61,736 pro forma increase to TY operations and maintenance labor
21 expenses. The majority of the adjustment was to increase the TY number of twelve employees to a
22 normalized level of thirteen. The Company also adjusted labor expenses to include a 1994 salary
23 increase.

24 Staff generally concurred with the Company's pro forma adjustment. In fact, based on Staff's
25 calculations the Company's pro forma adjustment needed to be increased by another \$36,714.

26 RUCO criticized the Company's normalization to include thirteen employees. According to
27 RUCO, the Company had only twelve employees during the TY and any increase would create a
28 mismatch between the number of employees and the corresponding customer base. RUCO also

1 criticized the Company's inclusion of a four percent across-the-board wage increase when not all of
2 the employees actually received a four percent increase. RUCO recommended using the actual July
3 1994 increase since it was now known. Lastly, RUCO indicated the Company had included a double
4 count of some construction wages. Based on all the above, RUCO recommended a decrease of
5 \$45,109 to the Company's proposed wage level.

6 In response, the Company concurred with RUCO's adjustment with the exception of the
7 number of employees. According to the Company, it had thirteen employees as of November 27,
8 1994. Further, the last employee to be hired was the Operations Manager as it took a seven month
9 search to find the appropriate person. The Company requested the \$47,500 salary for the Operations
10 Manager should be added to RUCO's proposed payroll level. The result would be an increase of
11 \$2,391 to the Company's original proposal.

12 We concur with the Company. We find that normalization of the number of employees is
13 reasonable. We would be more concerned with the increase in TY employees if the Company's
14 customer base was growing rapidly. However, that is not the case and we will approve the
15 Company's additional adjustment of \$2,391.

16 10. Payroll Taxes

17 The Company had requested payroll taxes in the amount of \$29,788. Staff recommended
18 increasing that amount by \$1,917 to reflect Staff's recomputed wage levels. RUCO proposed a
19 decrease of \$7,185 to reflect its recommended wage levels.

20 In response, the Company disagreed with the number of employees used by RUCO in its
21 calculation. In addition, the Company indicated RUCO had not utilized the most current payroll tax
22 rate in its calculation. The Company revised its payroll taxes upward by \$232 to reflect its payroll
23 update.

24 Consistent with our payroll determination, we concur with the Company. Accordingly, we will
25 approve the Company's \$232 adjustment.

26 11. Capitalization of Payroll Benefits

27 For every dollar of payroll expended, the Company capitalizes an appropriate level of payroll
28 benefit expense. Based on its proposed capital payroll, RUCO recommended a \$2,379 reduction in

1 payroll benefit expense.

2 The Company agreed with RUCO that an adjustment was necessary. However, based on the
3 Company's computation the proper adjustment should be (\$2,021). Consistent with our previous
4 determination, we concur with the Company. Accordingly, we will approve the Company's (\$2,021)
5 adjustment.

6 12. Transportation Expense

7 The Company made a \$15,378 adjustment to TY transportation expenses in order to normalize
8 the cost of replacing Company owned vehicles with newer leased vehicles. Staff concurred with the
9 Company's proposed normalization. However, Staff updated the Company's lease rates and as a
10 result recommended an additional \$430 increase.

11 RUCO analyzed the transportation expenses and recommended a downward adjustment of
12 \$5,982. The primary reason for RUCO's adjustment resulted from the Company's double counting
13 certain lease expenses for a seven month period.

14 The Company acknowledged in a response to a RUCO data request that it had inadvertently
15 double counted five TY lease payments on a dump truck. As a result of Staff and RUCO's
16 recommendations, the Company recomputed its transportation expenses with a net reduction of \$2,257.

17 Neither Staff or RUCO opposed the Company's recommended revision. Accordingly, we will
18 approve a downward adjustment to transportation expenses in the amount of \$2,257.

19 13. Non-Utility Expenses

20 RUCO recommended disallowance of TY expenses in the amount of \$3,334 to remove the cost
21 of safety awards, Christmas gifts and excess insurance reimbursement. According to RUCO, these
22 costs are not necessary to the provision of water service and should not be paid by ratepayers. The
23 cost breakdown is as follows:

24	Safety Incentive Awards	\$ 455
25	Safety Award Luncheon	\$ 550
26	Gifts at Safety Luncheon	\$1,089
27	Christmas Gift Certificates	\$ 560
28	Excess Insurance Reimbursement	\$ 680

1 The Company did not dispute RUCO's proposed adjustments. However, the Company
2 indicated Staff had already made all of the adjustments except for the insurance reimbursement.

3 In response, with one exception RUCO concurred with the Company. According to RUCO,
4 there was no adjustment made by Staff or the Company for the Christmas gift certificates.

5 Based on the above, we concur with RUCO's recommendation. However, in order to preclude
6 a double adjustment, we will approve only an adjustment in the amount of (\$680 - \$560 or \$1,240).

7 14. Depreciation Expense

8 The Company's TY depreciation expenses totaled \$151,471. The Company made a \$167,136
9 pro forma adjustment to increase depreciation expenses to a total amount of \$318,607. Although the
10 increase reflected new plant in service, the majority of the adjustment resulted from the Company
11 changing from a composite depreciation rate of 2.39 percent to 3.96 percent¹¹. One of the reasons
12 given by the Company for the large increase in the composite depreciation rate was that the cost of
13 removal has increased dramatically in the past twenty years. As an example of significant cost of
14 removal, the Company referred to the removal, handling and disposal of asbestos cement pipe. In
15 addition, the Company indicated it has been experiencing a high degree of failures occurring on
16 plastic polyethylene service line pipe over the past several years. This has resulted in a shorter than
17 normal average service life for this pipe.

18 Neither RUCO nor Staff opposed the Company's proposed change in depreciation rates. Staff
19 recalculated the depreciation based on its adjusted plant balances. In addition, Staff removed deferred
20 depreciation for Well No. 17 which the Company had included in its pro forma adjustment.
21 According to Staff, there are many additions and deletions of plant which occur between test years
22 for which no retroactive adjustments are made. For that reason, Staff opposed the retroactive
23 adjustment for Well No. 17. Staff's overall adjustment totaled (\$3,281).

24 For reasons similar to those given by Staff, RUCO opposed the deferred depreciation for Well
25 No. 17. RUCO also recalculated the depreciation based on its adjusted plant balances. RUCO's
26 overall adjustment was a \$22,665 decrease from the Company's proposal.

27 _____
28 ¹¹ Approximately \$126,316 of the adjustment is attributable to the change in depreciation rates.

1 The Company subsequently agree in concept to Staff's adjustment including the removal of
2 the deferred depreciation for Well No. 17. The Company did take exception to RUCO's removal of
3 depreciation related to the PILOR arrangements. The Company asserted that even if these were
4 considered as advances, depreciation expense should be included. Based on the Company's
5 recalculated depreciation expense, the Company recommended a downward adjustment of \$8,892 to
6 its original request.

7 Consistent with our rate base discussion, we will reject RUCO's recommendation to eliminate
8 depreciation related to the PILOR arrangements. We concur with RUCO and Staff that the deferred
9 depreciation from Well No. 17 should not be included since the Company subsequently removed that
10 deferred depreciation in its recalculation, we will approve the Company's (\$8,892) adjustment. We
11 note that we have approved the increased depreciation rate in this case since it was unopposed.

12 15. Backflow Prevention Program

13 The Company proposed a \$25,000 adjustment to TY expenses for the cost of implementing
14 a backflow prevention program. In response to a Company request, the Backflow Prevention Device
15 Inspections, Inc. ("BPDI") company submitted a bid of \$89,993 to develop and administer the
16 Company's backflow prevention program. The bid for the development phase ("Phase I") of the
17 program was for \$30,154 while the bid for three years of administrative services ("Phase II") was for
18 \$59,839.

19 Staff recognized that the initial implementation costs for a backflow prevention program would
20 be costly. As a result, Staff supported the Company's request.

21 RUCO opposed the inclusion of most of the \$25,000 for the services of BPDI. According to
22 RUCO, many of the tasks involved with this program are secretarial or administrative in nature and
23 could be performed by existing Company employees. RUCO was also of the opinion that the
24 estimated 400 homes per year quoted by BPDI was excessive. Another reason RUCO was critical
25 of inclusion of the \$25,000 amount was because the focus of the program was on 114 commercial
26 sites that may require backflow prevention devices. Based on the above, RUCO recommended denial
27 of the entire \$59,839 for administrative services and \$8,899 of the \$30,154 requested for the
28 development phase. Of the remaining \$21,255 for the development phase, RUCO recommended those

1 costs be amortized over six years since the program will be focused on only 114 of the approximately
2 4,000 customers.

3 In response, the Company indicated it did not have a sufficient number of personnel or the
4 expertise to handle the backflow prevention program. The Company also took exception to RUCO's
5 assertion that only the 114 commercial customers have the possibility of needing backflow prevention
6 devices. According to the Company, there are a number of residential customers who also could
7 possibly require a backflow prevention device.

8 RUCO was skeptical of the Company's assertion that existing employees did not have the
9 time to perform the various administrative tasks. According to RUCO, the consultant's proposal
10 indicated 162 hours was needed over a six month period to perform the Phase I tasks. Since the
11 Company has five office employees, the amount of additional work would be less than an hour and
12 a half per employee per week. As to the scope of the backflow program, the statement regarding the
13 114 commercial accounts was based on information provided by the Company. RUCO asserted that
14 if additional sites have backflow problems, the Company's tariff requires the customer to bear the cost
15 of complying.

16 We find that a backflow prevention program will benefit all customers and accordingly the
17 non-site specific costs should be borne by all customers. As to the amount requested, it was based
18 on a bid process. Absent some evidence that another individual/firm would establish the program
19 at lesser hours/costs, we must conclude the bid was reasonable. Accordingly, we will approve the
20 Company's \$25,000 adjustment for implementing a backflow prevention program.

21 16. Service Company Charges

22 The Company is billed monthly for services rendered on its behalf from AWWC by the
23 Belleville Lab and the AWWC Western Region Office.¹² RUCO determined that the Service
24 Companies had billed Applicant for additional expenses of \$4,521 for its 1993 rate case. RUCO
25 recommended disallowance of those expenses.

26 Staff had also recommended a disallowance of \$109 related to a AWWC Western Region
27

28 ¹² Collectively hereinafter referred to as "Service Companies".

1 employee attending a Commission Open Meeting related to a previous rate case. RUCO had included
 2 \$454 in its \$4,521 amount for meals, lodging and travel expenses related to the same Open Meeting
 3 expenses disallowed by Staff.

4 The Company subsequently concurred with the \$454 disallowance but did not address the
 5 remaining portion of RUCO's recommended \$4,521 disallowance.

6 Based on the evidence presented, it is our understanding that the entire \$4,521 amount is
 7 related to previous rate cases. Further, that amount is over and above the amount previously allowed
 8 by the Commission for rate case expenses. As a result, we will approve RUCO's recommended
 9 disallowance of \$4,521.

10 17. Statement of Net Operating Income

11 Based on the foregoing, the following statement details the adjusted test year net operating
 12 income for ratemaking purposes:

13 Operating Income Summary

14	<u>Operating Revenues (As Adjusted Herein)</u>	\$2,619,290
15	<u>Operating Expenses (Per Company)</u>	\$2,527,645
16	<u>Commission Approved Adjustments</u>	
17	PBOPs	(\$ 52,813)
18	Group Insurance	\$ 1,317
19	Sampling Errors	(\$ 8,229)
20	Miscellaneous	(\$ 27,977)
21	Rate Case	(\$ 14,145)
22	M&I Charges	(\$ 67,851)
23	Property Tax	(\$ 2,090)
24	Purchased Power	\$ 11,331
25	Payroll	\$ 2,391
26	Payroll Taxes	\$ 232
27	Capitalization of Payroll Benefit	(\$ 2,021)
28	Transportation	(\$ 2,257)
	Non-Utility	(\$ 1,240)
	Depreciation	(\$ 8,892)
	Service Companies	(\$ 4,521)
	Income Taxes	\$ 73,847 ¹³
	Total Operating Expenses	<u>\$2,424,727</u>
	<u>Net Operating Income</u>	<u>\$ 194,563</u>

13 In included in this calculation is a tax adjustment of (\$16,194) to reflect synchronized
 14 interest and (\$3,720) to reflect ITC amortization and (\$13,767) to reflect amortization of deferred
 15 taxes.

VI. COST OF CAPITAL**A. Capital Structure**

The Company requested approval of its December 31, 1993 capital structure which consisted of 4.93 percent long-term debt, 40.84 percent short-term debt, and 54.23 percent of common equity. The Company's capital structure included the \$168,852 of debt associated with its PILOR agreements. RUCO recommended these be treated as advances in aid of construction and remove them from the Company's capital structure. RUCO's recommended capital structure consisted of 42.96 percent short-term debt and 57.04 percent of common equity. Staff concurred with the Company that the actual capital structure should be used. However, Staff updated the capital structure to September 30, 1994, which consisted of 4.27 percent long-term, 42.12 percent of short-term debt, and 53.61 percent of common equity.

We find that the PILOR associated debt is appropriate to include as part of the Company's capital structure. Further, we concur with Staff that the most recent capital structure should be utilized. Accordingly, we will approve a capital structure consisting of 4.27 percent of long-term debt, 42.12 percent of short-term debt, and 43.61 percent of common equity.

B. Cost of Debt

The long-term debt consists entirely of debt associated with the PILOR arrangements. The cost of debt associated with those arrangements is 6.09 percent. We find such a cost to be reasonable and will approve the same for the Company's capital structure.

The cost of the short-term debt is associated with a Mellon Bank short-term line of credit that is subject to change on a daily basis. The rate is equal to the Average Federal Funds Rate plus 1.00 percent. As of January 31, 1994, the Federal Funds Rate was 3.32 percent. As a result, the Company requested approval of a short-term rate of 4.32 percent. RUCO used the same rate as part of its cost of capital analysis. Staff updated the Federal Funds Rate to November 15, 1994, at which time it had increased to 5.4375. Accordingly, Staff recommended a short-term debt rate of 6.4375 percent.

In response, the Company further updated the Federal Funds Rate to December 8, 1994, at which time it had increased to 5.625 percent. The Company then requested approval of a short-term debt of 6.625 percent.

1 While Staff acknowledged the Federal Funds Rate had increased subsequent to November 15,
2 1994, they did not recommend any additional adjustment. According to Staff, the Federal Funds Rate
3 will continue to fluctuate and may go up or down. Further, Staff indicated it had already adjusted
4 the short-term debt cost to a period almost one year beyond the end of the TY.

5 The Company included a forecast from the Mellon Bank which indicates the Federal Funds
6 Rate would continue to increase in 1995. As a result, the Company requested the most current rate
7 be used to represent the Company's short-term debt costs. Subsequent to the hearing in this matter,
8 the Federal Funds Rate was raised on February 1, 1995 to 6.0 percent. On February 2, 1995, the
9 Company filed a Request for Official Notice ("Request") of the rate increase. Staff opposed the
10 Request as being too far outside the TY.

11 We concur with the Company that the February 1, 1995 Federal Funds Rate is the best
12 indicator of the Company's short-term debt costs at this time. While Staff is correct that this rate can
13 fluctuate either up or down, the current trend is clearly upward. Accordingly, we will approve a
14 short-term cost of 7.00 percent for the Company.

15 C. Cost of Common Equity

16 The Company was authorized a return on equity of 11.00 percent in its most recent rate case¹⁴.
17 The Company indicated in its application that economic conditions had not changed significantly since
18 Decision No. 58419 and as a result the 11.00 percent rate was still reasonable. RUCO also used the
19 11.00 percent rate in its analysis.

20 In determining its recommended cost of equity, Staff used the discounted cash flow ("DCF")
21 model, the Capital Asset Pricing Model ("CAPM") and a comparison earnings analysis. Based on
22 these various methodologies, Staff determined a range of 9.6 percent to 12.25 percent as the cost of
23 equity for the Company. Staff recommended the mid-point of that range or 10.925 percent be
24 approved as the cost of equity in this case.

25 Although Staff's recommended cost of equity was almost identical to the Company's original
26 request, the Company was critical of Staff's analysis and recommendation of 10.925 percent. The
27

28 ¹⁴ See Decision No. 58419, dated September 30, 1993.

1 Company concluded that because of its increasingly leveraged capital structure and the trend of
 2 increasing interest rates, the Company's common equity investment is more at risk than when it was
 3 awarded the 11.00 percent cost of equity.

4 We find the Company's request to authorize a return on equity of 11.00 percent to be
 5 reasonable. Staff's analysis supports the reasonableness of continuing with the currently authorized
 6 11.00 percent rate.

7 Cost of Capital Summary

8 <u>Capital Components</u>	9 <u>Percentage of Total</u>	10 <u>Cost</u>	11 <u>Composite Cost</u>
12 Long-Term Debt	4.27%	6.09%	.0026
13 Short-Term Debt	42.12%	7.00%	.0295
14 Common Equity	53.61%	11.00%	<u>.0590</u>
			.0911

15 **VII. AUTHORIZED INCREASE**

16 With adjustments adopted herein, the adjusted TY operating income is \$213,929. Further, the
 17 9.11 percent cost of capital translates into a 5.57 percent rate of return on FVRB as authorized
 18 hereinabove. Multiplying the 5.57 percent rate of return by the FVRB produces required operating
 19 income of \$336,773. This is \$142,210 more than the Company's TY adjusted operating income.
 20 Multiplying the deficiency by the revenue conversion factor of 1.6835 results in an increase in
 21 revenues of \$239,411 or a 9.14 percent net increase over TY revenues.

22 **VIII. COST ALLOCATION AND RATE DESIGN**

23 A. Revenue Allocation

24 The Company generally used an updated cost of service ("COS") study previously performed
 25 by Staff. Based on the updated COS study, the Company determined that the smaller meter sizes¹⁵
 26 were contributing negative returns while the larger meter sizes were contributing rate of returns in
 27

28 ¹⁵ Specifically, 5/8 inch, 3/4 inch and 1 inch meters.

1 excess of 34 percent. Based on its COS study, the concept of gradualism, and its requested increase
 2 of \$508,323, the Company proposed the following increases by customer class:

3	4	5	6	7
	<u>Customer Class</u>	<u>Proposed Increase</u>	<u>Class Percent Increase</u>	<u>Percent of Total Increase</u>
5	Residential	\$445,665	26.49%	87.70%
6	Commercial	\$ 51,884	8.81%	10.20%
7	Fire Protection	\$ 64	1.52%	.01%
8	Public Authority	\$ 407	10.05%	.08%
9	Resale	\$ 3,902	7.92%	.77%
10	Miscellaneous	\$ 930	10.48%	.18%
11	Turf Irrigation	\$ 5,371	3.33%	1.10%
12	Class Total	\$508,323	20.32%	100%

11 Staff reviewed the Company's COS results and made some minor corrections. Staff's recommended
 12 increases by customer class are as follows:

13	14	15	16	17
	<u>Customer Class</u>	<u>Proposed Increase</u>	<u>Class Percent Increase</u>	<u>Percent of Total Increase</u>
15	Residential	\$241,815	14.30%	86.60%
16	Commercial	\$ 27,520	4.73%	9.90%
17	Fire Protection	\$ 0	.00%	.00%
18	Public Authority	\$ 230	5.68%	.08%
19	Resale	\$ 3,693	7.66%	1.30%
20	Miscellaneous	\$ 558	6.13%	.20%
21	Turf Irrigation	\$ 5,294	3.22%	1.90%
22	Class Total	\$279,160	11.05%	100%

21 RUCO criticized the Company's COS study for deviating from American Water Works
 22 Association allocation practices. Because RUCO's overall recommended increase was negligible (i.e.
 23 \$23,895), RUCO's rate design focused on conservation. RUCO's recommended increases by customer
 24 class are as follows:

25
 26
 27
 28

<u>Customer Class</u>	<u>Proposed Increase</u>	<u>Class Percent Increase</u>	<u>Percent of Total Increase</u>
Residential	\$12,291	.71%	51.40%
Commercial	\$10,719	1.63%	44.80%
Fire Protection	\$ 0	.00%	.00%
Public Authority	\$ 55	1.36%	.20%
Resale	\$ 299	.61%	1.30%
Miscellaneous	\$ 135	2.88%	.60%
Turf Irrigation	\$ 397	.24%	1.70%
Class Total	\$23,895	.91%	100%

Because of the large differential in recommended increases in this case, the only meaningful comparison of the proposed increases is the percentage of the total increase recommended by customer class. It is clear that all of the parties have recognized that over 95 percent of any increase granted should apply to the combined residential and commercial classes. Staff and the Company were generally in agreement that by far the largest percentage of increase should go to residential while RUCO recommended the increase to the residential and commercial classes be almost equal. There was general agreement by all of the parties that any portion of the overall increase allocated to the remaining customer classes should not exceed 1.9 percent. The parties also generally agreed that the Fire Protection class should have little if any increase. Based on all the proposals and the evidence in support thereof, we will approve the following increases by customer class:

<u>Customer Class</u>	<u>Approved Increase</u>	<u>Class Percent Increase</u>	<u>Percent of Total Increase</u>
Residential	\$204,282	12.08%	85.30%
Commercial	\$ 27,728	4.76%	11.60%
Fire Protection	\$ 0	.00%	.00%
Public Authority	\$ 196	4.84%	.08%
Resale	\$ 3,929	8.20%	1.90%
Miscellaneous	\$ 174	1.91%	.07%
Turf Irrigation	\$ 3,102	1.90%	1.50%
Class Total	\$239,411	9.14%	100%

B. Monthly Minimum Charges

As in previous cases, this Company and the Commission are still faced with the dilemma of

1 designing rates that will enable the Company to be in full compliance with the Arizona Department
2 of Water Resources ("ADWR") consumption requirements while not permitting the Company to over
3 earn. Even with recent drastic changes in the Company's rate design, the rates are relatively low for
4 the affluent soci-economic area. As a result, the parties were in general agreement that conservation
5 was still the primary concern for rate design. At the same time it was also generally recognized that
6 a portion of the overall increase granted should be apportioned to the monthly minimum charges,
7 albeit at a rate less than the overall increase granted.

8 The Company proposed a 12 1/2 percent increase across-the-board for the monthly minimum
9 charges. With two exceptions, Staff generally followed the same methodology as the Company with
10 an across-the-board increase albeit at a 7.1 percent increase to reflect Staff's lower revenue
11 requirement. The two exceptions were for the 5/8-inch and 3/4-inch meters in which Staff
12 recommended only a 2.7 percent increase. RUCO recommended the current 1,000 gallons included
13 with the monthly minimum be removed to reflect that there is no such thing as "free" water. As a
14 result, RUCO recommended a 30 percent decrease in the 5/8-inch meter size from the current \$5.60
15 to a new rate of \$3.90. Although the 3/4-inch meter is currently priced the same as the 5/8-inch
16 meter, RUCO recommended the 3/4-inch meter be priced \$1.60 more than the 5/8-inch meter because
17 of the larger demand put on the system. In response, the Company indicated that the average monthly
18 use for both the 5/8-inch and 3/4-inch meters were approximately 20,000 gallons and therefore the
19 rates should be the same. As the meter sizes increased beyond the 3/4-inch meter, RUCO's
20 percentage of increase gradually got larger until the increase for the 4-inch and 6-inch meters matched
21 the Company's proposal. The following is a summary of the current rates by meter size and the
22 proposed rates by the Company, Staff, and RUCO:

23
24
25
26
27
28

Monthly Minimum Charges (Includes 1,000 Gallons)

Meter Size	Present Rate	Proposed Rates		Staff	% Increase	RUCO ¹⁶	% Increase
		Company	% Increase				
5/8"	\$ 5.60	\$ 6.30	12.5	\$ 5.75	2.7	\$ 3.90	(30.3%)
3/4"	\$ 5.60	\$ 6.30	12.5	\$ 5.75	2.7	\$ 5.50	(1.8%)
1"	\$ 9.33	\$ 10.50	12.5	\$ 10.00	7.2	\$ 9.00	(3.5%)
1 1/2"	\$ 18.67	\$ 21.00	12.5	\$ 20.00	7.1	\$ 19.40	3.9%
2"	\$ 29.87	\$ 33.60	12.5	\$ 32.00	7.1	\$ 31.00	3.8%
3"	\$ 56.00	\$ 63.00	12.5	\$ 60.00	7.1	\$ 60.00	7.1%
4"	\$ 93.33	\$105.00	12.5	\$100.00	7.1	\$105.00	12.5%
6"	\$186.87	\$210.23	12.5	\$200.00	7.0	\$210.00	12.5%

Based on all the evidence, we believe that all of the monthly minimums should bear a fair share of the overall increase. Further, we will generally approve the Company's methodology of an equal percentage increase across-the-board. We also agree that because of the continued need to emphasize conservation, the percentage increase should be less than the overall increase granted in this case of 7.9 percent. Consistent with our overall approved revenue level, we will adopt Staff's proposed increase of 7.0 to 7.2 percent for all meter sizes except for the 3/4-inch meter. We concur with RUCO that the 3/4-inch meters do in fact have a higher capacity than 5/8-inch meters and should be priced to reflect the potential demand. In order to begin to recognize the differential in capacity, we will price the monthly minimum charge for the 3/4-inch meters 25 cents higher than the 5/8-inch meters. Lastly, although we agree with RUCO that there is no "free" water, the Commission will continue its policy to maintain 1,000 gallons in the monthly minimum when feasible. Based on all the above, we will approve the following monthly minimum charges per meter size:

Approved Monthly Minimum Charge (Includes 1,000 Gallons)

Meter Size	Approved Rate	Percent Increase
5/8"	\$ 6.00	7.1%
3/4"	\$ 6.25	11.6%
1"	\$ 10.00	7.2%
1 1/2"	\$ 20.00	7.2%
2"	\$ 32.00	7.1%
3"	\$ 60.00	7.1%
4"	\$100.00	7.1%
6"	\$200.00	7.0%

¹⁶ RUCO's proposed rates do not include any gallonage charge.

1 C. Commodity or Usage Charge

2 In an effort to encourage water conservation, the Commission in Decision No. 57834, dated
 3 April 23, 1992, approved a two-tier commodity rate for residential customers with the second tier
 4 taking effect after 30,000 gallons. It was also recognized at the time that a fairly large increase would
 5 be necessary at the second tier level if conservation were to succeed in the generally affluent area in
 6 which the Company provides service. The Company now proposes to go one step further and add
 7 a third inverted tier rate in an effort to encourage conservation by the larger users. The Company
 8 chose 30,000 gallons as the starting point for its third tier since 20 percent of the water is used by
 9 those customers. The Company also proposed to reduce the starting point for its second tier from the
 10 current 30,000 gallons to 20,000 gallons since the average usage for both 5/8-inch and 3/4-inch meters
 11 was approximately 20,000 gallons. As to the non-residential customers, the Company proposed to
 12 continue with a single tier commodity rate with an increase consistent with its overall proposed
 13 increase by customer class. The Company's current and proposed rates are as follows:

14 Commodity or Usage Charge per 1,000 Gallons

15 <u>Customers</u>	15 <u>Company</u> <u>Current</u>	15 <u>Ratio to Tier</u> <u># 1 Rates</u>	15 <u>Company</u> <u>Proposed</u>	15 <u>Ratio to Tier</u> <u># 1 Rates</u>
16 Residential				
17 1st Tier	\$0.51	1.00	\$0.55	1.00
18 2nd Tier	\$1.21	2.37	\$1.35	2.45
18 3rd Tier	NA		\$1.71	3.11
19 Commercial				
20 1st Tier	\$0.83		\$0.90	
20 2nd Tier	NA		NA	
21 3rd Tier	NA		NA	
22 Turf Facility Customers				
	\$0.64		\$0.66	
24 Resale Customers				
	\$1.04		\$1.12	
26 Public Authority and Miscellaneous				
	\$0.83		\$0.90	

27 Both RUCO and Staff generally concurred with the Company's proposal to implement a three-
 28

1 tier rate design for the residential class since the average residential usage is among the highest in the
2 state. While both agreed with the Company's selection of a third tier at 80,000 gallons, both
3 disagreed with the reduction of the second tier to 20,000 gallons. RUCO's disagreement reflected its
4 overall revenue recommendation more than anything else. As a result, RUCO recommended retention
5 of the current 20,000 gallon level. Staff, on the other hand, was concerned that a more gradual
6 transition was preferable. Accordingly, Staff recommended the second tier start at 25,000 gallons.

7 RUCO also proposed three tiered rates for the commercial customers to encourage
8 conservation. Consistent with the residential rate design, RUCO recommended the second tier start
9 at 30,000 gallons of usage. As to the third tier, RUCO focused on the 2-inch meters since
10 approximately 75 percent of the commercial consumption is attributable to that meter size. Based on
11 billing data, RUCO determined that 56 percent of the consumption for the 2-inch meter size exceeds
12 250,000 gallons per month on the average. As a result, RUCO recommended the third tier start at
13 250,000 gallons. The Company opposed RUCO's three tier proposal for commercial customers since
14 it would result in rate reductions at various levels of usage for the 1-inch, 1 1/2-inch, and 2-inch
15 meter customers. According to the Company, this would send the wrong signal. In addition, the
16 Company was concerned that a drastic change of the commercial rate design while also changing the
17 residential rate design could result in revenue instability to the Company. Staff and RUCO's proposed
18 rates are as follows:

19 ...
20 ...
21 ...
22 ...
23 ...
24 ...
25 ...
26 ...
27 ...
28 ...

Commodity or Usage Charge Per 1,000 GallonsExcess of Minimum

	<u>Present</u>	<u>Staff</u>	<u>RUCO</u>
Residential:			
1,001 - 30,000 gallons	\$0.51		
Excess of 30,000 gallons	\$1.21		
1,001 - 25,000 gallons		\$0.53	
25,001 - 80,000 gallons		\$1.27	
Excess of 80,000 gallons		\$1.59	
0 - 30,000 gallons			\$0.51
30,001 - 80,000 gallons			\$1.21
Excess of 80,000 gallons			\$1.25
Commercial:			
0 - 30,000 gallons	\$0.83	\$0.87	\$0.70
30,001 - 250,000 gallons	\$0.83	\$0.87	\$0.83
Excess of 250,000 gallons	\$0.83	\$0.87	\$0.87
Turf:			
All usage exceeding 1,000 gallons	\$0.64	\$0.66	\$0.64
Resale:			
All usage exceeding 1,000 gallons	\$1.04	\$1.12	\$1.04
Public Authority:			
All usage exceeding 1,000 gallons	\$0.83	\$0.87	\$0.83

We concur with Staff, RUCO and the Company's proposals to implement a three-tier rate design for the residential class. We concur with the Company's choice and reasons set forth for the selection of the 80,000 gallon level for the starting point for the third tier. We concur with the Company that the starting point for the second tier needs to be reduced to further encourage conservation. We also concur with Staff's recommended gradual transition and will approve a starting point of 25,000 gallons for the second tier. We will continue to approve a ratio of approximately 2.30 to 1.0 between tier two to tier one rates and a ratio of approximately 3.00 to 1.00 between tier three to tier one rates. This will insure there are no decreases in any of the rates while increasing incentives to conserve at higher usage levels. We will approve rates for the commercial, turf, resale, and public

1 authority customers consistent with our approved revenue increase per class. We concur with RUCO
 2 that there also needs to be incentives for commercial customers to conserve. However, for the reasons
 3 set forth by the Company we will not adopt an inclining tier rate in this case. We will direct the
 4 Company to propose an inclining two tier rate design for commercial customers at its next rate case.
 5 We also note that there was some discussion at the hearing regarding the Company having difficulty
 6 meeting peak summer demands. As a result, we believe the Company needs to give serious
 7 consideration to proposing seasonal rates in its next rate case. Our approved commodity rates per
 8 1,000 gallons in excess of the minimum are as follows:

9 Commodity Charges (Per 1,000 gallons)

10 Class

11 Residential	
12 1,001 - 25,000 gallons	\$0.52
13 25,001 - 80,000 gallons	\$1.23
14 Excess of 80,000 gallons	\$1.52
15 Commercial	\$0.87
16 Turf	\$0.65
17 Resale	\$1.13
18 Public Authority	\$0.87
19 Miscellaneous	\$0.87

20 D. Country Club Agreement

21 The Country Club opposed any increase in rates on the water delivered to the golf course. The
 22 Country Club has invested in its own distribution system and as a result the Company simply provides
 23 water to the Country Club's storage facilities during off-peak hours. Further, the water delivered to
 24 the Country Club is subject to interruption if the Company needs the water elsewhere. The Country
 25 Club also indicated that the Company's COS study shows the Company is already receiving a 120
 26 percent rate of return from the golf course. The Country Club recently entered into a long-term
 27 agreement ("Agreement") (See Exhibit I-1) with the Company which generally approved a monthly
 28 service charge of \$200 per month and a commodity charge of \$0.64 per thousand gallons. Those

1 charges would be subject to an annual increase or decrease based on the Consumer Price Index for
2 All Urban Consumers ("CPI") published by the United States Department of Labor, Bureau of Labor
3 Statistics. The Agreement is subject to the approval of the Commission.

4 We will approve the Agreement between the Country Club and the Company subject to the
5 following conditions:

- 6 (1) The charges contained in the Agreement must reflect those approved in this case;
- 7 (2) The CPI adjustment will commence effective January 1, 1996; and
- 8 (3) The Director of the Utilities Division does not file any objection to the Agreement
9 within 60 days of the date of this Order.

10 E. Miscellaneous

11 The Company proposed no changes to any of its miscellaneous charges. Staff indicated that
12 the Company had neglected to recommend a service line and meter installation charge for the 1 1/2-
13 inch meters. As a result, Staff recommended a charge of \$550 which was unopposed. Accordingly,
14 we will approve the inclusion of the \$550 charge as part of the Company's tariff.

15

16 Having considered the entire record herein and being fully advised in the premises, the
17 Commission finds, concludes, and orders that:

18 **FINDINGS OF FACT**

19 1. Applicant is an Arizona corporation engaged in the business of providing water for
20 public purposes within portions of Maricopa County, Arizona, pursuant to authority granted by this
21 Commission.

22 2. On April 29, 1994, the Company filed an application with the Commission requesting
23 authority to increase its rates and charges for rate services.

24 3. On May 31, 1994, Staff filed a notice in this docket that the application met the
25 sufficiency requirements of A.A.C. R14-2-103.

26 4. Our June 13, 1994 Procedural Order set this matter for hearing commencing January
27 23, 1995.

28 5. During the TY ended December 31, 1993, the Company averaged approximately 4,300

1 customers.

2 6. The OCRB, RCNRB and FVRB for Applicant for the TY ended December 31, 1993
3 are determined to be \$3,694,281, \$8,398,104, and \$6,046,193, respectively.

4 7. Applicant's adjusted TY operating income is \$194,563, based upon adjusted operating
5 revenues of \$2,619,290 and adjusted operating expenses of \$2,424,727

6 8. In the circumstances of this proceeding, a rate of return on FVRB of 5.57 percent is
7 just and reasonable

8 9. Operating income of \$336,773 is necessary to yield a 5.57 percent rate of return on the
9 FVRB.

10 10. Applicant must increase operating revenues by \$239,411 to produce operating income
11 of \$336,773.

12 11. Historically, the Company has been using the cash method to account for PBOP costs.

13 12. The cash method of accounting for PBOP costs results in intergenerational inequities
14 which is reflected by the amount of Transition obligations.

15 13. The Company's future medical costs and retiree participation are not known and
16 measurable.

17 14. Adoption of the FAS No. 106 method of accounting for PBOP costs for ratemaking
18 purposes will not result in the intergenerational inequity problem being resolved for several decades.

19 15. Based on the evidence presented, we find the cash method of accounting for PBOP
20 costs for ratemaking purposes is overall superior to the FAS No. 106 method.

21 16. COS studies, rate continuity, conservation, and simplicity and stability all must be taken
22 into consideration for rate design purposes.

23 **CONCLUSIONS OF LAW**

24 1. Applicant is a public service corporation within the meaning of Article XV of the
25 Arizona Constitution and a water utility within the meaning of A.R.S. §§40-250 and 40-251.

26 2. The Commission has jurisdiction over Applicant and of the subject matter of the
27 application.

28 3. Notice of Applicant's application was given in accordance with the law.

1 to be appropriate consistent with the Discussion contained herein.

2 IT IS FURTHER ORDERED that Paradise Valley Water Company shall propose an inclining
3 two tier rate design for commercial customers as a part of its next rate case.

4 IT IS FURTHER ORDERED that the Agreement (Exhibit I-1) between Paradise Valley Water
5 Company and the Paradise Valley Country Club is hereby approved effective 60 days from the date
6 of this Order, subject to the conditions set forth herein.

7 IT IS FURTHER ORDERED that this Decision shall become effective immediately.

8 BY ORDER OF THE ARIZONA CORPORATION COMMISSION.

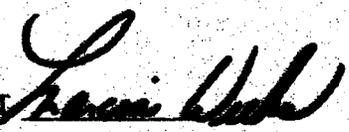
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10 
11 CHAIRMAN

COMMISSIONER


COMMISSIONER

12 IN WITNESS WHEREOF, I, JAMES MATTHEWS, Executive Secretary of the
13 Arizona Corporation Commission, have hereunto set my hand and caused the official
14 seal of the Commission to be affixed at the Capitol, in the City of Phoenix, this 5
day of May, 1995.

15 
16 JAMES MATTHEWS
EXECUTIVE SECRETARY

17
18 
19 DISSENT
JLR:dap

1 SERVICE LIST FOR:

PARADISE VALLEY WATER COMPANY

2 DOCKET NO.:

U-1303-94-182

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Norman D. James
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Elaine Williams
RESIDENTIAL UTILITY CONSUMER
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Karen E. Nally, Staff Attorney
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Phoenix, Arizona 85007

Gary Yaquinto, Director
Utilities Division
ARIZONA CORPORATION COMMISSION
1200 West Washington
Phoenix, Arizona 85007

Exhibit 2

EXHIBIT JMR-RB2

Supporting documentation related to Company Rate Base
Adjustment AAW-2: Additional amounts related to
Jackrabbit/Invergordon and McDonald main projects

ARIZONA AMERICAN WATER
 PARADISE VALLEY OPERATING DISTRICT
 PUBLIC SAFETY SURCHARGE (PSS)

Summary of Public Safety/Fire Flow Task Orders Completed Since Jan. 1, 2005

Project	Work Order	Account No.	Description	Amount
Jackrabbit/Invergordon Main	50069621	23020003.105150.31	CWIP M&S-Plant	42.60
		23020003.105200.31	CWIP Co Labor-Plant	18,982.73
		23020003.105250.31	CWIP Labor OH-Plant	10,849.03
		23020003.105260.21	CWIP Overhead-Infrastr	12,678.55
		23020003.105260.31	CWIP Overhead- Plant	58,854.63
			Additional Amounts at Closing:	2,172.50
		23020003.105275.21	CWIP Contr Svc-Infrastr	10,575.71
		23020003.105275.31	CWIP Contr Svc-Plant	1,666,131.42
			Additional Amounts at Closing:	28,855.02
		23020003.105280.31	CWIP Retainage-Plant	168,698.05
		23020003.105350.31	CWIP AFUDC Debt-Plant	40,143.29
			Additional Amounts at Closing:	148.70
		23020003.105375.31	CWIP AFUDC Eqty-Plant	74,380.33
			Additional Amounts at Closing:	275.50
		23020003.105390.31	CWIP Tran PY Chg-Plant	(11,221.11)
			Total Additional at Closing	31,451.72
	Total for Project	<u>2,081,566.95</u>		

Item Number 00007568

Skip to Account

ackrabbit/Inver Main-T&D

From Date/Period
 Through Date/Period 02/17/06
 Ledger Type AAA
 Detail/Summary (D/S/O) D
 Units/Unit Cost (Y/A/B) N
 Subledger/Type(*=All) *

OP	Acct	Account Description	Incep to Date	Year to Date	Month to Date
	101000	TD Mains Not Classified	2,081,566.95		
		Utility Plant in Servi	2,081,566.95		
	105150	CWIP M & S-Plant	42.60		
	105200	CWIP Co Labor-Plant	18,982.73		
	105250	CWIP Labor OH-Plant	18,849.03		
	105260	CWIP Overhead-Infrastr	12,678.55		
	105260	CWIP Overhead-Plant	61,027.13		
	105275	CWIP Contr Suc-Infrastr	18,575.71		
	105275	CWIP Contr Suc-Plant	1,694,986.44		
	105280	CWIP Retainage-Plant	168,698.05		
	105350	CWIP AFUDC Debt-Plant	40,291.99		
	105375	CWIP AFUDC Eqty-Plant	74,655.83		
	105390	CWIP Tran PY Chg-Plant	11,221.11-		
	105900	CWIP Tran UPIS-Plant	2,081,566.95-		

Option: 1=Item Transaction Inquiry F4=Full Detail F24=More Keys

MW

Item Number: 80087568
 Skip to Account: []
 Backrabbit/Inver Main-T&D

From Date/Period: []
 Through Date/Period: 02/17/06
 Ledger Type: AA
 Detail/Summary (D/S/O): D
 Units/Unit Cost (Y/A/B): N
 Subledger/Type(*=All): *

OP	Acct	Account Description	Incep to Date	Year to Date	Month to Date
		Work In Progress			
	100105	AD UPIS-AccDepr-Infrast	4,059.06-	4,059.06-	
		Depreciation Reserve	4,059.06-	4,059.06-	
	680110	Depr Exp-General	4,059.06	4,059.06	
			4,059.06	4,059.06	
		Total	2,081,566.95		



WHEELER CONSTRUCTION, INC
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AMT
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 INVOICE NO 1860712
 PAGE 1 OF 1 INV# 18607-12
 DATE 08/31/2005
 PERIOD ENDING 08/31/2005
 P. PARED BY
 8/31/05

CONTRACTOR'S BILLING

Received

SEP - 6 2005

Shared Services Center

NAME Arizona American Water Company
 ADDRESS 18620 North 7th Street
 & Ite 201
 Phoenix, AZ 85024

PROJECT 85143 Jackrabbit & Invergordon Rd. Water Main Replacement

ITEM	DESCRIPTION	UNIT	PRICE	CURRENT BILLING		BILLING-TO-DATE		% COMPLETE	BALANCE OF CONTRACT	PLANNED QUANTITY	SCHEDULE OF VALUES	
				QUANTITY	AMOUNT	QUANTITY	AMOUNT					
1	Mobilization / Demobilization	EA	\$12,500.00	0.00		7.00	\$25,000.00	100.00%	\$0.00	2	\$25,000.00	
2	Sawcut, remove, replace AC pavement	SY	\$25.00	0.00		2,902.00	\$72,550.00	100.00%	\$0.00	2602	\$72,550.00	
3	24" DIP & fittings	LF	\$156.40	0.00		1,435.00	\$224,434.00	100.00%	\$0.00	1435	\$224,434.00	
4	20" DIP & fittings	LF	\$175.00	0.00		46.00	\$8,234.00	100.00%	\$0.00	46	\$8,234.00	
5	16" DIP & fittings	LF	\$107.50	0.00		6,565.00	\$705,737.50	100.00%	\$0.00	6565	\$705,737.50	
6	12" DIP & fittings	LF	\$185.00	0.00		101.00	\$18,685.00	100.00%	\$0.00	101	\$18,685.00	
7	8" DIP & fittings	LF	\$378.00	0.00		19.00	\$7,182.00	100.00%	\$0.00	19	\$7,182.00	
8	6" DIP & fittings	LF	\$129.00	0.00		288.00	\$37,152.00	100.00%	\$0.00	288	\$37,152.00	
9	24" BF pipe w/ 6" bypass complete	EA	\$13,200.00	0.00		2.00	\$26,400.00	100.00%	\$0.00	2	\$26,400.00	
10	20" BF pipe w/ 6" bypass complete	EA	\$12,560.00	0.00		1.00	\$12,560.00	100.00%	\$0.00	1	\$12,560.00	
11	18" Gate valve w/ 10" bypass complete	EA	\$9,875.00	0.00		12.00	\$118,500.00	100.00%	\$0.00	12	\$118,500.00	
12	16" 15" TS pipe box & cover	EA	\$9,300.00	0.00		1.00	\$9,300.00	100.00%	\$0.00	1	\$9,300.00	
13	12" 12" TS pipe box & cover	EA	\$4,300.00	0.00		2.00	\$8,600.00	100.00%	\$0.00	2	\$8,600.00	
14	8" 8" TS valve box & cover	EA	\$2,550.00	0.00		1.00	\$2,550.00	100.00%	\$0.00	1	\$2,550.00	
15	6" 6" TS valve box & cover	EA	\$2,100.00	0.00		9.00	\$18,900.00	100.00%	\$0.00	9	\$18,900.00	
16	4" 4" TS valve box & cover	EA	\$2,050.00	0.00		7.00	\$14,350.00	100.00%	\$0.00	7	\$14,350.00	
17	24" lapped cap and 2" IP corp	EA	\$1,250.00	0.00		1.00	\$1,250.00	100.00%	\$0.00	1	\$1,250.00	
18	20" lapped cap and 2" IP corp	EA	\$1,125.00	0.00		1.00	\$1,125.00	100.00%	\$0.00	1	\$1,125.00	
19	16" lapped cap and 2" IP corp	EA	\$800.00	0.00		1.00	\$800.00	100.00%	\$0.00	1	\$800.00	
20	6" fire hydrant w/ 6" VB&C	EA	\$3,900.00	0.00		21.00	\$81,900.00	100.00%	\$0.00	21	\$81,900.00	
21	Cut out and plug sewer man	EA	\$2,250.00	0.00		20.00	\$45,000.00	100.00%	\$0.00	20	\$45,000.00	
22	Water valve removal	EA	\$250.00	0.00		22.00	\$5,500.00	100.00%	\$0.00	22	\$5,500.00	
23	1" water service main to meter	EA	\$700.00	0.00		28.00	\$19,600.00	100.00%	\$0.00	28	\$19,600.00	
24	Pavement marking 4" double yellow paint	LF	\$0.65	0.00		6,703.00	\$4,356.95	100.00%	\$0.00	6703	\$4,356.95	
25	Pavement marking 8" solid white paint	LF	\$0.65	0.00		200.00	\$130.00	100.00%	\$0.00	200	\$130.00	
26	Pavement marking 12" solid white paint	LF	\$3.58	0.00		644.00	\$2,254.00	100.00%	\$0.00	644	\$2,254.00	
27	Asphalt slurry seal	SY	\$1.35	0.00		29,633.00	\$40,004.55	100.00%	\$0.00	29633	\$40,004.55	
28	Traffic control	LS	\$18,000.00	0.00		1.00	\$18,000.00	100.00%	\$0.00	1	\$18,000.00	
29	Traffic officer	LS	\$7,600.00	0.00		1.00	\$7,600.00	100.00%	\$0.00	1	\$7,600.00	
											\$1,537,853.00	
Change Order #1												
1	Costs associated / delays caused by utility lines not shown on plans	HR	\$1,114.03		\$0.00	78	\$86,894.34	100.00%	\$0.00	78	\$86,894.34	
2	Credit for deleted 1" water services	EA	\$700.00		\$0.00	-5	(\$3,500.00)	100.00%	\$0.00	-5	(\$3,500.00)	
2	Additional cost to increase service sizes to 2"	EA	\$1,366.64		\$0.00	4	\$5,466.56	100.00%	\$0.00	4	\$5,466.56	
2b	Additional cost to increase service sizes to 4"	EA	\$3,625.78		\$0.00	1	\$3,625.78	100.00%	\$0.00	1	\$3,625.78	
3	Costs to encase sewer services	EA	\$476.35		\$0.00	3	\$1,429.05	100.00%	\$0.00	3	\$1,429.05	
4	Additional 16" ductile iron pipe due to changes	LF	\$107.50		\$0.00	33	\$3,547.50	100.00%	\$0.00	33	\$3,547.50	
4a	Credit for 16" bypasses not installed	EA	\$5,475.00		\$0.00	2	(\$10,950.00)	100.00%	\$0.00	2	(\$10,950.00)	
5	Credit for 16" 16" lapping sleeve and valve	EA	\$9,300.00		\$0.00	1	(\$9,300.00)	100.00%	\$0.00	1	(\$9,300.00)	
5a	Costs associated w/ McDonald / Invergordon	LS	\$10,588.39		\$0.00	1	\$10,588.39	100.00%	\$0.00	1	\$10,588.39	
6	Scottsdale/Jackrabbit mill & overlay pavement	LS	\$37,048.89		\$0.00	1	\$37,048.89	100.00%	\$0.00	1	\$37,048.89	
7	Replace concrete apron & walk - NE corner	LS	\$2,600.00		\$0.00	1	\$2,600.00	100.00%	\$0.00	1	\$2,600.00	
	Added pavement replacement due to alignment changes, conflicts & conditions	SY	\$25.00		\$0.00	875	\$21,875.00	100.00%	\$0.00	875	\$21,875.00	
8	1" traffic control allowance increase	LS	\$15,000.00		\$0.00	1	\$15,000.00	100.00%	\$0.00	1	\$15,000.00	
10	Police Officer Allowance increase	LS	\$5,000.00		\$0.00	1	\$5,000.00	100.00%	\$0.00	1	\$5,000.00	
											Subtotal	\$188,325.51
Change Order #2												
1	Added tapping sleeve and 6" ductile iron pipe at 68th Place and Jackrabbit	LS	\$5,293.19		\$0.00	1	\$5,293.19	100.00%	\$0.00	1	\$5,293.19	
2	1" Service line to Lot 12 HWY corner 68th Place	LS	\$4,026.59		\$0.00	1	\$4,026.59	100.00%	\$0.00	1	\$4,026.59	
3	Costs associated with cut & plug delays	LS	\$7,272.89		\$0.00	1	\$7,272.89	100.00%	\$0.00	1	\$7,272.89	
4	Actual strip goods	LS	\$8,562.65		\$0.00	1	\$8,562.65	100.00%	\$0.00	1	\$8,562.65	
5	Traffic Control Allowance	LS	\$11,000.00	1	\$11,000.00	1	\$11,000.00	100.00%	\$0.00	1	\$11,000.00	
6	Police Officer Allowance	LS	\$4,000.00	1	\$4,000.00	1	\$4,000.00	100.00%	\$0.00	1	\$4,000.00	
											Subtotal	\$40,155.32

WHEELER CONSTRUCTION, INC
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Received
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Shared Services Center

INVOICE NO 18487 12
 PAGE 1 OF 1
 DATE 09/30/2005
 PERIOD ENDING 09/30/2005
 PE AP PR

CONTRACTOR'S BILLING

NAME Arizona American Water Company
 ADDRESS 19820 North 7th Street
 S No 201
 Phoenix, AZ 85024

PROJECT 83143 Jackrabbl & I rg rd on Rd Water Main Replacement

ITEM	DESCRIPTION	UNIT	PRICE	CURRENT BILLING		BILLING-TO-DATE		% COMPLETE	BALANCE OF CONTRACT	PLANNED QUANTITY	SCHEDULE OF VALUES
				QUANTITY	AMOUNT	QUANTITY	AMOUNT				
	Ch g Ord #3										
1	Mobilization / Demobilization	EA	\$7,500.00		\$0.00	2	\$15,000.00	100.00%	\$0.00	2	\$15,000.00
2	Construction Survey	LS	\$6,900.00		\$0.00	1	\$6,900.00	100.00%	\$0.00	1	\$6,900.00
3	Compaction Test	g	\$7,200.00		\$0.00	1	\$7,200.00	100.00%	\$0.00	1	\$7,200.00
4	Traffic control devices (allowance)	LS	\$20,000.00		\$0.00	0.75	\$15,000.00	75.00%	\$5,000.00	1	\$20,000.00
5	Police officer / Certified Fireman (allowance)	HR	\$58.00		\$0.00	50.00	\$2,900.00	50.00%	\$2,900.00	100	\$5,800.00
6	Political extra - call bet before survey	LS	\$5,500.00		\$0.00	1.00	\$5,500.00	100.00%	\$0.00	1	\$5,500.00
7	16" PC250 Restraint joint ductile iron pipe	LF	\$126.00		\$0.00	2,438.00	\$307,188.00	100.00%	\$0.00	2438	\$307,188.00
7	Storage Materials (Pipe, Valves, Fitting)	LF	\$36,400.00		\$0.00	0.00	\$0.00	ERR	\$0.00	0	\$0.00
8	16" Vertical alignment	EA	\$4,800.00		\$0.00	3.00	\$14,400.00	100.00%	\$0.00	3	\$14,400.00
9	8" Vertical realignment	EA	\$2,500.00		\$0.00	1.00	\$2,500.00	100.00%	\$0.00	1	\$2,500.00
10	8" Vertical realignment	EA	\$2,100.00		\$0.00	1.00	\$2,100.00	100.00%	\$0.00	1	\$2,100.00
11	Remove 16" cap & connect to existing m	EA	\$500.00		\$0.00	1.00	\$500.00	100.00%	\$0.00	1	\$500.00
12	30" 1/2" Jacked steel riser	LF	\$720.00		\$0.00	65.00	\$46,800.00	100.00%	\$0.00	65	\$46,800.00
13	8" PC250 Restraint joint ductile iron pipe	LF	\$145.00		\$0.00	65	\$9,425.00	100.00%	\$0.00	65	\$9,425.00
14	8" PC350 Restraint joint ductile iron pipe	LF	\$132.00		\$0.00	72	\$9,504.00	100.00%	\$0.00	72	\$9,504.00
15	16" Gate valve and bypass complet	EA	\$10,450.00		\$0.00	5.00	\$52,250.00	100.00%	\$0.00	5	\$52,250.00
16	8" Gate Valve with box and cover	EA	\$775.00		\$0.00	2	\$1,550.00	100.00%	\$0.00	2	\$1,550.00
17	8" 6" TS valve box & cover	EA	\$2,775.00		\$0.00	1	\$2,775.00	100.00%	\$0.00	1	\$2,775.00
18	6" x 6" TS valve box & cover	EA	\$2,500.00		\$0.00	2	\$4,700.00	100.00%	\$0.00	2	\$4,700.00
19	2" Water service replacement	EA	\$1,600.00		\$0.00	5	\$8,000.00	100.00%	\$0.00	5	\$8,000.00
20	6" fire hydrant complete on bypass assembly	EA	\$4,200.00		\$0.00	4.00	\$16,800.00	100.00%	\$0.00	4	\$16,800.00
21	Call out and plug sewer man	EA	\$2,700.00		\$0.00	3.00	\$8,100.00	75.00%	\$2,700.00	4	\$10,800.00
22	18" 2" AAWC 390-1 blowoff	EA	\$925.00		\$0.00	1.00	\$925.00	100.00%	\$0.00	1	\$925.00
23	Remove existing valve box backfill / ABC	EA	\$250.00		\$0.00	10	\$2,500.00	100.00%	\$0.00	10	\$2,500.00
24	Remove existing fire hydrant & utility	EA	\$400.00		\$0.00	1	\$400.00	100.00%	\$0.00	1	\$400.00
25	Temporary pavement replacement 3" C-34 Mc	SY	\$24.00		\$0.00	2,400.00	\$57,600.00	100.00%	\$0.00	2400	\$57,600.00
26	Adjust new water valves to grad	EA	\$310.00		\$0.00	8.00	\$2,480.00	100.00%	\$0.00	8	\$2,480.00
27	Encase 16" sewer man MAG 404-1 & 404-2	LF	\$55.00		\$0.00	20.00	\$1,100.00	100.00%	\$0.00	20	\$1,100.00
28	Encase 12" VCP Sewer MAG 404-1 & 404-2	LF	\$48.00		\$0.00	20.00	\$960.00	100.00%	\$0.00	20	\$960.00
29	Remove & Replace Curb	LF	\$20.00		\$0.00	60.00	\$1,200.00	100.00%	\$0.00	60	\$1,200.00
30	Remove & Replace Sidewalk	SF	\$9.50		\$0.00	390.00	\$3,705.00	100.00%	\$0.00	390	\$3,705.00
31	SI my Seal McDonald Drive	SY	\$2.65		\$0.00	2,475.00	\$6,558.75	100.00%	\$0.00	2475	\$6,558.75
32	Signs & Marking (except McDonald Drive)	LS	\$750.00		\$0.00	1.00	\$750.00	100.00%	\$0.00	1	\$750.00
	Contractor Bond	LS	\$6,673.35		\$0.00	1.00	\$6,673.35	100.00%	\$0.00	1	\$6,673.35
	Sales Tax	LS	\$32,790.07		\$0.00	98.33%	\$32,242.31	98.33%	\$247.76	1	\$32,790.07
										Subtotal	\$867,334.17
	Change Order #4 Revised										
1	Total cost for SSC	LS	\$65,637.00		\$0.00	1	\$65,637.00	100.00%	\$0.00	1	\$65,637.00
2	Credit for item #12 in CO #3	LS	(\$46,800.00)		\$-0.00	1	(\$46,800.00)	100.00%	\$0.00	1	(\$46,800.00)
	Bond	LS	\$200.00		\$0.00	1	\$200.00	100.00%	\$0.00	1	\$200.00
	Sales Tax	LS	\$983.84		\$0.00	1	\$983.84	100.00%	\$0.00	1	\$983.84
										Subtotal	\$20,020.84
	Change Order #4 Difference										
1	Debit for actual cost for SSC	LS	(\$2,983.50)		(\$2,983.50)	1	(\$2,983.50)	100.00%	\$0.00	1	(\$2,983.50)
	Debit for actual cost for bond	LS	(\$31,711)		(\$31,711)	1	(\$31,711)	100.00%	\$0.00	1	(\$31,711)
	Debit for actual cost for sales tax	LS	(\$155.82)		(\$155.82)	1	(\$155.82)	100.00%	\$0.00	1	(\$155.82)
										Subtotal	(\$34,850.32)
	Change Order #5										
1	Barriers & Police Officer	LS	\$84,209.38		\$0.00	1	\$84,209.38	100.00%	\$0.00	1	\$84,209.38
2	Allowance Billed CD #1 & #2	LS	(\$60,600.00)		\$-0.00	1	(\$60,600.00)	100.00%	\$0.00	1	(\$60,600.00)
	Sales Tax	LS	\$1,220.13		\$0.00	1	\$1,220.13	100.00%	\$0.00	1	\$1,220.13
										Subtotal	\$24,829.51
	Change Order #5 Difference										
1	Add actual cost of Barrier & Police Officer	LS	\$3,827.70		\$3,827.70	1	\$3,827.70	100.00%	\$0.00	1	\$3,827.70
	Sales Tax	LS	\$197.82		\$197.82	1	\$197.82	100.00%	\$0.00	1	\$197.82
										Subtotal	\$4,025.52
	Change Order #6										
1	Add actual cost for Fire Hydrant	LS	\$2,877.70		\$0.00	1	\$2,877.70	100.00%	\$0.00	1	\$2,877.70
	Bond	LS	\$30.58		\$0.00	1	\$30.58	100.00%	\$0.00	1	\$30.58
	Sales Tax	LS	\$150.30		\$0.00	1	\$150.30	100.00%	\$0.00	1	\$150.30
										Subtotal	\$3,058.58

WHEELER CONSTRUCTION INC
 P O Box 5277
 1319 North 24th Street
 Phoenix, Arizona 85018-5277
 (602) 254-3178
 FAX (602) 254-1293

Received
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Shared Services Center

INVOICE NO 18607 12
 PAGE 1 OF 1
 DATE 08/31/2005
 PERIOD ENDING 08/31/2005
 PREPARED BY Ashley / Phil

CONTRACTOR'S BILLING

NAME Arizona American Water Company
 ADDRESS 19420 North 7th Street
 Suite 201
 Phoenix, AZ 85024

PROJECT 85143 Jackrabbit & Invergordon Rd Water Main Replacement

ITEM	DESCRIPTION	UNIT	PRICE	CURRENT BILLING		BILLING-TO-DATE		% COMPLETE	BALANCE OF CONTRACT	PLANNED QUANTITY	SCHEDULE OF VALUES
				QUANTITY	AMOUNT	QUANTITY	AMOUNT				
Change Order #7											
1	Total Cost for Behr Drilling	LS	\$24,691.96		\$0.00	1	\$24,691.96	100.00%	\$0.00	1	\$24,691.96
	Bond	LS	\$252.43		\$0.00	1	\$252.43	100.00%	\$0.00	1	\$252.43
	Sales Tax	LS	\$1,289.64		\$0.00	1	\$1,289.64	100.00%	\$0.00	1	\$1,289.64
Subtotal											\$26,234.03
Change Ord #7 Diff Invoice											
1	Deduct for actual cost for Behr Drilling	LS	(\$3,810.88)	1	(\$3,810.88)	1	(\$3,810.88)	100.00%	\$0.00	1	(\$3,810.88)
	Bond	LS	(\$40.11)	1	(\$40.11)	1	(\$40.11)	100.00%	\$0.00	1	(\$40.11)
	Sales Tax	LS	(\$199.04)	1	(\$199.04)	1	(\$199.04)	100.00%	\$0.00	1	(\$199.04)
Subtotal											(\$4,050.03)
Change Order #8											
1	Behr Drilling 1 Air/Relief Valve @ Marston	LS	\$2,870.44	1	\$2,870.44	1	\$2,870.44	100.00%	\$0.00	1	\$2,870.44
2	Additional Depth of Manhole @ 29th St & 24th St	LS	\$6,232.41	1	\$6,232.41	1	\$6,232.41	100.00%	\$0.00	1	\$6,232.41
3	Rock Excavation @ Station 29+81	LS	\$7,205.44	1	\$7,205.44	1	\$7,205.44	100.00%	\$0.00	1	\$7,205.44
4	Relocate Blow Off Assembly @ 44th St	LS	\$2,629.53	1	\$2,629.53	1	\$2,629.53	100.00%	\$0.00	1	\$2,629.53
5	Rock Excavation @ 16 Mile Station 12+00 West	LS	\$20,037.45	1	\$20,037.45	1	\$20,037.45	100.00%	\$0.00	1	\$20,037.45
6	Excavating CAT 330 Hammer Rental	LS	\$7,950.00	1	\$7,950.00	1	\$7,950.00	100.00%	\$0.00	1	\$7,950.00
7	Behr Drilling Perform Testing Services	LS	\$752.33	1	\$752.33	1	\$752.33	100.00%	\$0.00	1	\$752.33
8	5% Markup on Subcontractors	LS	\$2,383.88	1	\$2,383.88	1	\$2,383.88	100.00%	\$0.00	1	\$2,383.88
	Bond	LS	\$532.05	1	\$532.05	1	\$532.05	100.00%	\$0.00	1	\$532.05
	Sales Tax	LS	\$2,614.67	1	\$2,614.67	1	\$2,614.67	100.00%	\$0.00	1	\$2,614.67
Subtotal											\$53,208.20
Change Order #9											
1	16" PC250 Restructured Joint DIP	LF	\$126.00	5	\$630.00	5	\$630.00	100.00%	\$0.00	5	\$630.00
2	Pavement Replacement	SY	\$24.00	132	\$3,168.00	132	\$3,168.00	100.00%	\$0.00	132	\$3,168.00
3	Adjust Valves to Finish Grade	EA	\$310.00	0	\$0.00	0	\$0.00	ERR	\$0.00	0	\$0.00
4	Encase 16" Water Main MAG 404-1404-2	LF	\$56.00	56	\$3,136.00	56	\$3,136.00	100.00%	\$0.00	56	\$3,136.00
5	Encase 12" VCP Sewer MAG 404-1404-2	LF	\$48.00	36	\$1,728.00	36	\$1,728.00	100.00%	\$0.00	36	\$1,728.00
6	Remove & Replace Curb	LF	\$20.00	140	\$2,800.00	140	\$2,800.00	100.00%	\$0.00	140	\$2,800.00
7	Remove & Replace Street Ramp	SF	\$9.50	287	\$2,726.50	287	\$2,726.50	100.00%	\$0.00	287	\$2,726.50
	Bond	LS	\$150.80	1	\$150.80	1	\$150.80	100.00%	\$0.00	1	\$150.80
	Sales Tax	LS	\$741.05	1	\$741.05	1	\$741.05	100.00%	\$0.00	1	\$741.05
Subtotal											\$13,848.35
Change Order #10											
1	Barricades & Police Officer	LS	\$19,051.36	1	\$19,051.36	1	\$19,051.36	100.00%	\$0.00	1	\$19,051.36
2	Allowance Billed in original contract	LS	(\$17,900.00)	1	(\$17,900.00)	1	(\$17,900.00)	100.00%	\$0.00	1	(\$17,900.00)
	Bond	LS	\$12.24	1	\$12.24	1	\$12.24	100.00%	\$0.00	1	\$12.24
	Sales Tax	LS	\$80.13	1	\$80.13	1	\$80.13	100.00%	\$0.00	1	\$80.13
Subtotal											\$1,223.73
REMARKS	Retention held on Change Order #3			Total Invoice	\$81,316.34		\$2,543,791.74		\$19,147.78		\$2,554,929.58
				Retainage	10.00%	\$-0.00	(\$5,000.00)				
				Net Invoice	\$81,316.34		\$2,538,791.74				% COMPLETE
				Less Prior Billings			(\$2,457,475.40)				88.96%
TERMS				Balance Due	\$81,316.34		\$81,316.34				
				Misc. Charges/Credits	\$0.00		\$0.00				
				AMOUNT DUE THIS INVOICE	\$81,316.34		\$81,316.34				

Wheeler Construction, Inc
1310 N 24th Street
Phoenix, Arizona 85008
Phone 602-254-3179 Fax 602 254-1293

CONDITIONAL-WAIVER AND RELEASE ON PROGRESS PAYMENT
(Pursuant to A R S 33 1008)



Project **Jackrabbit & Invergordon Rd Water Main Replacement**
Job No **85143**

On receipt by the undersigned of a check from **Arizona American Water Company** in the sum of ****\$81,316 34**** payable to **Wheeler Construction, Inc** and when the check has been properly endorsed and has been paid by the bank on which it is drawn this document becomes effective to release any Mechanic's Lien any state or federal statutory bond right any private bond right any claim for payment and any rights under any similar ordinance rule or statue related to claim or payment rights for persons in the undersigned's position that the undersigned has on the job of **Arizona American Water Company** located at **Jackrabbit & Invergordon** to the following extent This release covers a progress payment for all labor and materials through **08/31/05** only and does not cover any retention pending modifications and changes or items furnished after that date

Before any recipient of this document relies on it that person should verify evidence of payment to the undersigned

The undersigned warrants that he either has already paid or will use the monies he receives from this progress payment to promptly pay in full all of his laborers subcontractors materialmen and suppliers for all work materials, equipment or services provided for or to the above referenced project up to the date of this waiver The following invoices and pay applications are included in the above referenced amount **Invoice #18607-12**

Date **September 2, 2005**

WHEELER CONSTRUCTION, INC

By *Judy L. Eldridge*
Judy L. Eldridge CFO/Treasurer

ARIZONA AMERICAN WATER
 PARADISE VALLEY OPERATING DISTRICT
 PUBLIC SAFETY SURCHARGE (PSS)

Summary of Public Safety/Fire Flow Task Orders Completed Since Jan. 1, 2005

Project	Work Order	Account No.	Description	Amount
McDonald Main Extension	50076718	23020501.105200.21	CWIP Co Labor-Infrastr	5,500.78
		23020501.105250.21	CWIP labor OH-Infrastr	3,947.90
		23020501.105260.21	CWIP Overhead-Infrastr	22,020.99
			Additional Amounts at Closing:	5,103.45
		23020501.105275.21	CWIP Contr Svc-Infrastr	314,155.57
			Additional Amounts at Closing:	68,609.08
		23020501.105275.31	CWIP Contr Svc-Plant	392,041.09
		23020501.105350.21	CWIP AFUDC Debt-Infrastr	3,471.38
		23020501.105375.21	CWIP AFUDC Eqty-Infrastr	6,432.76
			Total Additional at Closing	73,712.53
	Total for Project	<u>821,283.00</u>		
Total Additional at Closing (both projects)				<u>105,164.25</u>



Functions Options Tools Help

From Date/Period: _____
 Through Date/Period: 02/17/86
 Item Number: 00101100
 Ledger Type: RA
 Skip to Account: McDonald Main Extension-T&D MA
 Detail/Summary (D/S/O): D
 Units/Unit Cost (Y/A/B): N
 Subledger/Type(*-All): *

OP	Acct	Account Description	Incep to Date	Year to Date	Month to Date
	101000	TD Mains Not Classified	821,283.00	16,147.76	
		Utility Plant in Servi	821,283.00	16,147.76	
	105200	CWIP Co Labor-Infrastr	5,500.78		
	105250	CWIP Labor OH-Infrastr	3,947.90		
	105260	CWIP Overhead-Infrastr	27,124.44		
	105275	CWIP Contr Suc-Infrastr	382,764.65	16,147.76	
	105275	CWIP Contr Suc-Plant	392,041.09		
	105350	CWIP AFUDC Debt-Infrast	3,471.38		
	105375	CWIP AFUDC Eqty-Infrast	6,432.76		
	105900	CWIP Tran UPIS-Infrastr	821,283.00-	16,147.76-	
		Work In Progress			
	108105	AD UPIS-AccDepr-Infrast	1,601.50-	1,601.50-	
		Depreciation Reserve	1,601.50-	1,601.50-	
	660110	Depr Exp-General	1,601.50	1,601.50	



Option: 1-Item Transaction Inquiry F4=Full Detail F24=More Keys

MW



Functions Options Tools Help

From Date/Period: _____
 Through Date/Period: 02/17/06
 Item Number: 00101100 Ledger Type: RA
 Skip to Account: _____ Detail/Summary (D/S/O): D
 McDonald Main Extension-T&D MR Units/Unit Cost (Y/A/B): N
 Subledger/Type(*=All): *

OP	Rcct	Account Description	Incep to Date	Year to Date	Month to Date
		Total	1,601.50 821,283.00	1,601.50 16,147.76	



Option: 1=Item Transaction Inquiry F4=Full Detail F24=More Keys

MW



WHEELER CONSTRUCTION, INC
 P O Box 5277
 1316 North 24th Street
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 (602) 254-3179
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 INVOICE NO 18697 12
 PAGE 1 OF 1
 DATE 08/31/2005
 PERIOD ENDING 08/31/2005
 D_PARED BY
 INV# 18607-12
 8/31/05

CONTRACTOR'S BILLING

Received
 SEP - 6 2005
 Shared Services Center

NAME Arizona American Water Company
 ADDRESS 18620 North 7th Street
 S. No 201
 Phoenix, AZ 85024

PROJECT 85143 Jackrabbit & Invergordon Rd. Water Main Replacement

ITEM	DESCRIPTION	UNIT	PRICE	CURRENT BILLING		BILLING-TO-DATE		% COMPLETE	BALANCE OF CONTRACT	PLANNED QUANTITY	SCHEDULE OF VALUES
				QUANTITY	AMOUNT	QUANTITY	AMOUNT				
1	Mobilization / Demobilization	EA	\$12,500.00	0.00	0.00	2.00	\$25,000.00	100.00%	\$0.00	2	\$25,000.00
2	Sawcut, remove, replace AC pavement	SY	\$25.00	0.00	0.00	2,902.00	\$72,550.00	100.00%	\$0.00	2,902	\$72,550.00
3	24" DIP & fittings	LF	\$156.40	0.00	0.00	1,435.00	\$224,434.00	100.00%	\$0.00	1,435	\$224,434.00
4	20" DIP & fittings	LF	\$175.00	0.00	0.00	46.00	\$8,234.00	100.00%	\$0.00	46	\$8,234.00
5	16" DIP & fittings	LF	\$107.50	0.00	0.00	6,565.00	\$705,737.50	100.00%	\$0.00	6,565	\$705,737.50
6	12" DIP & fittings	LF	\$185.00	0.00	0.00	101.00	\$18,685.00	100.00%	\$0.00	101	\$18,685.00
7	8" DIP & fittings	LF	\$378.00	0.00	0.00	19.00	\$7,182.00	100.00%	\$0.00	19	\$7,182.00
8	6" DIP & fittings	LF	\$129.00	0.00	0.00	288.00	\$37,152.00	100.00%	\$0.00	288	\$37,152.00
9	24" BF pipe w/ 6" bypass complete	EA	\$13,200.00	0.00	0.00	2.00	\$26,400.00	100.00%	\$0.00	2	\$26,400.00
10	20" BF pipe w/ 6" bypass complete	EA	\$12,560.00	0.00	0.00	1.00	\$12,560.00	100.00%	\$0.00	1	\$12,560.00
11	16" Gate valve w/ 16" bypass complete	EA	\$9,875.00	0.00	0.00	12.00	\$118,500.00	100.00%	\$0.00	12	\$118,500.00
12	16" 16" TS pipe box & cover	EA	\$9,300.00	0.00	0.00	1.00	\$9,300.00	100.00%	\$0.00	1	\$9,300.00
13	12" 12" TS pipe box & cover	EA	\$4,300.00	0.00	0.00	2.00	\$8,600.00	100.00%	\$0.00	2	\$8,600.00
14	8" 8" TS valve box & cover	EA	\$2,550.00	0.00	0.00	1.00	\$2,550.00	100.00%	\$0.00	1	\$2,550.00
15	6" 6" TS valve box & cover	EA	\$2,100.00	0.00	0.00	9.00	\$18,900.00	100.00%	\$0.00	9	\$18,900.00
16	4" 4" TS valve box & cover	EA	\$2,050.00	0.00	0.00	7.00	\$14,350.00	100.00%	\$0.00	7	\$14,350.00
17	24" lapped cap and 2" IP corp	EA	\$1,250.00	0.00	0.00	1.00	\$1,250.00	100.00%	\$0.00	1	\$1,250.00
18	20" lapped cap and 2" IP corp	EA	\$1,125.00	0.00	0.00	1.00	\$1,125.00	100.00%	\$0.00	1	\$1,125.00
19	16" lapped cap and 2" IP corp	EA	\$800.00	0.00	0.00	1.00	\$800.00	100.00%	\$0.00	1	\$800.00
20	6" fire hydrant w/ 6" VB&C	EA	\$3,900.00	0.00	0.00	21.00	\$81,900.00	100.00%	\$0.00	21	\$81,900.00
21	Cut out and plug sewer man	EA	\$2,250.00	0.00	0.00	20.00	\$45,000.00	100.00%	\$0.00	20	\$45,000.00
22	Water valve removal	EA	\$250.00	0.00	0.00	22.00	\$5,500.00	100.00%	\$0.00	22	\$5,500.00
23	1" water service clean to meter	EA	\$700.00	0.00	0.00	28.00	\$19,600.00	100.00%	\$0.00	28	\$19,600.00
24	Pavement marking 4" double yellow paint	LF	\$0.65	0.00	0.00	6,703.00	\$4,356.95	100.00%	\$0.00	6,703	\$4,356.95
25	Pavement marking 8" solid white paint	LF	\$0.65	0.00	0.00	200.00	\$130.00	100.00%	\$0.00	200	\$130.00
26	Pavement marking 12" solid white paint	LF	\$3.50	0.00	0.00	644.00	\$2,254.00	100.00%	\$0.00	644	\$2,254.00
27	Asphalt curbside seal	SY	\$1.35	0.00	0.00	29,633.00	\$40,004.55	100.00%	\$0.00	29,633	\$40,004.55
28	Traffic control	LS	\$18,000.00	0.00	0.00	1.00	\$18,000.00	100.00%	\$0.00	1	\$18,000.00
29	Traffic officer	LS	\$7,600.00	0.00	0.00	1.00	\$7,600.00	100.00%	\$0.00	1	\$7,600.00
Subtotal											
Subtotal \$1,537,853.00											
Change Order #1											
1	Costs associated / delays caused by utility lines not shown on plans	HR	\$1,114.03	0.00	0.00	78	\$86,894.34	100.00%	\$0.00	78	\$86,894.34
2	Credit for deleted 1" water services	EA	\$700.00	\$0.00	0.00	-5	(\$3,500.00)	100.00%	\$0.00	-5	(\$3,500.00)
3	Additional cost to increase service sizes to 2"	EA	\$1,366.64	\$0.00	0.00	4	\$5,466.56	100.00%	\$0.00	4	\$5,466.56
3b	Additional cost to increase service sizes to 4"	EA	\$3,625.78	\$0.00	0.00	1	\$3,625.78	100.00%	\$0.00	1	\$3,625.78
3	Costs to encase sewer services	EA	\$476.35	\$0.00	0.00	3	\$1,429.05	100.00%	\$0.00	3	\$1,429.05
4	Add 16" ductile iron pipe due to changes	LF	\$107.50	\$0.00	0.00	33	\$3,547.50	100.00%	\$0.00	33	\$3,547.50
4a	Credit for 16" bypasses not installed	EA	\$5,475.00	\$0.00	0.00	-2	(\$10,950.00)	100.00%	\$0.00	-2	(\$10,950.00)
5	Credit for 16" 16" lapping sleeve and valve	EA	\$9,300.00	\$0.00	0.00	-1	(\$9,300.00)	100.00%	\$0.00	-1	(\$9,300.00)
5a	Costs associated w/ McDonald / Invergordon	LS	\$10,588.39	\$0.00	0.00	1	\$10,588.39	100.00%	\$0.00	1	\$10,588.39
6	Scottsdale Jackrabbit mill & overlay pavement	LS	\$37,048.89	\$0.00	0.00	1	\$37,048.89	100.00%	\$0.00	1	\$37,048.89
7	Replace concrete apron & walk NE corner	LS	\$2,600.00	\$0.00	0.00	1	\$2,600.00	100.00%	\$0.00	1	\$2,600.00
8	Added pavement replacement due to alignment changes, conflicts & conditions	SY	\$25.00	\$0.00	0.00	875	\$21,875.00	100.00%	\$0.00	875	\$21,875.00
9	Traffic Control Allowance increase	LS	\$15,000.00	\$0.00	0.00	1	\$15,000.00	100.00%	\$0.00	1	\$15,000.00
10	Police Officer Allowance increase	LS	\$5,000.00	\$0.00	0.00	1	\$5,000.00	100.00%	\$0.00	1	\$5,000.00
Subtotal											
Subtotal \$148,123.31											
Change Order #2											
1	Added lapping sleeve and 6" ductile iron pipe at 62th Place and Jackrabbit	LS	\$5,293.19	\$0.00	0.00	1	\$5,293.19	100.00%	\$0.00	1	\$5,293.19
2	1" Service line to Lot 12 HWY corner (S) 2nd Place	LS	\$4,026.59	\$0.00	0.00	1	\$4,026.59	100.00%	\$0.00	1	\$4,026.59
3	Costs associated with cut & plug delays	LS	\$7,272.89	\$0.00	0.00	1	\$7,272.89	100.00%	\$0.00	1	\$7,272.89
4	Armal strip g costs	LS	\$9,562.65	\$0.00	0.00	1	\$9,562.65	100.00%	\$0.00	1	\$9,562.65
5	Traffic Control Allowance	LS	\$11,000.00	1	\$11,000.00	1	\$11,000.00	100.00%	\$0.00	1	\$11,000.00
6	Police Officer Allowance	LS	\$4,000.00	1	\$4,000.00	1	\$4,000.00	100.00%	\$0.00	1	\$4,000.00
Subtotal											
Subtotal \$48,158.32											

WHEELER CONSTRUCTION, INC
 P O Box 5377
 1730 West 4th Street
 Phoenix, Arizona 85010-5277
 (602) 254-3178
 FAX (602) 254-1293

Received
SEP - 6 2005
Shared Services Center

INVOICE NO 18489 12
 PAGE 1 OF 1
 DATE 08/31/2005
 PERIOD ENDING 08/31/2005
 PE AP, P, R

CONTRACTOR'S BILL

NAME Arizona American Water Company
 ADDRESS 19820 North 7th Street
 S Ste 201
 Phoenix, AZ 85024

PROJECT 85143 Jackrabbit & Irving Rd Water Main Replacement

ITEM	DESCRIPTION	UNIT	PRICE	CURRENT BILLING		BILLING-TO-DATE		% COMPLETE	BALANCE OF CONTRACT	PLANNED QUANTITY	SCHEDULE OF VALUES
				QUANTITY	AMOUNT	QUANTITY	AMOUNT				
1	Mobile station / Demobilization	EA	\$7,500.00	0.00	0.00	2.00	\$15,000.00	100.00%	\$0.00	2	\$15,000.00
2	Construction Survey	LS	\$6,900.00	0.00	0.00	1.00	\$6,900.00	100.00%	\$0.00	1	\$6,900.00
3	Construction Test	LS	\$7,200.00	0.00	0.00	1.00	\$7,200.00	100.00%	\$0.00	1	\$7,200.00
4	Traffic control devices (allowance)	LS	\$70,000.00	0.00	0.00	0.75	\$15,000.00	75.00%	\$5,000.00	1	\$20,000.00
5	Police officer / Certified Trafficman (allowance)	HP	\$58.00	0.00	0.00	50.00	\$2,900.00	50.00%	\$2,900.00	100	\$5,800.00
6	Police officer / Certified Trafficman (allowance)	LS	\$5,500.00	0.00	0.00	1.00	\$5,500.00	100.00%	\$0.00	1	\$5,500.00
7	16" PC350 Restraint joint ductile iron pipe	LF	\$126.00	0.00	0.00	2,428.00	\$307,188.00	100.00%	\$0.00	2,428	\$307,188.00
7	Classroom Material (Pipe, Valves, Fittings)	LF	\$56,400.00	0.00	0.00	0.00	\$0.00	ERRR	\$0.00	0	\$0.00
8	16" Vertical culvert	EA	\$4,800.00	0.00	0.00	3.00	\$14,400.00	100.00%	\$0.00	3	\$14,400.00
9	8" Vertical manhole	EA	\$2,500.00	0.00	0.00	1.00	\$2,500.00	100.00%	\$0.00	1	\$2,500.00
10	8" Vertical manhole	EA	\$2,100.00	0.00	0.00	1.00	\$2,100.00	100.00%	\$0.00	1	\$2,100.00
11	Remove 16" cap & connect to existing	EA	\$500.00	0.00	0.00	1.00	\$500.00	100.00%	\$0.00	1	\$500.00
12	30' 1/2" Jacked steel pipe	LF	\$720.00	0.00	0.00	65.00	\$46,800.00	100.00%	\$0.00	65	\$46,800.00
13	8" PC350 Restraint joint ductile iron pipe	LF	\$145.00	0.00	0.00	85	\$9,425.00	100.00%	\$0.00	65	\$9,425.00
14	8" PC350 Restraint joint ductile iron pipe	LF	\$132.00	0.00	0.00	72	\$9,504.00	100.00%	\$0.00	72	\$9,504.00
15	16" Gate valve and by-pass complete	EA	\$10,250.00	0.00	0.00	5.00	\$51,250.00	100.00%	\$0.00	5	\$51,250.00
16	8" Gate Valve with box and cover	EA	\$775.00	0.00	0.00	2	\$1,550.00	100.00%	\$0.00	2	\$1,550.00
17	8" 8" TS pipe box & cover	EA	\$2,775.00	0.00	0.00	1	\$2,775.00	100.00%	\$0.00	1	\$2,775.00
18	6" x 6" TS pipe box & cover	EA	\$2,350.00	0.00	0.00	2	\$4,700.00	100.00%	\$0.00	2	\$4,700.00
19	2" Water service replacement	EA	\$1,600.00	0.00	0.00	5	\$8,000.00	100.00%	\$0.00	5	\$8,000.00
20	6" fire hydrant complete on bypass assembly	EA	\$4,200.00	0.00	0.00	4.00	\$16,800.00	100.00%	\$0.00	4	\$16,800.00
21	Cut out and plug sewer man	EA	\$2,700.00	0.00	0.00	3.00	\$8,100.00	75.00%	\$2,700.00	4	\$10,800.00
22	16" 2" AAWC 300-1 blowoff	EA	\$225.00	0.00	0.00	1.00	\$225.00	100.00%	\$0.00	1	\$225.00
23	Remove existing pipe back to JABC	EA	\$250.00	0.00	0.00	10	\$2,500.00	100.00%	\$0.00	10	\$2,500.00
24	Remove existing fire hydrant & valve	EA	\$400.00	0.00	0.00	1	\$400.00	100.00%	\$0.00	1	\$400.00
25	Temporary pavement replacement 3" C-34 M	SY	\$24.00	0.00	0.00	2,460.00	\$57,600.00	100.00%	\$0.00	2,460	\$57,600.00
26	Adjust new sewer lines to grad	EA	\$310.00	0.00	0.00	8.00	\$2,480.00	100.00%	\$0.00	8	\$2,480.00
27	Encase 16" sewer manhole MAG 404-1 & 404-2	LF	\$55.00	0.00	0.00	20.00	\$1,100.00	100.00%	\$0.00	20	\$1,100.00
28	Encase 12" VCP Sewer MAG 404-1 & 404-2	LF	\$48.00	0.00	0.00	20.00	\$960.00	100.00%	\$0.00	20	\$960.00
29	Remove & Replace Curb	LF	\$20.00	0.00	0.00	60.00	\$1,200.00	100.00%	\$0.00	60	\$1,200.00
30	Remove & Replace Sidewalk	SF	\$9.58	0.00	0.00	390.00	\$3,705.00	100.00%	\$0.00	360	\$3,705.00
31	Seal Manhole with Drive	SY	\$2.65	0.00	0.00	2,475.00	\$6,558.75	100.00%	\$0.00	2,475	\$6,558.75
32	Striping & Marking (except McDonald Drive)	LS	\$750.00	0.00	0.00	1.00	\$750.00	100.00%	\$0.00	1	\$750.00
	Contractor Bond	LS	\$6,673.35	0.00	0.00	1.00	\$6,673.35	100.00%	\$0.00	1	\$6,673.35
	Sales Tax	LS	\$2,790.07	0.00	0.00	98.33%	\$2,242.31	98.33%	\$547.76	1	\$2,790.07
										Subtotal	\$467,334.17
Change Order #4 Revised											
1	Total cost for SSC	LS	\$65,637.00	0.00	0.00	1	\$65,637.00	100.00%	\$0.00	1	\$65,637.00
2	Credit for item #12 in CO #3	LS	(\$46,800.00)	0.00	0.00	1	(\$46,800.00)	100.00%	\$0.00	1	(\$46,800.00)
	Bond	LS	\$200.00	0.00	0.00	1	\$200.00	100.00%	\$0.00	1	\$200.00
	Sales Tax	LS	\$983.84	0.00	0.00	1	\$983.84	100.00%	\$0.00	1	\$983.84
										Subtotal	\$20,020.84
Change Order #4 Difference											
1	Deduction for actual cost for SSC	LS	(\$2,983.50)	1	(\$2,983.50)	1	(\$2,983.50)	100.00%	\$0.00	1	(\$2,983.50)
	Deduction for actual cost for bond	LS	(\$317.11)	1	(\$317.11)	1	(\$317.11)	100.00%	\$0.00	1	(\$317.11)
	Deduction for actual cost for sales tax	LS	(\$155.82)	1	(\$155.82)	1	(\$155.82)	100.00%	\$0.00	1	(\$155.82)
										Subtotal	(\$3,456.43)
Change Order #5											
1	Barcade & Police Officer	LS	\$84,209.38	0.00	0.00	1	\$84,209.38	100.00%	\$0.00	1	\$84,209.38
2	Allowance Bond CO #1 & #2	LS	(\$60,600.00)	0.00	0.00	1	(\$60,600.00)	100.00%	\$0.00	1	(\$60,600.00)
	Sales Tax	LS	\$1,220.13	0.00	0.00	1	\$1,220.13	100.00%	\$0.00	1	\$1,220.13
										Subtotal	\$24,829.51
Change Order #5 Difference											
1	Add actual cost of Barcade & Police Officer	LS	\$3,827.70	1	\$3,827.70	1	\$3,827.70	100.00%	\$0.00	1	\$3,827.70
	Sales Tax	LS	\$197.82	1	\$197.82	1	\$197.82	100.00%	\$0.00	1	\$197.82
										Subtotal	\$4,025.52
Change Order #6											
1	Add actual cost for fire hydrant	LS	\$2,877.70	0.00	0.00	1	\$2,877.70	100.00%	\$0.00	1	\$2,877.70
	Bond	LS	\$30.58	0.00	0.00	1	\$30.58	100.00%	\$0.00	1	\$30.58
	Sales Tax	LS	\$150.30	0.00	0.00	1	\$150.30	100.00%	\$0.00	1	\$150.30
										Subtotal	\$3,058.58

Wheeler Construction, Inc
1310 N 24th Street
Phoenix, Arizona 85008
Phone 602-254-3179 Fax 602 254-1293

CONDITIONAL-WAIVER-AND RELEASE ON PROGRESS PAYMENT
(Pursuant to A R S 33 1008)

Project **Jackrabbit & Invergordon Rd Water Main Replacement**
Job No **85143**



On receipt by the undersigned of a check from Arizona American Water Company in the sum of ****\$81,316 34**** payable to Wheeler Construction, Inc and when the check has been properly endorsed and has been paid by the bank on which it is drawn this document becomes effective to release any Mechanic's Lien any state or federal statutory bond right any private bond right any claim for payment and any rights under any similar ordinance rule or statue related to claim or payment rights for persons in the undersigned's position that the undersigned has on the job of **Arizona American Water Company** located at **Jackrabbit & Invergordon** to the following extent This release covers a progress payment for all labor and materials through **08/31/05** only and does not cover any retention pending modifications and changes or items furnished after that date

Before any recipient of this document relies on it that person should verify evidence of payment to the undersigned

The undersigned warrants that he either has already paid or will use the monies he receives from this progress payment to promptly pay in full all of his laborers subcontractors materialmen and suppliers for all work materials, equipment or services provided for or to the above referenced project up to the date of this waiver The following invoices and pay applications are included in the above referenced amount **Invoice #18607-12**

Date **September 2, 2005**

WHEELER CONSTRUCTION, INC

By 
Judy L. Eldridge CFO/Treasurer

Wheeler Construction, Inc
1310 N 24th Street
Phoenix, Arizona 85008
Phone 602-254-3179 Fax 602 254-1293

CONDITIONAL WAIVER AND RELEASE ON PROGRESS PAYMENT

(Pursuant to A R S 33-1008)

Project Jackrabbit & Invergordon Rd Water Main Replacement
Job No 85143

A235PEC07
50024523^{ap}
INV 2514314HB
D 9-29-05

On receipt by the undersigned of a check from Arizona American Water Co in the sum of **\$6,114 78** payable to Wheeler Construction, Inc and when the check has been properly endorsed and has been paid by the bank on which it is drawn this document becomes effective to release any Mechanic's Lien any state or federal statutory bond right any private bond right, any claim for payment and any rights under any similar ordinance rule or statue related to claim or payment rights for persons in the undersigned's position that the undersigned has on the job of Arizona American Water Co located at Jackrabbit & Invergordon Rd Water Main Replacement to the following extent This release covers a progress payment for all labor services equipment of materials furnished to the jobsite or to Arizona American Water Co through 9/29/05 only and does not cover any retention, pending modifications and changes or items furnished after that date

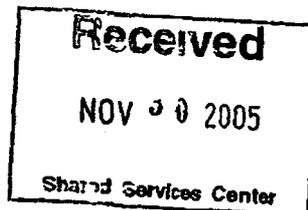
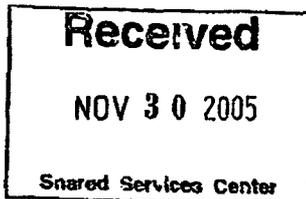
Before any recipient of this document relies on it that person should verify evidence of payment to the undersigned

The undersigned warrants that he either has already paid or will use the monies he receives from this progress payment to promptly pay in full all of his laborers subcontractors materialmen and suppliers for all work materials equipment or services provided for or to the above referenced project up to the date of this waiver. The following invoices and pay applications are included in the above referenced amount: Invoice #85143-14HB

Date October 6, 2005

WHEELER CONSTRUCTION, INC

By Andrew L. Eldridge
Andrew L. Eldridge - Vice President



WHEELER CONSTRUCTION, INC.
 P. O. Box 5277
 1319 North 24th Street
 Phoenix, Arizona 85016-5277
 (602) 254-3179
 FAX (602) 254-1250

CONTRACTOR'S BILLING

INVOICE NO: 05140-148

NAME: Arizona American Water Company
 ADDRESS: 1829 North 7th Street
 Suite 201
 Phoenix, AZ 85004

PAGE: 1 OF 1
 DATE: 08/23/05
 PERIOD ENDING: 08/23/05
 PREPARED BY: Ashley J Paul

PROJECT 05140 Jackrabbit & Irvington Rd. Water Main Replacement

ITEM	DESCRIPTION	UNIT	PRICE	CURRENT BILLING		BILLING-TO-DATE		% COMPLETE	BALANCE OF CONTRACT	PLANNED QUANTITY	SCHEDULE OF VALUES
				QUANTITY	AMOUNT	QUANTITY	AMOUNT				
Change Order #7											
1	Total Cost for Bdr Drilling	LS	\$4,691.86	10.00	1	\$4,691.86	100.00%	\$0.00	1	\$4,691.86	
	Bond	LS	\$262.43	0.00	1	\$262.43	100.00%	\$0.00	1	\$262.43	
	Sales Tax	LS	\$1,289.84	0.00	1	\$1,289.84	100.00%	\$0.00	1	\$1,289.84	
										Subtotal	\$6,244.13
Change Order #7 Disburse											
1	Deduct for actual cost for Bdr Drilling	LS	(\$3,810.89)	1-0.00	1	(\$3,810.89)	100.00%	\$0.00	1	(\$3,810.89)	
	Bond	LS	(\$40.51)	1-0.00	1	(\$40.51)	100.00%	\$0.00	1	(\$40.51)	
	Sales Tax	LS	(\$199.04)	1-0.00	1	(\$199.04)	100.00%	\$0.00	1	(\$199.04)	
										Subtotal	(\$4,050.44)
Change Order #8											
1	Bdr Drilling 1" AirRaid Valve @ Marston	LS	\$2,870.44	0.00	1	\$2,870.44	100.00%	\$0.00	1	\$2,870.44	
2	Additional Depth of Manhole @ 29-54 & 24-20	LS	\$6,232.41	0.00	1	\$6,232.41	100.00%	\$0.00	1	\$6,232.41	
3	Rock Excavation @ Station 23-41	LS	\$7,205.44	0.00	1	\$7,205.44	100.00%	\$0.00	1	\$7,205.44	
4	Rebuild Flow Off Assembly @ 44th St.	LS	\$2,829.53	0.00	1	\$2,829.53	100.00%	\$0.00	1	\$2,829.53	
5	Rock Excavation @ 18' Mainline Station 12-00 West	LS	\$20,037.45	0.00	1	\$20,037.45	100.00%	\$0.00	1	\$20,037.45	
6	82's Excavating CAT 300 Hammer Head	LS	\$7,850.00	0.00	1	\$7,850.00	100.00%	\$0.00	1	\$7,850.00	
7	Bdr Drilling Performe Testing Services	LS	\$752.33	0.00	1	\$752.33	100.00%	\$0.00	1	\$752.33	
8	5% Markup on Subcontractors	LS	\$2,363.88	0.00	1	\$2,363.88	100.00%	\$0.00	1	\$2,363.88	
	Bond	LS	\$532.05	0.00	1	\$532.05	100.00%	\$0.00	1	\$532.05	
	Sales Tax	LS	\$2,514.57	0.00	1	\$2,514.57	100.00%	\$0.00	1	\$2,514.57	
										Subtotal	\$53,308.30
Change Order #9											
1	18" PC220 Reinforced Jost DIP	LF	\$28.00	0.00	5	\$560.00	100.00%	\$0.00	5	\$560.00	
2	Manhole Replacement	SY	\$24.00	0.00	132	\$3,168.00	100.00%	\$0.00	132	\$3,168.00	
3	Adjust Valves to Fresh Grade	EA	\$310.00	0.00	0	\$0.00	0%	\$0.00	0	\$0.00	
4	Excuse 18" Water Main MNG 404-1404-2	LF	\$38.00	0.00	56	\$3,136.00	100.00%	\$0.00	56	\$3,136.00	
5	Excuse 12" VCP Drive MNG 404-1404-2	LF	\$48.00	0.00	36	\$1,728.00	100.00%	\$0.00	36	\$1,728.00	
6	Remove & Replace Curb	LF	\$20.00	0.00	140	\$2,800.00	100.00%	\$0.00	140	\$2,800.00	
7	Remove & Replace 8th Drw Ramp	SY	\$8.50	0.00	267	\$2,270.50	100.00%	\$0.00	267	\$2,270.50	
	Bond	LS	\$150.80	0.00	1	\$150.80	100.00%	\$0.00	1	\$150.80	
	Sales Tax	LS	\$741.05	0.00	1	\$741.05	100.00%	\$0.00	1	\$741.05	
										Subtotal	\$15,088.36
Change Order #10											
1	Barbadoe & Police Officer	LS	\$19,051.38	0.00	1	\$19,051.38	100.00%	\$0.00	1	\$19,051.38	
2	Allowance (filled in original contract)	LS	(\$17,800.00)	1-0.00	1	(\$17,800.00)	100.00%	\$0.00	1	(\$17,800.00)	
	Bond	LS	\$12.24	0.00	1	\$12.24	100.00%	\$0.00	1	\$12.24	
	Sales Tax	LS	\$50.13	0.00	1	\$50.13	100.00%	\$0.00	1	\$50.13	
										Subtotal	\$1,233.79
REMARKS: Retention held on Change Order #0											
				Total Invoice:	\$0.00	\$2,564,839.60		\$0.00		\$2,564,839.60	
				Retainage:	10.00%	\$6,114.78		\$0.00		\$0.00	
				Net Invoice:		\$6,114.78		\$2,564,839.60		\$2,564,839.60	
				Less Prior Billings:				(\$2,548,104.72)		100.00%	
				Balance Due:	\$6,114.78	\$6,114.78		\$0.00		\$0.00	
				Max. Charge/Credit:	\$0.00	\$0.00		\$0.00		\$0.00	
				AMOUNT DUE THIS INVOICE:	\$6,114.78	\$6,114.78		\$0.00		\$0.00	

Received
 NOV 30 2005
 Shared Services Center

WHEELER CONSTRUCTION INC.
 P. O. Box 8277
 1310 North 54th Street
 Phoenix, Arizona 85018-8277
 (602) 254-3179
 FAX (602) 254-1262

CONTRACTOR'S BILLING

INVOICE NO. 8540-1418

PAGE 1 OF 1

NAME: Arizona American Water Company
 ADDRESS: 19129 North 7th Street
 Suite 201
 Phoenix, AZ 85024

DATE: 08/29/05

PERIOD ENDING: 08/31/05

PREPARED BY: Ashley J. Phil

PROJECT: 85143 Jackrabbit & Invergordon Rd. Water Main Replacement

ITEM	DESCRIPTION	UNIT	CURRENT BILLING		BILLING-TO-DATE		% COMPLETE	BALANCE OF CONTRACT	PLANNED QUANTITY	SCHEDULE OF VALUES
			QUANTITY	AMOUNT	QUANTITY	AMOUNT				
1	Mobilization / Demobilization	EA	\$12,000.00	0.00	2.00	\$25,000.00	100.00%	\$0.00	2	\$25,000.00
2	Survey, re-survey, replace AC pavement	SY	\$25.00	0.00	2,802.00	\$72,550.00	100.00%	\$0.00	2902	\$72,550.00
3	24" DP & fittings	LF	\$156.40	0.00	1,435.00	\$224,434.00	100.00%	\$0.00	1435	\$224,434.00
4	20" DP & fittings	LF	\$179.00	0.00	48.00	\$8,234.00	100.00%	\$0.00	48	\$8,234.00
5	16" DP & fittings	LF	\$187.50	0.00	6,568.00	\$705,737.50	100.00%	\$0.00	6568	\$705,737.50
6	12" DP & fittings	LF	\$185.00	0.00	101.00	\$18,685.00	100.00%	\$0.00	101	\$18,685.00
7	8" DP & fittings	LF	\$574.00	0.00	19.00	\$7,122.00	100.00%	\$0.00	19	\$7,122.00
8	6" DP & fittings	LF	\$128.00	0.00	288.00	\$37,152.00	100.00%	\$0.00	288	\$37,152.00
9	24" EF valve w/ 8" bypass complete	EA	\$12,500.00	0.00	2.00	\$25,000.00	100.00%	\$0.00	2	\$25,000.00
10	20" EF valve w/ 8" bypass complete	EA	\$12,500.00	0.00	1.00	\$12,500.00	100.00%	\$0.00	1	\$12,500.00
11	16" Gate valve w/ 16" bypass complete	EA	\$9,875.00	0.00	12.00	\$118,500.00	100.00%	\$0.00	12	\$118,500.00
12	16" x 16" TS, valve box & cover	EA	\$9,300.00	0.00	1.00	\$9,300.00	100.00%	\$0.00	1	\$9,300.00
13	12" x 12" TS, valve box & cover	EA	\$4,300.00	0.00	2.00	\$8,600.00	100.00%	\$0.00	2	\$8,600.00
14	8" x 8" TS, valve box & cover	EA	\$2,500.00	0.00	1.00	\$2,500.00	100.00%	\$0.00	1	\$2,500.00
15	6" x 6" TS, valve box & cover	EA	\$2,100.00	0.00	9.00	\$18,900.00	100.00%	\$0.00	9	\$18,900.00
16	4" x 4" TS, valve box & cover	EA	\$2,000.00	0.00	7.00	\$14,000.00	100.00%	\$0.00	7	\$14,000.00
17	24" tapped cap and 2" IP corp.	EA	\$1,250.00	0.00	1.00	\$1,250.00	100.00%	\$0.00	1	\$1,250.00
18	20" tapped cap and 2" IP corp.	EA	\$1,125.00	0.00	1.00	\$1,125.00	100.00%	\$0.00	1	\$1,125.00
19	16" tapped cap and 2" IP corp.	EA	\$800.00	0.00	1.00	\$800.00	100.00%	\$0.00	1	\$800.00
20	6" fire hydrant w/ 6" VSSC	EA	\$3,800.00	0.00	21.00	\$81,000.00	100.00%	\$0.00	21	\$81,000.00
21	Cut out end plug water main	EA	\$2,250.00	0.00	20.00	\$45,000.00	100.00%	\$0.00	20	\$45,000.00
22	Water valve removed	EA	\$250.00	0.00	22.00	\$5,500.00	100.00%	\$0.00	22	\$5,500.00
23	1" water service, main to meter	EA	\$150.00	0.00	28.00	\$4,200.00	100.00%	\$0.00	28	\$4,200.00
24	Pavement markings: 6" double yellow paint	LF	\$1.85	0.00	4,700.00	\$8,695.00	100.00%	\$0.00	6700	\$8,695.00
25	Pavement markings: 8" solid white paint	LF	\$0.85	0.00	200.00	\$170.00	100.00%	\$0.00	200	\$170.00
26	Pavement markings: 12" solid white paint	LF	\$3.50	0.00	644.00	\$2,254.00	100.00%	\$0.00	644	\$2,254.00
27	Asphalt curbs and	SY	\$1.35	0.00	23,633.00	\$31,904.55	100.00%	\$0.00	23633	\$31,904.55
28	Traffic control	LS	\$18,000.00	0.00	1.00	\$18,000.00	100.00%	\$0.00	1	\$18,000.00
29	Traffic officer	LS	\$7,800.00	0.00	1.00	\$7,800.00	100.00%	\$0.00	1	\$7,800.00
										\$1,627,638.00
Change Order #1										
Costs associated w/ delays caused by utility lines not shown on plans										
1	Credit for delayed 1" water services	HR	\$1,144.00	0.00	78	\$86,894.34	100.00%	\$0.00	78	\$86,894.34
2	Credit for delayed 1" water services	EA	\$700.00	0.00	-5	(\$3,500.00)	100.00%	\$0.00	-5	(\$3,500.00)
2a	Additional cost to increase service sizes to 2"	EA	\$1,368.04	0.00	4	\$5,468.58	100.00%	\$0.00	4	\$5,468.58
2b	Additional cost to increase service sizes to 4"	EA	\$3,625.78	0.00	1	\$3,625.78	100.00%	\$0.00	1	\$3,625.78
3	Costs to increase sewer services	EA	\$476.35	0.00	3	\$1,429.05	100.00%	\$0.00	3	\$1,429.05
4	Additional 16" ductile iron pipe due to changes	LF	\$167.50	0.00	33	\$5,547.50	100.00%	\$0.00	33	\$5,547.50
4a	Credit for 16" bypasses not installed	EA	\$5,475.00	0.00	-2	(\$10,950.00)	100.00%	\$0.00	-2	(\$10,950.00)
5	Credit for 16" x 16" tapping sleeve and valve	EA	\$9,300.00	0.00	1	(\$9,300.00)	100.00%	\$0.00	1	(\$9,300.00)
5a	Costs associated w/ McDonald / Invergordon	LS	\$70,588.59	0.00	1	\$70,588.59	100.00%	\$0.00	1	\$70,588.59
6	Scottsdale/Jackrabbit toll & overlay pavement	LS	\$37,048.88	0.00	1	\$37,048.88	100.00%	\$0.00	1	\$37,048.88
7	Repatch concrete apron & walk: NE corner	LS	\$2,000.00	0.00	1	\$2,000.00	100.00%	\$0.00	1	\$2,000.00
8	Added pavement replacement due to alignment changes, conflicts & conditions	SY	\$25.00	0.00	875	\$21,875.00	100.00%	\$0.00	875	\$21,875.00
9	Traffic Control Allowance increases	LS	\$15,000.00	0.00	1	\$15,000.00	100.00%	\$0.00	1	\$15,000.00
10	Police Officer Allowance increases	LS	\$5,000.00	0.00	1	\$5,000.00	100.00%	\$0.00	1	\$5,000.00
								Subtotal		\$768,325.91
Change Order #2										
Added tapping sleeve and 6" ductile iron pipe at 85th Place and Jackrabbit										
1	Added tapping sleeve and 6" ductile iron pipe at 85th Place and Jackrabbit	LS	\$5,250.19	0.00	1	\$5,250.19	100.00%	\$0.00	1	\$5,250.19
2	1" Service Tee to Lot 12 HWY corner 85th Place	LS	\$4,028.59	0.00	1	\$4,028.59	100.00%	\$0.00	1	\$4,028.59
3	Costs associated with cut & plug delays	LS	\$7,272.88	0.00	1	\$7,272.88	100.00%	\$0.00	1	\$7,272.88
4	Actual striping costs	LS	\$8,582.65	0.00	1	\$8,582.65	100.00%	\$0.00	1	\$8,582.65
5	Traffic Control Allowance	LS	\$11,000.00	0.00	1	\$11,000.00	100.00%	\$0.00	1	\$11,000.00
6	Police Officer Allowance	LS	\$4,000.00	0.00	1	\$4,000.00	100.00%	\$0.00	1	\$4,000.00
								Subtotal		\$40,134.32

WHEELER CONSTRUCTION, INC.
 P O Box 8277
 1310 North 24th Street
 Phoenix, Arizona 85016-8277
 (602) 254-2179
 FAX (602) 254-1255

CONTRACTOR'S BILLING

INVOICE NO: 05149-149B

NAME: Arizona American Water Company
 ADDRESS: 19829 North 7th Street
 Suite 201
 Phoenix, AZ 85024

PAGE: 1 OF 1
 DATE: 09/20/98
 PERIOD ENDING: 09/30/98
 PREPARED BY: Ashley / PHL

PROJECT: 05149 - Juchabak & Irvington Rd, Water Main Replacement

ITEM	DESCRIPTION	UNIT	PRICE	CURRENT BILLING		BILLING-TO-DATE		% COMPLETE	BALANCE OF CONTRACT	PLANNED QUANTITY	SCHEDULE OF VALUES
				QUANTITY	AMOUNT	QUANTITY	AMOUNT				
Change Order #3											
1	Mobilization / Demobilization	EA	\$7,000.00	0.00	0.00	2.00	\$15,000.00	100.00%	\$0.00	2	\$15,000.00
2	Construction Survey	LS	\$6,900.00	0.00	0.00	1.00	\$6,900.00	100.00%	\$0.00	1	\$6,900.00
3	Compaction Testing	LS	\$7,200.00	0.00	0.00	1.00	\$7,200.00	100.00%	\$0.00	1	\$7,200.00
4	Traffic control devices (allowance)	LS	\$20,000.00	0.00	0.00	1.00	\$20,000.00	100.00%	\$0.00	1	\$20,000.00
5	Police officer / Certified Flagman (allowance)	HR	\$38.00	0.00	0.00	100.00	\$5,800.00	100.00%	\$0.00	100	\$5,800.00
6	Public safety utilities before survey	LS	\$5,500.00	0.00	0.00	1.00	\$5,500.00	100.00%	\$0.00	1	\$5,500.00
7	18" PC20 Reinforced joint ductile iron pipe	LF	\$128.00	0.00	0.00	2,400.00	\$307,180.00	100.00%	\$0.00	2400	\$307,180.00
7	Stated Materials (Pipe, Valves, Fittings)	LF	\$58,400.00	0.00	0.00	0.00	\$0.00	EMR	\$0.00	0	\$0.00
8	18" Vertical alignment	EA	\$4,800.00	0.00	0.00	3.00	\$14,400.00	100.00%	\$0.00	3	\$14,400.00
9	8" Vertical alignment	EA	\$2,500.00	0.00	0.00	1.00	\$2,500.00	100.00%	\$0.00	1	\$2,500.00
10	8" Vertical alignment	EA	\$2,100.00	0.00	0.00	1.00	\$2,100.00	100.00%	\$0.00	1	\$2,100.00
11	Remove 18" cap & connect to existing main	EA	\$500.00	0.00	0.00	1.00	\$500.00	100.00%	\$0.00	1	\$500.00
12	30" 12" Jacket steel casing	LF	\$730.00	0.00	0.00	65.00	\$47,450.00	100.00%	\$0.00	65	\$47,450.00
13	8" PC20 Reinforced joint ductile iron pipe	LF	\$945.00	0.00	0.00	65	\$61,425.00	100.00%	\$0.00	65	\$61,425.00
14	8" PC20 Reinforced joint ductile iron pipe	LF	\$132.00	0.00	0.00	72	\$9,504.00	100.00%	\$0.00	72	\$9,504.00
15	18" Gate Valve and by-pass complete	EA	\$10,450.00	0.00	0.00	5.00	\$52,250.00	100.00%	\$0.00	5	\$52,250.00
16	8" Gate Valve with box and cover	EA	\$275.00	0.00	0.00	2	\$550.00	100.00%	\$0.00	2	\$550.00
17	8" 1" TS, valve box & cover	EA	\$2,775.00	0.00	0.00	1	\$2,775.00	100.00%	\$0.00	1	\$2,775.00
18	8" 1" TS, valve box & cover	EA	\$2,350.00	0.00	0.00	2	\$4,700.00	100.00%	\$0.00	2	\$4,700.00
19	2" Water meter replacement	EA	\$1,980.00	0.00	0.00	5	\$9,900.00	100.00%	\$0.00	5	\$9,900.00
20	8" fire hydrant complete on bypass assembly	EA	\$4,300.00	0.00	0.00	4.00	\$17,200.00	100.00%	\$0.00	4	\$17,200.00
21	Out cut and plug water main	EA	\$2,700.00	0.00	0.00	4.00	\$10,800.00	100.00%	\$0.00	4	\$10,800.00
22	18" 2" AAWC 300-1 manhole	EA	\$825.00	0.00	0.00	1.00	\$825.00	100.00%	\$0.00	1	\$825.00
23	Remove existing valve box, backfill w/ ABC	EA	\$250.00	0.00	0.00	10	\$2,500.00	100.00%	\$0.00	10	\$2,500.00
24	Remove existing fire hydrant & savings	EA	\$400.00	0.00	0.00	1	\$400.00	100.00%	\$0.00	1	\$400.00
25	Temporary pavement replacement 3' C-3M Mt	SY	\$34.00	0.00	0.00	2,400.00	\$81,600.00	100.00%	\$0.00	2400	\$81,600.00
26	Adjust new water valves to grade	EA	\$370.00	0.00	0.00	8.00	\$2,960.00	100.00%	\$0.00	8	\$2,960.00
27	Encase 18" water main MNG 404-1 & 404-2	LF	\$55.00	0.00	0.00	20.00	\$1,100.00	100.00%	\$0.00	20	\$1,100.00
28	Encase 12" VCP Sewer MNG 404-1 & 404-2	LF	\$48.00	0.00	0.00	20.00	\$960.00	100.00%	\$0.00	20	\$960.00
29	Remove & Replace curb	LF	\$21.00	0.00	0.00	60.00	\$1,260.00	100.00%	\$0.00	60	\$1,260.00
30	Remove & Replace Sidewalk	SF	\$8.50	0.00	0.00	300.00	\$2,550.00	100.00%	\$0.00	300	\$2,550.00
31	Sturdy Steel McDonald Drive	SY	\$2.65	0.00	0.00	2,475.00	\$6,558.75	100.00%	\$0.00	2475	\$6,558.75
32	Shipping & Handling (except McDonald Drive)	LS	\$750.00	0.00	0.00	1.00	\$750.00	100.00%	\$0.00	1	\$750.00
	Contractor Bond	LS	\$1,673.35	0.00	0.00	1.00	\$1,673.35	100.00%	\$0.00	1	\$1,673.35
	Sales Tax	LS	\$32,750.07	0.00	0.00	100.00%	\$32,750.07	100.00%	\$0.00	1	\$32,750.07
Subtotal											\$647,204.17
Change Order #4 Revised											
1	Total cost for SSC	LS	\$85,837.00	0.00	0.00	1	\$85,837.00	100.00%	\$0.00	1	\$85,837.00
2	Credit for Item #12 in CO #3	LS	(\$46,800.00)	\$4.00	0.00	1	(\$46,800.00)	100.00%	\$0.00	1	(\$46,800.00)
	Bond	LS	\$200.20	0.00	0.00	1	\$200.20	100.00%	\$0.00	1	\$200.20
	Sales Tax	LS	\$983.84	0.00	0.00	1	\$983.84	100.00%	\$0.00	1	\$983.84
Subtotal											\$39,223.04
Change Order #4 Difference											
1	Deduct for actual cost for SSC	LS	(\$2,863.50)	\$4.00	0.00	1	(\$2,863.50)	100.00%	\$0.00	1	(\$2,863.50)
	Deduct for actual cost for bond	LS	(\$31.71)	\$4.00	0.00	1	(\$31.71)	100.00%	\$0.00	1	(\$31.71)
	Deduct for actual cost for sales tax	LS	(\$155.82)	\$4.00	0.00	1	(\$155.82)	100.00%	\$0.00	1	(\$155.82)
Subtotal											(\$3,051.03)
Change Order #5											
1	Baricades & Police Officer	LS	\$84,208.38	0.00	0.00	1	\$84,208.38	100.00%	\$0.00	1	\$84,208.38
2	Allowance billed in CO #1 & #2	LS	(\$80,800.00)	\$4.00	0.00	1	(\$80,800.00)	100.00%	\$0.00	1	(\$80,800.00)
	Sales Tax	LS	\$1,220.13	0.00	0.00	1	\$1,220.13	100.00%	\$0.00	1	\$1,220.13
Subtotal											\$4,628.51
Change Order #5 Difference											
1	Add actual cost of Baricades & Police Officer	LS	\$3,827.70	0.00	0.00	1	\$3,827.70	100.00%	\$0.00	1	\$3,827.70
	Sales Tax	LS	\$197.82	0.00	0.00	1	\$197.82	100.00%	\$0.00	1	\$197.82
Subtotal											\$4,025.52
Change Order #6											
1	Additional cost for fire hydrant	LS	\$2,877.70	0.00	0.00	1	\$2,877.70	100.00%	\$0.00	1	\$2,877.70
	Bond	LS	\$30.58	0.00	0.00	1	\$30.58	100.00%	\$0.00	1	\$30.58
	Sales Tax	LS	\$150.30	0.00	0.00	1	\$150.30	100.00%	\$0.00	1	\$150.30
Subtotal											\$3,058.58

Wheeler Construction, Inc
1310 N 24th Street
Phoenix, Arizona 85008
Phone 602 254-3179 Fax 602-254-1293

CONDITIONAL WAIVER AND RELEASE ON PROGRESS PAYMENT

(Pursuant to A R S 33-1008)

A23SPEC07

50024523_{af}

INV 1865913

DT 9 29 05

Project Jackrabbit & Invergordon Rd Water Main Replacement
Job No 85143

On receipt by the undersigned of a check from Arizona American Water Co in the sum of **\$10,032.98** payable to Wheeler Construction, Inc and when the check has been properly endorsed and has been paid by the bank on which it is drawn, this document becomes effective to release any Mechanic's Lien, any state or federal statutory bond right, any private bond right any claim for payment and any rights under any similar ordinance rule or statute related to claim or payment rights for persons in the undersigned's position that the undersigned has on the job of Arizona American Water Co located at Jackrabbit & Invergordon Rd Water Main Replacement to the following extent This release covers a progress payment for all labor, services equipment of materials furnished to the jobsite or to Arizona American Water Co through 9/29/05 only and does not cover any retention pending modifications and changes or items furnished after that date

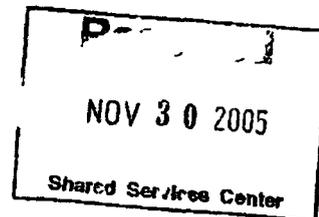
Before any recipient of this document relies on it that person should verify evidence of payment to the undersigned

The undersigned warrants that he either has already paid or will use the monies he receives from this progress payment to promptly pay in full all of his laborers subcontractors materialmen and suppliers for all work materials, equipment or services provided for or to the above referenced project up to the date of this waiver. The following invoices and pay applications are included in the above referenced amount **Invoice #18659-13**

Date October 6, 2005

WHEELER CONSTRUCTION, INC

By Andrew L. Eldridge
Andrew L. Eldridge - Vice President



WHEELER CONSTRUCTION, INC.
 P. O. Box 5277
 1210 North 34th Street
 Phoenix, Arizona 85016-3277
 (602) 254-3179
 FAX (602) 254-1280

CONTRACTOR'S BILLING

INVOICE NO: 18838-03

PAGE: 1 OF 1

NAME: Arizona American Water Company
 ADDRESS: 19229 North 75th Street
 Suite 201
 Phoenix, AZ 85024

DATE: 09/29/2005
 PERIOD ENDING: 09/30/2005

PREPARED BY: Ashley I Puh

PROJECT: 85148 Jacksonbill & Invergarden Rd. Water Main Replacement

ITEM	DESCRIPTION	UNIT	PRICE	CURRENT BILLING		BILLING-TO-DATE		% COMPLETE	BALANCE OF CONTRACT	PLANNED QUANTITY	SCHEDULE OF VALUES
				QUANTITY	AMOUNT	QUANTITY	AMOUNT				
Change Order #7											
1	Total Cost for Bahr Drilling	LS	\$24,891.96		\$0.00	1	\$24,891.96	100.00%	\$0.00	1	\$24,891.96
	Bond	LS	\$282.43		\$0.00	1	\$282.43	100.00%	\$0.00	1	\$282.43
	Sales Tax	LS	\$1,289.54		\$0.00	1	\$1,289.54	100.00%	\$0.00	1	\$1,289.54
										Subtotal	\$26,463.93
Change Order #7 Difference											
1	Deduct for actual cost for Bahr Drilling	LS	(\$3,810.88)		\$-0.00	1	(\$3,810.88)	100.00%	\$0.00	1	(\$3,810.88)
	Bond	LS	(\$40.51)		\$-0.00	1	(\$40.51)	100.00%	\$0.00	1	(\$40.51)
	Sales Tax	LS	(\$188.04)		\$-0.00	1	(\$188.04)	100.00%	\$0.00	1	(\$188.04)
										Subtotal	(\$4,039.43)
Change Order #8											
1	Bahr Drilling 1" Air/Reel Valve @ Marston	LS	\$2,870.44		\$0.00	1	\$2,870.44	100.00%	\$0.00	1	\$2,870.44
2	Additional Depth of Machine @ 28-44 & 24-20	LS	\$6,232.41		\$0.00	1	\$6,232.41	100.00%	\$0.00	1	\$6,232.41
3	Rock Excavation @ Station 29-01	LS	\$7,205.44		\$0.00	1	\$7,205.44	100.00%	\$0.00	1	\$7,205.44
4	Reinforce Blow Off Assembly @ 44th St	LS	\$2,629.53		\$0.00	1	\$2,629.53	100.00%	\$0.00	1	\$2,629.53
5	Rock Excavation @ 18" Mainline Station 12-00 West	LS	\$20,037.45		\$0.00	1	\$20,037.45	100.00%	\$0.00	1	\$20,037.45
6	B2V Excavating CAT 330 Harrow Rental	LS	\$7,500.00		\$0.00	1	\$7,500.00	100.00%	\$0.00	1	\$7,500.00
7	Bahr Drilling Perform Testing Services	LS	\$752.33		\$0.00	1	\$752.33	100.00%	\$0.00	1	\$752.33
8	1% Markup on Subcontractors	LS	\$2,383.88		\$0.00	1	\$2,383.88	100.00%	\$0.00	1	\$2,383.88
	Bond	LS	\$532.05		\$0.00	1	\$532.05	100.00%	\$0.00	1	\$532.05
	Sales Tax	LS	\$2,614.67		\$0.00	1	\$2,614.67	100.00%	\$0.00	1	\$2,614.67
										Subtotal	\$33,298.20
Change Order #9											
1	18" PCC28 Reinforced Joint DIP	LF	\$126.00		\$0.00	5	\$630.00	100.00%	\$0.00	5	\$630.00
2	Parapet Replacement	SF	\$24.00		\$0.00	132	\$3,168.00	100.00%	\$0.00	132	\$3,168.00
3	Adjust Valves to Finish Grade	EA	\$9.00		\$0.00	0	\$0.00	0%	\$0.00	0	\$0.00
4	Excuse 18" Water Main MAG 404-1404-2	LF	\$56.00		\$0.00	56	\$3,136.00	100.00%	\$0.00	56	\$3,136.00
5	Excuse 12" YCP Sewer MAG 404-1404-2	LF	\$48.00		\$0.00	36	\$1,728.00	100.00%	\$0.00	36	\$1,728.00
6	Remove & Replace Curb	LF	\$20.00		\$0.00	140	\$2,800.00	100.00%	\$0.00	140	\$2,800.00
7	Remove & Replace Cfr Dfr Ramp	SF	\$9.50		\$0.00	287	\$2,726.50	100.00%	\$0.00	287	\$2,726.50
	Bond	LS	\$150.00		\$0.00	1	\$150.00	100.00%	\$0.00	1	\$150.00
	Sales Tax	LS	\$741.05		\$0.00	1	\$741.05	100.00%	\$0.00	1	\$741.05
										Subtotal	\$14,999.55
Change Order #10											
1	Berkeley & Police Officer	LS	\$18,051.36		\$0.00	1	\$18,051.36	100.00%	\$0.00	1	\$18,051.36
2	Allowance Billed in original contract	LS	(\$17,800.00)		\$-0.00	1	(\$17,800.00)	100.00%	\$0.00	1	(\$17,800.00)
	Bond	LS	\$12.24		\$0.00	1	\$12.24	100.00%	\$0.00	1	\$12.24
	Sales Tax	LS	\$80.13		\$0.00	1	\$80.13	100.00%	\$0.00	1	\$80.13
										Subtotal	\$1,222.73
REMARKS: Retention held on Change Order #5											
				Total Invoiced:	\$11,147.25		\$2,054,309.50		\$0.00		\$2,054,309.50
				Retainage:	10.00%	(\$1,114.73)	(\$1,114.73)				
				Net Invoiced:	\$10,032.52		\$2,053,194.77				100.00%
				Less Prior Billings:			(\$2,638,791.74)				
				Balance Due:	\$10,032.52		\$18,032.52				
				Min. Charges/Credits:	\$0.00		\$0.00				
				AMOUNT DUE THIS INVOICE:	\$10,032.52		\$18,032.52				

Received
 NOV 30 2005
 Shared Services Center

WHEELER CONSTRUCTION INC.
P. O. Box 1277
1319 North 34th Street
Phoenix, Arizona 85010-8277
(602) 254-9179
FAX (602) 254-1293

CONTRACTOR'S BILLING

INVOICE NO: 1839-13

PAGE: 1 OF 1

NAME: Arizona American Water Company
ADDRESS: 19620 North 7th Street
Suite 301
Phoenix, AZ 85024

DATE: 08/28/08
PERIOD ENDING: 08/31/08

PREPARED BY: Ashley J. Phil

PROJECT: 89143 Archibald & Invergordon Rd. Water Main Replacement

ITEM	DESCRIPTION	UNIT	PRICE	CURRENT BILLING		BILLING-TO-DATE		% COMPLETE	BALANCE OF CONTRACT	PLANNED QUANTITY	SCHEDULE OF VALUES	
				QUANTITY	AMOUNT	QUANTITY	AMOUNT					
1	Mobilization / Demobilization	EA	\$12,500.00	0.00		2.00	\$25,000.00	100.00%	\$0.00	2	\$25,000.00	
2	Remove, remove, replace AC pavement	SY	\$25.00	0.00		2,802.00	\$72,550.00	100.00%	\$0.00	2802	\$72,550.00	
3	24" DIP & fittings	LF	\$456.40	0.00		1,425.00	\$224,434.00	100.00%	\$0.00	1425	\$224,434.00	
4	20" DIP & fittings	LF	\$179.00	0.00		46.00	\$8,234.00	100.00%	\$0.00	46	\$8,234.00	
5	18" DIP & fittings	LF	\$107.50	0.00		6,585.00	\$705,737.50	100.00%	\$0.00	6585	\$705,737.50	
6	12" DIP & fittings	LF	\$185.00	0.00		101.00	\$18,585.00	100.00%	\$0.00	101	\$18,585.00	
7	8" DIP & fittings	LF	\$378.00	0.00		19.00	\$7,182.00	100.00%	\$0.00	19	\$7,182.00	
8	6" DIP & fittings	LF	\$129.00	0.00		288.00	\$37,152.00	100.00%	\$0.00	288	\$37,152.00	
9	24" BF valve w/ 6" bypass complete	EA	\$13,200.00	0.00		2.00	\$26,400.00	100.00%	\$0.00	2	\$26,400.00	
10	20" BF valve w/ 6" bypass complete	EA	\$12,500.00	0.00		1.00	\$12,500.00	100.00%	\$0.00	1	\$12,500.00	
11	18" Gate valve w/ 18" bypass complete	EA	\$9,875.00	0.00		12.00	\$118,500.00	100.00%	\$0.00	12	\$118,500.00	
12	16" x 16" TS, valve box & cover	EA	\$9,300.00	0.00		1.00	\$9,300.00	100.00%	\$0.00	1	\$9,300.00	
13	12" x 12" TS, valve box & cover	EA	\$4,300.00	0.00		2.00	\$8,600.00	100.00%	\$0.00	2	\$8,600.00	
14	8" x 8" TS, valve box & cover	EA	\$2,550.00	0.00		1.00	\$2,550.00	100.00%	\$0.00	1	\$2,550.00	
15	6" x 6" TS, valve box & cover	EA	\$2,100.00	0.00		0.00	\$0.00	100.00%	\$0.00	0	\$0.00	
16	4" x 4" TS, valve box & cover	EA	\$2,050.00	0.00		7.00	\$14,350.00	100.00%	\$0.00	7	\$14,350.00	
17	24" topped cap and 2" IP cap.	EA	\$1,250.00	0.00		1.00	\$1,250.00	100.00%	\$0.00	1	\$1,250.00	
18	20" topped cap and 2" IP cap.	EA	\$1,025.00	0.00		1.00	\$1,025.00	100.00%	\$0.00	1	\$1,025.00	
19	16" topped cap and 2" IP cap.	EA	\$900.00	0.00		1.00	\$900.00	100.00%	\$0.00	1	\$900.00	
20	6" line hydrant w/ 6" VD&C	EA	\$3,600.00	0.00		21.00	\$75,600.00	100.00%	\$0.00	21	\$75,600.00	
21	Cut out and plug water main	EA	\$2,250.00	0.00		20.00	\$45,000.00	100.00%	\$0.00	20	\$45,000.00	
22	Water valve removal	EA	\$250.00	0.00		22.00	\$5,500.00	100.00%	\$0.00	22	\$5,500.00	
23	1" water service, main to meter	EA	\$700.00	0.00		28.00	\$19,600.00	100.00%	\$0.00	28	\$19,600.00	
24	Pavement marking: 4" double yellow paint	LF	\$0.85	0.00		6,703.00	\$5,697.55	100.00%	\$0.00	6703	\$5,697.55	
25	Pavement marking: 1" solid white paint	LF	\$2.85	0.00		200.00	\$570.00	100.00%	\$0.00	200	\$570.00	
26	Pavement marking: 12" solid white paint	LF	\$3.50	0.00		644.00	\$2,254.00	100.00%	\$0.00	644	\$2,254.00	
27	Asphalt slurry seal	SY	\$1.25	0.00		29,833.00	\$37,291.25	100.00%	\$0.00	29833	\$37,291.25	
28	Traffic control	LS	\$18,000.00	0.00		1.00	\$18,000.00	100.00%	\$0.00	1	\$18,000.00	
29	Traffic officer	LS	\$7,600.00	0.00		1.00	\$7,600.00	100.00%	\$0.00	1	\$7,600.00	
											\$1,537,155.80	
Change Order #1												
Costs associated w/ delays caused by utility lines cut through on place												
1	Credit for delayed 1 water service	HR	\$1,114.03	0.00		78	\$86,294.34	100.00%	\$0.00	78	\$86,294.34	
2	Credit for delayed 1 water service	EA	\$700.00	0.00		4	\$3,500.00	100.00%	\$0.00	4	\$3,500.00	
2a	Additional cost to increase service sizes to 2"	EA	\$1,368.64	0.00		4	\$5,488.56	100.00%	\$0.00	4	\$5,488.56	
2b	Additional cost to increase service sizes to 4"	EA	\$3,625.78	0.00		1	\$3,625.78	100.00%	\$0.00	1	\$3,625.78	
3	Costs to increase water service	EA	\$478.36	0.00		3	\$1,428.06	100.00%	\$0.00	3	\$1,428.06	
4	Additional 18" ductile iron pipe due to changes	LF	\$407.50	0.00		33	\$3,547.50	100.00%	\$0.00	33	\$3,547.50	
4a	Credit for 18" bypasses not installed	EA	\$5,475.00	0.00		-2	(\$10,950.00)	100.00%	\$0.00	-2	(\$10,950.00)	
5	Credit for 16" x 16" tapping sleeves and valve	EA	\$8,300.00	0.00		1	(\$8,300.00)	100.00%	\$0.00	1	(\$8,300.00)	
5a	Costs associated w/ McDonald / Invergordon	LS	\$10,588.39	0.00		1	\$10,588.39	100.00%	\$0.00	1	\$10,588.39	
6	Successful/Lackadaidz call & meeting payment	LS	\$37,048.88	0.00		1	\$37,048.88	100.00%	\$0.00	1	\$37,048.88	
7	Replace separate apron & curb: NE corner	LS	\$2,600.00	0.00		1	\$2,600.00	100.00%	\$0.00	1	\$2,600.00	
8	Added personnel replacement due to alignment changes, conflicts & conditions	SY	\$25.00	0.00		875	\$21,875.00	100.00%	\$0.00	875	\$21,875.00	
9	Traffic Control Allowance increase.	LS	\$15,000.00	0.00		1	\$15,000.00	100.00%	\$0.00	1	\$15,000.00	
10	Police Officer Allowance increase.	LS	\$5,000.00	0.00		1	\$5,000.00	100.00%	\$0.00	1	\$5,000.00	
											Subtotal	\$168,323.31
Change Order #2												
Added tapping sleeve and 6" ductile iron pipe at 888 Place and Invergordon												
1	1" Service line to Lot 12 NW corner 838 Place	LS	\$5,283.19	0.00		1	\$5,283.19	100.00%	\$0.00	1	\$5,283.19	
2	Costs associated with cut & plug delays	LS	\$7,272.89	0.00		1	\$7,272.89	100.00%	\$0.00	1	\$7,272.89	
3	Actual shipping costs	LS	\$8,582.85	0.00		1	\$8,582.85	100.00%	\$0.00	1	\$8,582.85	
4	Traffic Control Allowance	LS	\$11,000.00	0.00		1	\$11,000.00	100.00%	\$0.00	1	\$11,000.00	
5	Police Officer Allowance	LS	\$4,000.00	0.00		1	\$4,000.00	100.00%	\$0.00	1	\$4,000.00	
											Subtotal	\$40,139.32

WHEELER CONSTRUCTION, INC.
 P. O. Box 5277
 1570 North 34th Street
 Phoenix, Arizona 85018-4277
 (602) 254-3179
 FAX (602) 254-4230

CONTRACTOR'S BILLING

INVOICE NO: 1858-13

PAGE: 1 OF 1

NAME: Arizona American Water Company
 ADDRESS: 18820 North 7th Street
 Suite 201
 Phoenix, AZ 85024

DATE: 08/28/2005
 PERIOD ENDING: 09/30/2005

PREPARED BY: Ashley / P&E

PROJECT: 89143 Jackrabbit & Irvington Rd. Water Main Replacement

ITEM	DESCRIPTION	UNIT	PRICE	CURRENT BILLING		BILLING-TO-DATE		% COMPLETE	BALANCE OF CONTRACT	PLANNED QUANTITY	SCHEDULE OF VALUES
				QUANTITY	AMOUNT	QUANTITY	AMOUNT				
	Change Order #3										
1	Mobilization / Demobilization	EA	\$7,500.00		\$0.00	2.00	\$15,000.00	100.00%	\$0.00	2	\$15,000.00
2	Construction Survey	LS	\$6,800.00		\$0.00	1.00	\$6,800.00	100.00%	\$0.00	1	\$6,800.00
3	Construction Testing	LS	\$7,200.00		\$0.00	1.00	\$7,200.00	100.00%	\$0.00	1	\$7,200.00
4	Traffic control devices (allowance)	LS	\$20,000.00	0.25	\$5,000.00	1.00	\$20,000.00	100.00%	\$0.00	1	\$20,000.00
5	Police officer / Certified Flagman (allowance)	HR	\$90.00	50.00	\$2,900.00	100.00	\$5,800.00	100.00%	\$0.00	100	\$5,800.00
6	Police attending utilities before survey	LS	\$5,500.00		\$0.00	1.00	\$5,500.00	100.00%	\$0.00	1	\$5,500.00
7	18" PCSD Restricted joint ductile iron pipe	LF	\$128.00		\$0.00	2,400.00	\$307,188.00	100.00%	\$0.00	2400	\$307,188.00
7	Stored Materials (Pipe, Valves, Fittings)	LF	\$26,480.00		\$0.00	0.00	\$0.00	0%	\$0.00	0	\$0.00
8	18" Vertical reassignment	EA	\$4,800.00		\$0.00	3.00	\$14,400.00	100.00%	\$0.00	3	\$14,400.00
9	18" Vertical reassignment	EA	\$2,500.00		\$0.00	1.00	\$2,500.00	100.00%	\$0.00	1	\$2,500.00
10	6" Vertical reassignment	EA	\$2,100.00		\$0.00	1.00	\$2,100.00	100.00%	\$0.00	1	\$2,100.00
11	Remove 18" cap & connect to existing main	EA	\$500.00		\$0.00	1.00	\$500.00	100.00%	\$0.00	1	\$500.00
12	30" x 14" Jacket steel casing	LF	\$720.00		\$0.00	65.00	\$46,800.00	100.00%	\$0.00	65	\$46,800.00
13	18" PCSD Restricted joint ductile iron pipe	LF	\$145.00		\$0.00	65	\$9,425.00	100.00%	\$0.00	65	\$9,425.00
14	18" PCSD Restricted joint ductile iron pipe	LF	\$132.00		\$0.00	72	\$9,504.00	100.00%	\$0.00	72	\$9,504.00
15	18" Gate valve and by-pass complete	EA	\$10,400.00		\$0.00	5.00	\$52,000.00	100.00%	\$0.00	5	\$52,000.00
16	18" Gate Valve with box and cover	EA	\$775.00		\$0.00	2	\$1,550.00	100.00%	\$0.00	2	\$1,550.00
17	18" 8" TR valve box & cover	EA	\$2,775.00		\$0.00	1	\$2,775.00	100.00%	\$0.00	1	\$2,775.00
18	18" x 6" TR valve box & cover	EA	\$2,300.00		\$0.00	2	\$4,600.00	100.00%	\$0.00	2	\$4,600.00
19	2" Water service replacement	EA	\$1,600.00		\$0.00	5	\$8,000.00	100.00%	\$0.00	5	\$8,000.00
20	18" fire hydrant complete on bypass assembly	EA	\$4,200.00		\$0.00	4.00	\$16,800.00	100.00%	\$0.00	4	\$16,800.00
21	Cut out and plug water main	EA	\$2,700.00	1.00	\$2,700.00	4.00	\$10,800.00	100.00%	\$0.00	4	\$10,800.00
22	16" x 2" AAWC 300-1 Manhole	EA	\$925.00		\$0.00	1.00	\$925.00	100.00%	\$0.00	1	\$925.00
23	Remove existing valve box, backfill w/ ABC	EA	\$250.00		\$0.00	10	\$2,500.00	100.00%	\$0.00	10	\$2,500.00
24	Remove existing fire hydrant & submerge	EA	\$400.00		\$0.00	1	\$400.00	100.00%	\$0.00	1	\$400.00
25	Temporary pavement replacement 3" C-34 bit	SY	\$24.00		\$0.00	2,400.00	\$57,600.00	100.00%	\$0.00	2400	\$57,600.00
26	Adjust new water valves to state	EA	\$318.00		\$0.00	8.00	\$2,544.00	100.00%	\$0.00	8	\$2,544.00
27	Excavate 18" water main MAG 404-1 & 404-2	LF	\$95.00		\$0.00	20.00	\$1,900.00	100.00%	\$0.00	20	\$1,900.00
28	Excavate 12" VCP Sewer MAG 404-1 & 404-2	LF	\$48.00		\$0.00	20.00	\$960.00	100.00%	\$0.00	20	\$960.00
29	Remove & Replace Curb	LF	\$28.00		\$0.00	60.00	\$1,680.00	100.00%	\$0.00	60	\$1,680.00
30	Remove & Replace Sidewalk	SF	\$8.50		\$0.00	300.00	\$2,550.00	100.00%	\$0.00	300	\$2,550.00
31	Shaky Bed McDonald Drive	SF	\$2.85		\$0.00	2,475.00	\$7,053.75	100.00%	\$0.00	2475	\$7,053.75
32	Striping & Marking (except McDonald Drive)	LS	\$750.00		\$0.00	1.00	\$750.00	100.00%	\$0.00	1	\$750.00
	Contractor Bond	LS	\$6,573.35		\$0.00	1.00	\$6,573.35	100.00%	\$0.00	1	\$6,573.35
	Sales Tax	LS	\$32,790.07	1.50%	\$547.75		\$32,790.07	100.00%	\$0.00	1	\$32,790.07
									Subtotal		\$467,234.17
	Change Order #4 Reduced										
1	Total cost for SSC	LS	\$95,637.00		\$0.00	1	\$95,637.00	100.00%	\$0.00	1	\$95,637.00
2	Credit for item #12 in CO #3	LS	(\$46,800.00)		(\$46,800.00)	1	(\$46,800.00)	100.00%	\$0.00	1	(\$46,800.00)
	Bond	LS	\$200.00		\$0.00	1	\$200.00	100.00%	\$0.00	1	\$200.00
	Sales Tax	LS	\$983.84		\$0.00	1	\$983.84	100.00%	\$0.00	1	\$983.84
									Subtotal		\$29,021.84
	Change Order #4 Difference										
1	Deduct for actual cost for SSC	LS	(\$2,983.50)		(\$4,000.00)	1	(\$2,983.50)	100.00%	\$0.00	1	(\$2,983.50)
	Deduct for actual cost for bond	LS	(\$31.70)		(\$31.70)	1	(\$31.70)	100.00%	\$0.00	1	(\$31.70)
	Deduct for actual cost for sales tax	LS	(\$155.82)		(\$4,000.00)	1	(\$155.82)	100.00%	\$0.00	1	(\$155.82)
									Subtotal		(\$3,171.02)
	Change Order #5										
1	Baricade & Police Officer	LS	\$84,209.38		\$0.00	1	\$84,209.38	100.00%	\$0.00	1	\$84,209.38
2	Allowance billed to CO #1 & #2	LS	(\$80,800.00)		(\$80,800.00)	1	(\$80,800.00)	100.00%	\$0.00	1	(\$80,800.00)
	Sales Tax	LS	\$1,220.13		\$0.00	1	\$1,220.13	100.00%	\$0.00	1	\$1,220.13
									Subtotal		\$4,629.51
	Change Order #5 Difference										
1	Add actual cost of Baricade & Police Officer	LS	\$3,827.70		\$0.00	1	\$3,827.70	100.00%	\$0.00	1	\$3,827.70
	Sales Tax	LS	\$197.82		\$0.00	1	\$197.82	100.00%	\$0.00	1	\$197.82
									Subtotal		\$4,025.52
	Change Order #6										
1	Additional cost for fire hydrant	LS	\$2,877.70		\$0.00	1	\$2,877.70	100.00%	\$0.00	1	\$2,877.70
	Bond	LS	\$30.58		\$0.00	1	\$30.58	100.00%	\$0.00	1	\$30.58
	Sales Tax	LS	\$150.30		\$0.00	1	\$150.30	100.00%	\$0.00	1	\$150.30
									Subtotal		\$3,058.58

Exhibit 3

EXHIBIT JMR-RB3

Workpaper and rate base summary from docket No. W-01303A-
98-0507 – Paradise Valley's previous rate case

**Paradise Valley Water Company
 General Rate Case Application
 Working Cash Allowance - Other Deferred Items**

<u>Total Deferred Items per T/B 06/30/98</u>	<u>Amounts</u>
Deferred Programmed Maintenance	\$272,439.45
Preliminary Financing Expense	\$7,387.52
Deferred TMS License Fees	\$144.00
Deferred Service Co Pension	\$11,794.00
Miscellaneous Minor Debit	\$3,795.00
Deferred Pension Payment	\$70,470.00
Maintenance Work In Progress	\$1,698.37
Undistributed Items	\$362.88
Depreciation Study Expense	\$3,542.00
Extraordinary Maintenance	\$4,609.00
Deferred Debits CAP	\$104,374.92
Retirement Work In Progress	\$48,529.33
M&J Work In Progress	(\$23,685.67)
<u>Total</u>	\$505,460.80
<u>Adjustments</u>	
Preliminary Financing Expense	\$7,387.52
Deferred Service Co Pension	\$11,794.00
Miscellaneous Minor Debit	\$3,795.00
Deferred Pension Payment	\$70,470.00
Maintenance Work In Progress	\$1,698.37
Undistributed Items	\$362.88
Extraordinary Maintenance	\$4,609.00
Deferred Debits CAP	\$104,374.92
Retirement Work In Progress	\$48,529.33
M&J Work In Progress	(\$23,685.67)
Sub-Total	\$229,335.35
<u>Adjusted Deferred Items</u>	\$276,125.45

Miscellaneous
Items

PARADISE VALLEY WATER COMPANY

DETAIL
RATE BASE CALCULATION

	<u>Per Filing</u>	<u>Per Order</u>
Utility Plant in Service	\$26,526,848	\$25,900,450
Construction Work in Progress	\$0	\$0
Accumulated Depreciation	(\$3,249,181)	(\$3,297,629)
Accumulated Amortization	\$0	\$0
Other (Reg Asset Net of Depr)	\$1,418	\$1,418
Net Utility Plant	<u>\$23,279,085</u>	<u>\$22,604,239</u>
Deduct:		
Customer Advances	\$247,807	\$238,807
Contributions	\$9,669,687	\$9,646,967
Other (Customer Deposit)	\$1,590	\$1,590
Subtotal Deducted	<u>\$9,919,084</u>	<u>\$9,887,364</u>
Add:		
Materials & Supplies	\$27,165	\$27,165
Tank Painting	\$0	\$0
Cash Working Capital	(\$58,845)	(\$58,845)
Prepayments	\$45,092	\$16,192
Other (Deferred Debits)	\$276,125	\$254,701
Subtotal Added	<u>\$289,537</u>	<u>\$239,213</u>
Deduct:		
Deferred Taxes (FIT/SIT)	\$1,458,329	\$1,458,329
Deferred SIT	\$0	\$0
Other	\$0	\$0
Subtotal	<u>\$1,458,329</u>	<u>\$1,458,329</u>
Total Rate Base	<u>\$12,191,209</u>	<u>\$11,497,759</u>

Exhibit 4

EXHIBIT JMR-RB4

Corrected Lead/Lag Study

PARADISE VALLEY

Line No.	Test Year Adjusted Results	Revenue Lag Days ³	Expense Lag Days	Net Lag Days	Lead/Lag Factor	Cash Working Capital Required
1	OPERATING EXPENSES					
2	Labor	\$ 527,708	38.3000	12.0000	26.3000	0.0721 \$ 38,024
3	Fuel & Power	827,908	38.3000	38.1148	0.1852	0.0005 420
4	Chemicals	16,499	38.3000	30.0000	8.3000	0.0227 375
5	Management Fees	554,302	38.3000	(3.8800)	42.1800	0.1156 64,056
6	Group Insurance	117,720	38.3000	(4.6445)	42.9445	0.1177 13,850
7	Pensions	26,625	38.3000	45.0000	(6.7000)	(0.0184) (489)
8	Insurance Other Than Group	48,923	38.3000	45.0000	(6.7000)	(0.0184) (898)
10	Rents	64,878	38.3000	(10.6818)	48.9818	0.1342 8,706
11	Depreciation & Amortization	799,234	38.3000	-	38.3000	0.1049 83,865
12	Other Operating Expenses ¹	655,707	38.3000	30.0000	8.3000	0.0227 14,911
13	TAXES					
14	Taxes Other than Income	42,405	38.3000	26.3188	11.9812	0.0328 1,392
15	Property Taxes	216,214	38.3000	177.5000	(139.2000)	(0.3814) (82,458)
16	Income Tax ²	420,233	38.3000	37.0000	1.3000	0.0036 1,497
17	RETURN					
18	Interest on Debt ⁴	520,071	38.3000	107.2300	(68.9300)	(0.1888) (98,215)
19	Return on Equity	668,485	38.3000	-	38.3000	0.1049 70,145
20						
21						
22						
23						
24	WORKING CASH REQUIREMENT					<u>\$ 115,182</u>
25						
26						

¹All other Operating Expenses are assumed to be paid by the 15th of the month following the receipt of goods and services.
²At proposed rates.
³Per direct testimony of RUCO witness Coley.
⁴Expense lag days per direct testimony of RUCO witness Coley.

Line No.	MANAGEMENT SERVICES			Date Paid	Service Period		Avg Service Period	Lag (Lead)	Dollar Days
	Date	Amount	Description		From	To			
1									
2									
3									
4									
5									
6									
7									
8	7/23/2004	638,329.26	Current Month's actual and est for next month		7/24/2004	8/20/2004	13.50	(5.50)	(3,510,810.93)
9		(788,524.21)	Last Mo's est of this month's billing						
10		(150,194.95)	Net Amt Payable (Receivable)		6/26/2004	7/23/2004	13.50	22.50	(3,379,386.38)
11		488,134.31	Paid in following month	8/1/2004					
12									
13									
14	8/20/2004	584,740.29	Current Month's actual and est for next month		8/21/2004	9/24/2004	17.00	(6.00)	(3,508,441.74)
15		(638,329.26)	Last Mo's est of this month's billing						
16		(53,588.97)	Net Amt Payable (Receivable)		7/24/2004	8/20/2004	13.50	25.50	(1,366,518.74)
17		531,151.32	Paid in following month	9/1/2004					
18									
19									
20	9/24/2004	347,119.04	Current Month's actual and est for next month		9/25/2004	10/22/2004	13.50	(7.50)	(2,603,392.80)
21		(584,740.29)	Last Mo's est of this month's billing						
22		(237,621.25)	Net Amt Payable (Receivable)		8/21/2004	9/24/2004	17.00	24.00	(5,702,910.00)
23		109,497.79	Paid in following month	10/1/2004					
24									
25									
26	10/22/2004	628,855.43	Current Month's actual and est for next month		10/23/2004	11/19/2004	13.50	(4.50)	(2,829,849.44)
27		(347,119.04)	Last Mo's est of this month's billing						
28		281,736.39	Net Amt Payable (Receivable)		9/25/2004	10/22/2004	13.50	23.50	6,620,805.17
29		910,591.82	Paid in following month	11/1/2004					
30									
31									
32	11/19/2004	560,393.05	Current Month's actual and est for next month		11/20/2004	12/10/2004	10.00	1.00	560,393.05
33		(628,855.43)	Last Mo's est of this month's billing						
34		(68,462.38)	Net Amt Payable (Receivable)		10/23/2004	11/19/2004	13.50	25.50	(1,745,790.69)
35		491,930.67	Paid in following month	12/1/2004					
36									
37									
38	12/10/2004	1,929,163.36	Current Month's actual and est for next month		12/11/2004	1/21/2005	20.50	0.50	964,581.68
39		(560,393.05)	Last Mo's est of this month's billing						
40		1,368,770.31	Net Amt Payable (Receivable)		11/20/2004	12/10/2004	10.00	32.00	43,800,649.92
41		3,297,933.67	Paid in following month	1/1/2005					
42									
43									
44	1/21/2005	616,818.16	Current Month's actual and est for next month		1/22/2005	2/18/2005	13.50	(3.50)	(2,158,863.56)
45		(1,929,163.36)	Last Mo's est of this month's billing						
46		(1,312,345.20)	Net Amt Payable (Receivable)		12/11/2004	1/21/2005	20.50	31.50	(41,338,873.80)
47		(695,527.04)	Paid in following month	2/1/2005					
48									
49									
50	2/18/2005	823,217.55	Current Month's actual and est for next month		2/19/2005	3/25/2005	17.00	(7.00)	(5,762,522.85)
51		(616,818.16)	Last Mo's est of this month's billing						
52		206,399.39	Net Amt Payable (Receivable)		1/22/2005	2/18/2005	13.50	24.50	5,056,785.06
53		1,029,616.94	Paid in following month	3/1/2005					
54									
55									
56	3/25/2005	665,872.01	Current Month's actual and est for next month		3/26/2005	4/22/2005	13.50	(7.50)	(4,994,040.08)

Line No.	GROUP INSURANCE			Service Period		Avg Service Period	Lag/Lead	Dollars Days	Cumulative Total	Percent to Total
	Account	Voucher	Amount	From	To					
1	GROUP INSURANCE									
2										
3										
4										
5	230105.5041	40819333	8/9/2004 \$ 92,066.72	8/1/2004	8/31/2004	15.00	(7.00)	\$ (644,467.04)	\$ 1,222,884.46	100.00%
6	230105.5041	40844147	9/10/2004 94,614.37	9/1/2004	9/30/2004	14.50	(5.50)	\$ (520,379.04)	\$ 1,130,817.74	92.47%
7	230105.5041	40865008	10/6/2004 94,775.20	10/1/2004	10/31/2004	15.00	(10.00)	\$ (947,752.00)	\$ 1,036,203.37	84.73%
8	230105.5041	40892506	11/10/2004 95,991.56	11/1/2004	11/30/2004	14.50	(5.50)	\$ (527,953.58)	\$ 941,428.17	76.98%
9	230105.5041	40793100	7/9/2004 96,394.44	7/1/2004	7/31/2004	15.00	(7.00)	\$ (674,761.08)	\$ 845,436.61	69.13%
10	230105.5041	40918840	12/9/2004 96,969.68	12/1/2004	12/31/2004	15.00	(7.00)	\$ (678,787.76)	\$ 749,042.17	61.25%
11	230105.5041	41045598	5/16/2005 107,812.38	5/1/2005	5/31/2005	15.00	-	\$ -	\$ 652,072.49	53.32%
12	230105.5041	40967412	2/11/2005 108,216.85	2/1/2005	2/28/2005	13.50	(3.50)	\$ (378,758.98)	\$ 544,260.11	44.51%
13	230105.5041	41068357	6/13/2005 108,413.73	6/1/2005	6/30/2005	14.50	(2.50)	\$ (271,034.33)	\$ 436,043.26	35.66%
14	230105.5041	40943765	1/13/2005 108,554.84	1/1/2005	1/31/2005	15.00	(3.00)	\$ (325,664.52)	\$ 327,629.53	26.79%
15	230105.5041	40992030	3/11/2005 109,000.17	3/1/2005	3/31/2005	15.00	(5.00)	\$ (545,000.85)	\$ 219,074.69	17.91%
16	230105.5041	41018871	4/14/2005 110,074.52	4/1/2005	4/30/2005	14.50	(1.50)	\$ (165,111.78)	\$ 110,074.52	9.00%
17										
18										
19										
20										
21			<u>\$ 1,222,884.46</u>					<u>\$ (5,679,670.96)</u>		
22										
23			Average Lag for Group Insurance					<u>(4.64)</u>		

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PENSIONS

Payment Date	Amount	Service Period		Avg Service Period	Lag (Lead)	Dollar Days
		From	To			

- Pension expense is paid quarterly resulting in a 45 day lag.

Totals	<u> -</u>					<u> -</u>
		Average Lag for Pensions				<u> 45.00</u>

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INSURANCE OTHER THAN GROUP

Payment Date	Amount	Service Period From	To	Avg Service Period	Lag (Lead)	Dollar Days
- Insurance Other than Group is paid quarterly resulting in a 45 day lag.						
Totals	\$ -					\$ -
		Average Lag/(Lead) for Ins. Other than Grp.				45.00

Line No.	Account	Voucher	Amount	Service Period		Avg Service Period	Lag/Lead	Dollars Days	Cumulative Total	Percent to Total
				From	To					
1	RENTS									
2										
3										
4	Account	Voucher	Amount	From	To	Avg Service Period	Lag/Lead	Dollars Days	Cumulative Total	Percent to Total
5										
6										
7	230105.5100	40955368	\$ 42.26						141,054.86	
8	230105.5100	40976942	42.26						141,012.60	
9	230105.5100	41003985	42.26						140,970.34	
10	230105.5100	41026617	43.96						140,928.08	
11	230105.5100	41052726	43.96						140,884.12	
12	230105.5100	40783766	11,736.68						140,840.16	
13	230105.5100	40806223	11,736.68	8/1/2004	8/31/2004	15.00	(11.00)	(129,103.48)	129,103.48	91.53%
14	230105.5100	40832634	11,736.68	9/1/2004	9/30/2004	14.50	(10.50)	(123,235.14)	117,366.80	83.21%
15	230105.5100	40857471	11,736.68	10/1/2004	10/31/2004	15.00	(11.00)	(129,103.48)	105,630.12	74.89%
16	230105.5100	40880059	11,736.68	11/1/2004	11/30/2004	14.50	(10.50)	(123,235.14)	93,893.44	66.57%
17	230105.5100	40903501	11,736.68	12/1/2004	12/31/2004	15.00	(11.00)	(129,103.48)	82,156.76	58.24%
18	230105.5100	40922174	11,736.68	1/1/2005	1/31/2005	15.00	(11.00)	(129,103.48)	70,420.08	49.92%
19	230105.5100	40955507	11,736.68	2/1/2005	2/28/2005	13.50	(9.50)	(111,498.46)	58,683.40	41.60%
20	230105.5100	40977094	11,736.68	3/1/2005	3/31/2005	15.00	(11.00)	(129,103.48)	46,946.72	33.28%
21	230105.5100	41004124	11,736.68	4/1/2005	4/30/2005	14.50	(10.50)	(123,235.14)	35,210.04	24.96%
22	230105.5100	41026752	11,736.68	5/1/2005	5/31/2005	15.00	(11.00)	(129,103.48)	23,473.36	16.64%
23	230105.5100	41052864	11,736.68	6/1/2005	6/30/2005	14.50	(10.50)	(123,235.14)	11,736.68	8.32%
24										
25			<u>\$ 141,054.86</u>							
26										
27			<u>129,103.48</u>					<u>(1,379,059.90)</u>		
28										
29			Average Lag for Rents					<u>(10.68)</u>		

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Taxes Other Than Income - Summary of Weighted Average Lag Days for Subsidiary Account

	Paradise Valley Original Proposed 12/10/2004 ¹	Percent to Total	Average Lag Days	Lag Days
P29 General Taxes				
685320 FUTA	\$4,410	0.080812	75.0000	6.06091
685325 FICA	\$42,168	0.772718	12.0000	9.27262
685350 SUTA	\$7,993	0.146470	75.0000	10.98523
Average Lag for Taxes Other than Income	54,571	1.000000		26.31876

¹Per page 092 of original workpapers

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TAXES OTHER THAN INCOME

Payment Date	Amount	Service Period		Avg Service Period	Lag (Lead)	Dollar Days
		From	To			

FUTA

- FUTA payments are due the last day of the following month after the end of the quarter,
 resulting in approximately 75 average lag days.

FICA

- FICA is paid the same day as pay day, resulting in approximately 12 average lag days.

SUTA

- SUTA payments are due the last day of the following month after the end of the quarter,
 resulting in approximately 75 average lag days.

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PROPERTY TAXES

<u>Payment Date</u>	<u>From</u>	<u>Thru</u>	<u>Avg Service Period</u>	<u>Lag (Lead)</u>	<u>Annual Payment</u>	
10/26/2004	1/1/2004	12/31/2004	182.50	116.50	50%	58.25
2/25/2005	1/1/2004	12/31/2004	182.50	238.50	50%	119.25

Total

Average Lag for Property Tax

177.50

Line

No.

FEDERAL INCOME TAXES

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<u>Payment Date</u>	<u>From</u>	<u>Thru</u>	<u>Avg Service Period</u>	<u>Lag (Lead)</u>	<u>Annual Payment</u>
4/15/2004	1/1/2004	12/31/2004	182.50	-77.5	25% (19.38)
6/15/2004	1/1/2004	12/31/2004	182.50	-16.5	25% (4.13)
9/15/2004	1/1/2004	12/31/2004	182.50	75.5	25% 18.88
12/15/2004	1/1/2004	12/31/2004	182.50	166.5	25% <u>41.63</u>
Total					
Average Lag for Federal Income Tax					<u>37</u>

Exhibit 5

EXHIBIT JMR-RB5

Supporting documentation for Nauri Valley Drive improvements
Company Rate Base Adjustment AAW-3

PV Fire Flow Improvement Program
Nauni Valley Drive Main Replacement Account Review (Principle Charges at Substantial Completion)
1/26/06 (rev. 1) - b. vanderson

	Contract Amount	Amount Invoiced	Balance for Nauni	Overall Total (NTE)
Engineering & Inspection (B&C)				
Design Services	\$9,504.00	\$9,504.00	\$0.00	
Utility Potholing for Nauni Valley Dr. (part of B&C task order amendment #1)	see note 3	\$3,864.35	\$0.00	
Inspection Services (part of B&C task order amendment #2, NTE price)	\$47,600.00	\$19,188.75	\$28,411.25	
Bid Services	see note 1	\$3,079.25	\$0.00	
Construction Admin Services	see note 2	\$7,715.20	\$0.00	
Construction (B&F)				
Installation, pay application #1 (see note 4)	\$279,427.00	\$251,484.30	see below	
Installation, pay application #2 (see note 4)	see above	\$27,942.70	\$0.00	
Other				
Permit fee (MCESD)	\$500.00	\$500.00	\$0.00	
Pending plumbing repair to sprinkler system for resident (service line broken during construction, see note 5)	\$500.00	\$0.00	\$500.00	
Subtotal		\$323,278.55	\$28,911.25	
Company Labor (see note 6)	n/a	\$8,844.96	\$2,500.00	
AFUDC (see note 7)	n/a	\$29,027.59	\$2,745.34	
Overhead (see note 8)	n/a	\$23,248.65	\$2,198.79	
Total		\$384,399.75	\$36,355.38	\$420,755.13

Notes:

- 1 Total "Bid Services" amount paid of \$12,317.00 is for multiple B&C projects but three projects have been bid with amount paid being \$9,237.75; thus, Nauni portion equates to 1/3 of the total (\$3,079.25).
- 2 Total "Construction Admin Services" amount of \$38,576.00 is for multiple B&C projects but two projects are being executed with amount paid being \$15,430.40; thus, Nauni portion equates to 1/2 of the total (\$7,715.20).
- 3 Total change order number 1 (task order amendment #1) is inclusive of the Nauni Valley Drive scope change.
- 4 A 10% retainage has not been released to the Contractor, figures represent "booked" values.
- 5 Estimated price was preliminary estimate from landscaper to resident, more to follow.
- 6 Amount invoiced/actual based on 50% of payroll distribution report total of \$17,689.92 (time split assumes Lincoln Drive design at 30% & balance of others, Tatum Blvd in particular, at 20% of overall total).
- 7 AFUDC at 8.74%. (per input from Asset & Capital Planning Group).
- 8 Overhead at 7% (rate fluctuates, ok to use per input from Asset & Capital Planning Group).



Brown and Caldwell
 Suite 500 201 East Washington Street
 Phoenix AZ 85004
 Tel (602) 567-4000 Fax (602) 567-4001

INVOICE

A23ENG07
 50007613
 M

To Arizona American Wtr Co
 P O Box 5087
 Mount Laurel NJ 08054-1108

Project No 128435

Invoice No 1525586 *1525586*

Date January 20 2006 *1-20 06*

Attention Accounts Payable

Subject Waterlines Contact Tracy H Moraca PM
 Billing Period November 25 2005 through December 29 2005 Invoiced By Deanne L Herschberg
 Progress Billing No 5
 Reference Authorization Dated 4/29/2005

Local Rep Brian Vandenson
 Work Basket A23ENG07

23020501 105275.31 500748754
 OR TO PAY



Paradise Valley Water Line

PRODUCT CODE TJO7
 " THIS IS A LOSS ACCRUAL" 1/25/06

Phase Code / Name	Percent Complete	Contract Amount	Amount Invoiced	Previously Invoiced	T Invo
120 -- Bid Services	75%	\$ 12 317 00	\$ 9 237 75	\$ 9 237 75	\$ 0
140 -- Construction Services	40%	\$ 38 576 00	\$ 15 430 40	\$ 1 928 80	\$ 13 501.60
200 -- Lincoln Drive	100%	\$ 84 374 00	\$ 84 374 00	\$ 84 374 00	\$ 0
300 Nauni Drive	100%	\$ 9 504 00	\$ 9 504 00	\$ 9 504 00	\$ 0
400 Tatum Phase I	90%	\$ 44 662 00	\$ 40 195 80	\$ 35 729 60	\$ 4 466.20
450 Tatum Phase II	90%	\$ 10 454 00	\$ 9 408 60	\$ 8 363 20	\$ 1 045.40
500 Highland Pipe & BS	90%	\$ 43 890 00	\$ 39 501 00	\$ 10 972 50	\$ 28 528.50
600 Change Order No 1	100%	\$ 26 296 45	\$ 26 296 45	\$ 26 296 45	\$ 0
700 Change Order No 2	90%	\$ 44 400 00	\$ 39 960 00	\$ 11 100 00	\$ 28 860.00
Total		\$ 314 473 45	\$ 273 908 00	\$197 506 30	\$ 76 401.70

76401.70

PAYMENT REMIT ADDRESS Brown and Caldwell P O Box

Payment is due within 30 days of receipt of invoice interest on the unpaid balance will accrue 31st day at the rate of 15 percent per month or the maximum interest permitted by law whic

0208

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 Phoenix AZ 85004
 Tel (602) 567-4000 Fax (602) 567-4001

INVOICE

23020501.105275.31 50074875W
 CIL TO PAY

A23ENG07
 50007613
 AP

PRODUCT CODE ~~WBO1~~ WBO1
 "THIS IS A 2005 ACCRUAL"
 1125106

To Arizona American Wtr Co
 P O Box 5087
 Mount Laurel NJ 08054 1108

Project No 128435

Invoice No 1525587 1525587

Date January 20 2006

1-20 06

Attention Accounts Payable

Subject Waterlines Contact Tracy H Moraca PM
 Billing Period November 25 2005 through December 29 2005 Invoiced By Deanne L Herschberg
 Progress Billing No 2
 Reference Authorization Dated 4/29/2005

Local Rep Brian Vandenson
 Work Basket A23ENG07

Received
 JAN 24 2006
 Shared Services Center

750 Nauni Inspection Svcs

LABOR

Class/ Employee Name	Hours	Rate	Billing Amount
Senior Inspector Fredrick K Schneider	1 25	\$ 119 00	\$ 148 75
Senior Inspector Peter L Amador	109 00	\$ 119 00	\$ 12 971 00
Sub Total Labor	110 25		\$ 13 119 75
Total Labor			\$ 13 119 75

Total 750 Nauni Inspection Svcs
 Amount Due this Invoice

\$ 13 119 75
 \$ 13 119 75

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PAYMENT REMIT ADDRESS (B)

Payment is due within 30 days of receipt of invoice and
 31st day at the rate of 1.5 percent per month or the ma.

208, San Francisco CA 94145 0208

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 Phoenix AZ 85004
 Tel (602) 567-4000 Fax (602) 567-4001

RECEIVED INVOICE

DEC 14 2005

SHARED SERVICE CENTER

A23ENG07

50007613 AP

To Arizona American Wtr Co
 P O Box 5087
 Mount Laurel NJ 08054 1108

Project No 128435

Invoice No 1523882

1523882

Date December 14 2005

12/14/05

Attention Accounts Payable

Subject Waterlines Contact Tracy H Moraca PM
 Billing Period September 30 2005 through December 01 2005 Invoiced By Deanne L Herschberg
 Progress Billing No 4
 Reference Authorization Dated 4/29/2005

23020501.105275.31 50077875W
 OIK TO PAY

Local Rep Brian Vandenson
 Work Basket A23ENG07

PRODUCT CODE T707
 THIS IS A 2005 ACCRUAL

Paradise Valley Water Line

Phase Code / Name	Percent Complete	Contract Amount	Amount Invoiced	Previously Invoiced	TI Invoiced
120 Bid Services	75%	\$ 12 317 00	\$ 9 237 75	\$ 6 158 50	\$ 3 079 25
140 Construction Services	5%	\$ 38 576 00	\$ 1 928 80	\$ 0 00	\$ 1 928 80
200 - Lincoln Drive	100%	\$ 84 374 00	\$ 84 374 00	\$ 79 613 44	\$ 4 760 56
300 - Nauni Drive	100%	\$ 9 504 00	\$ 9 504 00	\$ 9 504 00	\$ 0 00
400 - Tatum Phase I	80%	\$ 44 662 00	\$ 35 729 60	\$ 2 233 10	\$ 33 496 50
450 Tatum Phase II	80%	\$ 10 454 00	\$ 8 363 20	\$ 522 70	\$ 7 840 50
500 Highland Pipe & BS	25%	\$ 43 890 00	\$ 10 972 50	\$ 0 00	\$ 10 972 50
600 Change Order No 1	100%	\$ 26 296 45	\$ 26 296 45	\$ 0 00	\$ 26 296 45
700 Change Order No 2	25%	\$ 44 400 00	\$ 11 100 00	\$ 0 00	\$ 11 100 00
Total		\$ 314 473 45	\$ 197 506 30	\$ 98 031 74	\$ 99 474 56

NOTE TOTAL IS \$105543.56

12/21/05

AMT 99474.56

SS Brown and Caldwell, P O Box 45208, San Francisco, CA 94145-0208

of invoice interest on the unpaid balance will accrue beginning with the
 nth or the maximum interest permitted by law whichever is lesser

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Pat



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 Phoenix AZ 85004
 Tel (602) 567-4000 Fax (602) 567-4001

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DEC 14 2005
 SHARED SERVICE CENTER

A23ENG07
 50007613^{AP}

To Arizona American Wtr Co
 P O Box 5087
 Mount Laurel NJ 08054-1108

Project No 128435

Invoice No 1523883 ¹⁵²³⁸⁸³
 Date December 14 2005 ^{12/14/05}

Attention Accounts Payable

Subject Waterlines Contact Tracy H Moraca PM
 Billing Period September 30 2005 through December 01 2005 Invoiced By Deanne L Herschberg
 Progress Billing No
 Reference Authorization Dated 4/29/2005

Local Rep Brian Vandenson
 Work Basket A23ENG07

750 Nauni Inspection Svcs

LABOR

Class/ Employee Name	Hours	Rate	Billing Amount
Senior Inspector Peter L Amador	50 00	\$ 119 00	\$ 5 950 00
Senior Inspector Gwendolyn A Flora	1 00	\$ 119 00	\$ 119 00
Sub Total Labor	51 00		\$ 6 069 00
Total Labor			\$ 6 069 00

Total 750 Nauni Inspection Svcs \$ 6 069 00
 Amount Due this Invoice \$ 6 069 00

AMT
 6069.00

PAYMENT REMIT ADDRESS Brown and Caldwell, P O Box 45208, San Francisco, CA 94145 0208

Payment is due within 30 days of receipt of invoice interest on the unpaid balance will accrue beginning with the 31st day at the rate of 1.5 percent per month or the maximum interest permitted by law whichever is lesser



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 Tel (602) 567-4000 Fax (602) 567-4001

INVOICE

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56667613
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 A23ENG07

To Arizona American Wtr Co
 P O Box 5087
 Mount Laurel NJ 08054 1108

OCT 24 2005 Project No 128435
 SHARED SERVICE CENTER Invoice No 1520765
 Date October 19 2005

1520765

Attention Accounts Payable

23020501.105275.31 50074875W 10/19/05
 PRODUCT CODE T707 OK TO PAY

Subject Waterlines Contact Tracy H Moraca PM
 Billing Period August 26 2005 through September 29 2005 Invoiced By Deanne L Herschberg
 Progress Billing No 3
 Reference Authorization Dated 4/29/2005

Local Rep Brian Vandenson
 Work Basket A23ENG07

Paradise Valley Water Line

Contract Amount	Percent Complete	Billing Amount
\$ 161 311 00	61%	\$ 98 031 74
Less Amount Previously Invoiced		\$ 68,133 35
Amount Due this Invoice		\$ 29 898 39

See email

29898.39

Summary of Account

Invoiced To Date	\$ 98 031 74	Contract Ceiling	\$ 161 311 00
Total Paid To Date	\$ (53 510 46)	Invoiced To Date	\$ 98 031 74
Balance Outstanding	\$ 44 521 28	Remaining Balance	\$ 63 279 26

PAYMENT REMIT ADDRESS Brown and Caldwell, P O Box 45208, Sa

Payment is due within 30 days of receipt of invoice. Interest on the unpaid balance will accrue beginning w 31st day at the rate of 1.5 percent per month or the maximum interest permitted by law whichever is lesser

3

Brian A Vandenson

10/28/2005 02:35 PM

To: tmoraca@brwnald.com, jhill@brwnald.com

cc:

Subject: Invoicing - SCW & PV Fireflow Improvement projects

Tracy & Jennifer,

I received an invoice from B&C for \$28,898.39 & noticed a change in the total contract amount (new total is \$161,311.00). At first I was confused as to how this figure was determined (the previous total was \$93,878.00) but I think I deciphered it & will sign-off on the invoice. In the future, I would like the total to reflect the following:

Paradise Valley Water Line:

Nauni Valley Drive	\$9504.00
Lincoln	\$84374.00
Phase 1 Tatum	\$44662.00
Phase 2 Tatum	\$10454.00
Bid Services (part 1)	\$12317.00
Construction Admin (part 1)	\$38576.00
Change Order #1	\$20421.05
Change Order #2	tbd
Highland BS from part 2)	<u>\$43890.00</u> (this scope has changed but move \$'s to part 1 total
total part 1	\$264198.05 (add change order #2 to this amount to the total
when it is agreed upon & approved)	

For the pending inspection services, in both Paradise Valley & SCW, the price will be a NTE & we should track & invoice separately (from both the Paradise Valley Water Line total above & SCW Water Line). Part 2 of the Paradise Valley Water Line, as I see it, will have a total of \$248,154.00 (for projects 7 thru 10 but also includes Bid Services & Construction Admin for project 6).

Brian A. Vandenson
Operations Engineer
Arizona American Water Company
19820 N. 7th Street, Suite 201
Phoenix, AZ 85024
o: (623)445-2497
c: (602)388-2841

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Brown and Caldwell
Suite 500 201 East Washington Street
Phoenix AZ 85004
Tel (602) 567-4000 Fax (602) 567-4001

50007613
ALL
A23ENG07

INVOI

23020501.105275.31 50074875W OK TO PAY
1518970B
Product code TJ07

To Arizona American Wtr Co
P O Box 5087
Mount Laurel NJ 08054 1108

9/30/05
R

Project No 128435
Invoice No 1518970 B
Date September 16 2005

Attention Accounts Payable

Subject Waterlines Contact Jennifer E Hill PM
Billing Period July 29 2005 through September 01 2005 Invoiced By Deanne L Herschberg
Progress Billing No 2
Reference Authonzation Dated 4/29/2005

Local Rep Brian Vandenson
Work Basket A23ENG07

Paradise Valley Water Line

	<u>Contract Amount</u>		<u>Percent Complete</u>		<u>Billing Amount</u>
Lincoln Dr	\$ 93 878 00	X	73%	=	\$ 68 133 35
+ Narrow Valley Dr					\$ 53 510 46
					\$ 14 622 89
					<u>14622.89</u>

Summary of Account

Invoiced To Date	\$ 68 133 35	Contract Ceiling	\$ 93 878 00
Total Paid To Date	\$ 0 00	Invoiced To Date	\$ 68 133 35
Balance Outstanding	\$ 68 133 35	Remaining Balance	\$ 25 744 65

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SEP 19 2005

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of invoice interest on the unpaid balance will accrue beginning with the
nth or the maximum interest permitted by law whichever is lesser

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 Phoenix AZ 85004
 Tel (602) 567-4000 Fax (602) 567-4001

50007613 INVOI
 ALW

A23ENG07

23020501.105275.31 50074875 OK TO PAY

Product code TJ07

To Arizona American Wtr Co
 P O Box 5087
 Mount Laurel NJ 08054 1108

Project No 128435 9/30/05
 Invoice No 1518790A
 Date September 13 2005

↓
 Page 1 of 2

Attention Accounts Payable.

Subject Waterlines Contact Jennifer E Hill PM
 Billing Period July 01 2005 through July 28 2005 Invoiced By Deanne L Herschberg
 Progress Billing No
 Reference Authorization Dated 4/29/2005
 Local Rep Brian Vandenson
 Work Basket A23ENG07

Paradise Valley Water Line

<u>Contract Amount</u>		<u>Percent Complete</u>	=	<u>Billing Amount</u>
\$ 93 878 00	X	57%		\$ 53 510 46
Less Amount Previously Invoiced				\$ 0 00
Amount Due this Invoice				\$ 53 510 46

Summary of Account

Invoiced To Date	\$ 53 510 46	Contract Ceiling	\$ 93 878 00
Total Paid To Date	\$ 0 00	Invoiced To Date	\$ 53 510 46
Balance Outstanding	\$ 53 510 46	Remaining Balance	\$ 40 367 54

PAYMENT REMIT ADDRE

Payment is due within 30 days of receipt
 31st day at the rate of 1.5 percent per mo

Box 45208, San Francisco, CA 94145-0208

accrue beginning with the
 whichever is lesser

#1

AWSSC - Accounts Payable Dept
Construction Contractor Invoice Transmittal

I. General Information

Company/District: Arizona American Water/Paradise Valley
 Project Name: 331 - PV Fire Flow Improvements (Nauni Valley Drive)
 Project Business Unit: 23020501
 Invoice Product Code: WB01
 AAW Project Manager: Brian Vandenson
 Work Basket No.: A23ENG07
 Contractor: B&F Contracting Inc (Tel 623-582-1170)
 Invoice No.: 15004 (Payment #2)
 Invoice Date: 1/18/06 (Received 1/19/06)

II. Construction Work In Progress (CWIP) Charge Distribution

Task Order No. & Type (Sub ledger- 8 digit & include type)	Description	Amount To Be Booked	Amount to Retainage Acct. (See below for Setup) Object Acct. 105280. XX	Amount to be Paid Object Acct. 105275. XX	Amount to be Paid Object Acct. See Prev Column	Amount Held in Retainage Acct. BU# 23020203 Object Acct. 234200
50074876.W	Install of WM, 100% complete	\$27,942.70	\$2,794.27	105275.31	\$25,148.43	\$2,794.27
			\$0.00		\$0.00	\$0.00
			\$0.00		\$0.00	\$0.00
			\$0.00		\$0.00	\$0.00
			\$0.00		\$0.00	\$0.00
			\$0.00		\$0.00	\$0.00
			\$0.00		\$0.00	\$0.00
			\$0.00		\$0.00	\$0.00
Total CWIP Booked This Period			\$2,794.27		\$25,148.43	\$2,794.27
Retainage to be Held		10%	\$2,794.27			\$2,794.27

III. Retirement Work In Progress (RWIP) Charge Distribution

Task Order No. (Sub ledger)	Retirement Work Description	Amount To Be Booked RWIP Obj Acct. 185275	Amount To Retainage	Amount To Be Paid	Amount Held in Retainage Acct. BU# 240305 Object Acct. 234200
		\$0.00	\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00	\$0.00
Total RWIP Booked This Period		\$0.00	\$0.00	\$0.00	\$0.00
Retainage to be Held		5%	\$0.00		\$0.00
Total Retainage to be Held			\$2,794.27		\$2,794.27

IV. Contract Retention Account:

BU #: XXXXXX Obj./Acct.: 234200

Task Order No.	Type	Amount	Amt to be Paid
	Retainage to be Paid		\$0.00
	Retainage to be Paid		\$0.00
	Retainage to be Paid		\$0.00
	Retainage to be Paid		\$0.00
	Retainage to be Paid		\$0.00
	Retainage to be Paid		\$0.00

TOTAL TO BE PAID THIS PERIOD

ACH TRANSFER

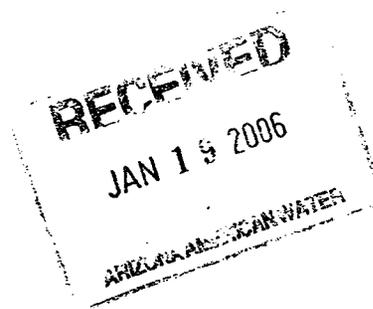
\$25,148.43

Requested: 
 Brian Vandenson, Operations Engineer

Approved: _____
 J. E. Gross, Engineering Manager



P.O. BOX 54785
2501 W. Behrend Dr. Ste.23
Phoenix, AZ 85027
Telephone: 623-582-1170
FAX: 623-582-3761



Fax

To: Arizona American Water	From: Twila Rothra
ATTN: Accounts Payable	623-582-1170
FAX : 623-445-2454	Pages: 1 Including Cover Sheet
Phone:	Date: 1/19/06
Re: INVOICE	CC:

Urgent X For Review Please Comment X Please Reply

• **Comments:**

Attached is this months invoice, for both Nauni Valley & Sun City Job, can you please make sure the appropriate people get the copies they need, the hard copy will be in the mail today.

Thank you

Revised Invoices Attached
with different Invoice #'s



B&F CONTRACTING, INC.

P.O. BOX 54785
 PHOENIX, AZ 85078-4785
 (623) 582-1170

FAX# (623) 582-3761

DATE	INVOICE NO.
1/18/2006	15004

S
 o Arizona American Water
 L 19820 N 7th Street
 D Suite 201
 Phoenix, AZ 85024

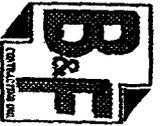
S
 H B & F Job No. 4242.05 / 4009
 I Nauni Valley Drive
 P Water Main Replacement
 56th St. & Nauni Valley

T
 O

T
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<u>REQUISITION NO.</u>		<u>PURCHASE ORDER NO.</u>	<u>TERMS</u>	<u>CONTRACT NO.</u>
2			NET 30 DAYS	
QUANTITY	UNIT	DESCRIPTION	AMOUNT	CURRENT BILLING
1.00	EA	Work completed to date 100% (See attached details)		\$ 27,942.70
Contract Billing Summary				
Contract amount			\$ 279,427.00	
Invoice # 13309A (REVISED)			\$(226,335.87)	
Invoice # 15004 Requisition # 2			\$(25,148.43)	
Balance Not Billed + (retention)			\$ 27,942.70	
			less 10% Retention	\$ 2,794.27
			TOTAL	\$ 25,148.43

RECEIVED
 JAN 18 2006
 ARIZONA AMERICAN WATER



Arizona American Water
 19820 N. 7th Street
 Suite 201
 Phoenix, AZ 85024

B & F Contracting Inc.
 P.O. Box 54785
 Phoenix, AZ 85078

Nauni Valley Dr.
 Water Main Replacement
 56th Street & Nauni Valley

01/18/06
 Requisition # 2

Nauni Valley Drive		Scheduled Value	Work Completed from previous appl. (D-E)	This Period	Material Stored	Total Completed & Stored	% (C)	Balance to finish (C-G)	Retainage
1	8" Dip Water	\$175,261.60	161,594.60	13,677.00	-	175,261.60	100%	\$0.00	\$17,526.16
2	8" Valve	\$8,000.00	8,000.00	-	-	8,000.00	100%	\$0.00	\$800.00
3	F H Complete	\$17,400.00	17,400.00	-	-	17,400.00	100%	\$0.00	\$1,740.00
4	R & R AC Pavement	\$35,280.00	33,497.00	1,783.00	-	35,280.00	100%	\$0.00	\$3,528.00
5	1" Water Service	\$25,200.00	17,940.00	7,260.00	-	25,200.00	100%	\$0.00	\$2,520.00
6	Connection at 66th Street	\$6,502.70	6,502.70	-	-	6,502.70	100%	\$0.00	\$650.27
7	Connection at McDonald	\$4,802.70	-	4,802.70	-	4,802.70	100%	\$0.00	\$480.27
8	Traffic Control	\$7,000.00	6,860.00	140.00	-	7,000.00	100%	\$0.00	\$700.00
		\$279,427.00	\$251,484.30	\$27,942.70	\$0.00	\$279,427.00	100%	\$0.00	\$27,942.70

APPROVED FOR PAYMENT
 JAN 18 2006

AWSSC - Accounts Payable Dept
Construction Contractor Invoice Transmittal

I. General Information

Company/District: Arizona American Water/Paradise Valley
 Project Name: 331 - PV Fire Flow Improvements (Nauni Valley Drive)
 Project Business Unit: 23020501
 Invoice Product Code: **WB01**
 AAW Project Manager: Brian Vandenson
 Work Basket No.: A23ENG07
 Contractor: B&F Contracting Inc (Tel 623-582-1170)
 Invoice No.: 13309A
 Invoice Date: 12/27/2005

" This is a 2005 Accrual "

II. Construction Work In Progress (CWIP) Charge Distribution

Task Order No. & Type (Sub ledger- 8 digit & include type)	Description	Amount To Be Booked	Amount to Retainage Acct. (See below for Setup) Object Acct. 105280. XX	Amount to be Paid Object Acct. 105275. XX	Amount to be Paid Object Acct. See Prev Column	Amount Held in Retainage Acct. BU# 23020203 Object Acct. 234200
50074876.W	Install of WM, 90% complete	\$251,484.30	\$25,148.43	105275.31	\$226,335.87	\$25,148.43
			\$0.00		\$0.00	\$0.00
			\$0.00		\$0.00	\$0.00
			\$0.00		\$0.00	\$0.00
			\$0.00		\$0.00	\$0.00
			\$0.00		\$0.00	\$0.00
			\$0.00		\$0.00	\$0.00
			\$0.00		\$0.00	\$0.00
Total CWIP Booked This Period			\$25,148.43		\$226,335.87	\$25,148.43
Retainage to be Held		0%	\$25,148.43			\$25,148.43

III. Retirement Work In Progress (RWIP) Charge Distribution

Task Order No. (Sub ledger)	Retirement Work Description	Amount To Be Booked RWIP Obj Acct. 185275	Amount To Retainage	Amount To Be Paid	Amount Held in Retainage Acct. BU# 240305 Object Acct. 234200
		\$0.00	\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00	\$0.00
Total RWIP Booked This Period		\$0.00	\$0.00	\$0.00	\$0.00
Retainage to be Held		5%	\$0.00		\$0.00
Total Retainage to be Held			\$25,148.43		\$25,148.43

IV. Contract Retention Account:

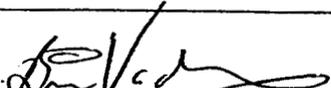
BU #: XXXXXX Obj./Acct.: 234200

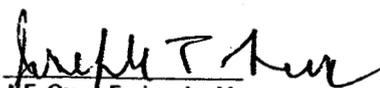
Task Order No.	Type	Amount	Amt to be Paid
	Retainage to be Paid		\$0.00
	Retainage to be Paid		\$0.00
	Retainage to be Paid		\$0.00
	Retainage to be Paid		\$0.00
	Retainage to be Paid		\$0.00
	Retainage to be Paid		\$0.00

TOTAL TO BE PAID THIS PERIOD

ACH TRANSFER

\$226,335.87

Requested: 
 Brian Vandenson, Operations Engineer

Approved: 
 J.E. Gross, Engineering Manager

#1



B&F CONTRACTING, INC.
 P.O. BOX 54785
 PHOENIX, AZ 85078-4785
 (623) 582-1170

FAX# (623) 582-3761

REVISED

DATE	INVOICE NO.
12/14/2005	13309A

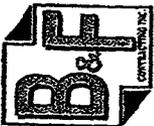
S
 o Arizona American Water
 L 19820 N 7th Street
 o Suite 201
 Phoenix, AZ 85024

S
 H B & F Job No. 4242.05
 I Nauri Valley Drive
 P Water Main Replacement
 56th St. & Nauri Valley

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REQUISITION NO.		PURCHASE ORDER NO.		TERMS	CONTRACT NO.
1				NET 30 DAYS	
QUANTITY	UNIT	DESCRIPTION		AMOUNT	CURRENT BILLING
1.00	EA	Work completed to date 90%			\$ 251,484.30
		(See attached details)			
Contract Billing Summary					
Contract amount				\$ 279,427.00	
Invoice # 13309A (REVISED)				\$(226,335.87)	
Balance Not Billed + (retention)				\$ 53,091.13	
				less 10% Retention	\$ (25,148.43)
				TOTAL	\$ 226,335.87



B & F Contracting Inc.
 P.O. Box 54785
 Phoenix, AZ 85078

Arizona American Water
 19820 N. 7th Street
 Suite 201
 Phoenix, AZ 85024

REVISED
 12/14/05
 invoice # 13309A

Nauni Valley Dr.
 Water Main Replacement
 56th Street & Nauni Valley

Nauni Valley Drive	description of work	Scheduled Value		Work Completed		Material Stored	Total Completed & Stored	% (G C)	Balance to finish (C-G)	Retainage
				from previous app. (D+E)	This Period					
1	8" Dip Water	\$175,261.60			161,584.60	-	161,584.60	92%	\$13,677.00	\$16,158.46
2	8" Valve	\$8,000.00			8,000.00	-	8,000.00	100%	\$0.00	\$800.00
3	F H Complete	\$17,400.00			17,400.00	-	17,400.00	100%	\$0.00	\$1,740.00
4	R & R AC Pavement	\$35,260.00			33,497.00	-	33,497.00	95%	\$1,763.00	\$3,349.70
5	1" Water Service	\$25,200.00			17,640.00	-	17,640.00	70%	\$7,560.00	\$1,764.00
6	Connection at 56th Street	\$6,502.70			6,502.70	-	6,502.70	100%	\$0.00	\$650.27
7	Connection at McDonald	\$4,802.70			-	-	-	0%	\$4,802.70	\$0.00
8	Traffic Control	\$7,000.00			6,860.00	-	6,860.00	98%	\$140.00	\$686.00
		\$279,427.00		\$0.00	\$251,484.30	\$0.00	\$251,484.30	90%	\$27,942.70	\$25,148.43

Transmittal



To Brown and Caldwell Date September 6, 2005
 Attn Jennifer Hill, P.E. From Brian A. Vandenson
 Address 201 E. Washington St., Suite 500 Phone 623-445-2497
 Phoenix, AZ 85004 RE Water Main Projects in Sun City West and Paradise Valley (PV Fireflow Improvements Phase 2)

The Following Items Are Forwarded To You: (X) Attached () Under Separate Cover

Copy of Letter Bid Package Plans/Prints Specifications
 Contracts Change Order Shop Drawings Other ATC - Nauri

COPIES	NO.	DESCRIPTION
1		Signed ATC application & \$500 check (permit) – Nauri Valley Drive

These Are Transmitted As Checked Below:

For signature For your use
 Approved as submitted For review and comment
 Approved as noted Prints returned after loan
 Re-submit copies for approval Submit copies for distribution
 FOR BIDS DUE _____ As requested

Dear Jennifer,
 Please contact me at (623) 445-2497 if you have any questions.

Regards,

Brian A. Vandenson
 Operations Engineer

Cc: Joe Gross

American Water
 19820 N. 7th Street
 Suite 201
 Phoenix AZ 85024
 USA
 T +1 623-445-2400
 F +1 623-445-2454
 I www.amwater.com



American Water

PO Box 5088

Mt. Laurel, NJ 08054

INVOICE NO. 00070381
DATE 090205

A/P Phone 1-866-777-8426 (Opt. 2,0,3,1)

COMPANY NO./NAME
23 Arizona AWW

REMARKS

ATC Application Permit

Check No. - 73031157

Check Date - 09/02/05

Stub 1 of 1

INVOICE AMOUNT

500.00

500.00

Accu-Seal Patent 4,918,128 - 5,253,852-42 - 5,829,670

23000188 Maricopa County Env Svc Dept

CHECK CONTAINS A VOID PANTOGRAPH, MICROPRINT BORDER, CHEMICAL REACTANTS AND A WATERMARK ON BACK — HOLD AT AN ANGLE TO VIEW

American Water

PO Box 5088
Mt. Laurel, NJ 08054

PNC BANK, NA
NEW JERSEY

55-277
312

NO. 73031157

DATE 09/02/05

FIVE HUNDRED AND 00/100 *****

\$*****500.00

VOID AFTER 90 DAYS

PAY TO THE
ORDER OF :

Maricopa County Env Svc Dept
1001 N Central Ave / STE 100
Phoenix AZ 85004



John R. Byrnes
AUTHORIZED SIGNATURE

⑈73031157⑈ ⑆031202770⑆ 8013584806⑈

See Reverse Side For Easy Opening Instructions

American Water

PO Box 5088
Mt. Laurel, NJ 08054



Maricopa County Env Svc Dept
1001 N Central Ave / STE 100
Phoenix AZ 85004

Solutions for Business • 908-367-8050



Maricopa County
Environmental Services

ATC Application

Application, Check List, Cover Page, Instructions, Fees, and Application for Approval to Construct Water and Sewer Infrastructure (ATC)

All Project Submittals go to Cindy Furze

Subdivision Infrastructure & Planning Program Staff

Cindy Furze – Project Specialist - 602-506-1058, fax 602-506-5813

Barbara LaSota – Subdivision Coordinator - 602-506-6675

Tom Chisholm, P.E. – Engineer (ATC review and Approval)

Wes Shonerd, P.E. – Engineer (Soils Reports, Master Plan, Conversions, and One Stop Shop Reviews)

Steven Borst, P.E. – Program Manager

Mailing Address:

Maricopa County Environmental Services Department

Subdivision Infrastructure and Planning Program

1001 N. Central Avenue, Suite 150

Phoenix, AZ 85004-1940

Note: hand deliver projects to the 7th floor Suite 711

Application check list for Approval to Construct

Cover Page for MCESD Projects - clear explanation of what type of review your firm wants from our department and how the fees apply to the project. (attached)

We need to know on the cover page what you are requesting from us, even if you have spoken to one of us.

ATC Fees (attached) - Expedited Yes No
(make checks payable to MCESD)

Approval to Construct application (attached)

Full size set of plans with every page sealed and signed by engineer.

water design report (must be sealed & signed by a registered engineer)

sewer design report (must be sealed & signed by a registered engineer)

sewer capacity letter (must be issued by the sewer utility, not the engineer)

❖ **Projects will not be accepted without a sewer capacity letter.**

- **Sewer Capacity Letter** - a statement, signed by the owner or operator of the sewage treatment facility and/or down stream collection system affirming compliance in accordance with R18-9-E301.C.
- **Operation and Maintenance Plan** – there must be verification of an O&M Plan. Submittal of the O&M Plan will be upon request.

*** The Department reserves the right to request any other information ***

<http://www.maricopa.gov/envsvc/wwmd.asp>

Revised 5/5/05

DO NOT ALTER APPLICATION



Application Instructions and fees for Approval to Construct (ATC)

ATC Application Instructions

Page 1

1. **Project Name** - must be the same as on the engineered plans. This name will appear on the ATC certificate.
Project Description - what type of review you are requesting from our department.
 ❖ You will receive an individual certificate for each component.
 (Example: water line extension, lift station, well site and/or any other component)
2. **System information required:**
Water Supply Provider - name of public water system that will be providing water service to the project.
Water PWS # - public water system number from the water supply provider.
Sewage Collection System Owner - name of sewage collection owner, providing sewer service to the project.
Sewage Treatment Facility Owner - name of owner of treatment facility, may be different from the collection system owner.
Facility Name - name of sewage treatment facility.
3. **Quantity:**
Number of water and sewer connections - number of connections on the project, if off site we charge the lower fee, unless large number of connections.
Water and Sewer Linear Feet and Size - these totals are included on the certificate our Department issues. TOTAL all linear feet together on the L.F. Total line.
Site - City, Town or County where project is located.
Section, Township, Range - information can be located in the Phoenix Metropolitan Street Atlas.

Page 2

4. **Name of Registered Engineer** - registered engineer who is the contact person for project. (Please print clearly)
Phone Number, Ext & Fax - phone number, extension, and fax number of registered engineer working on the project.
Email Address - email address for the registered engineer working on the project.
5. **Name of Engineering Firm as Registered with the AZ Board of Technical Registration** - a registered engineering firm that employees the project engineer
Mailing Address, City, State and Zip Code - mailing address of registered engineering firm.
6. **Applicant Name** - must be a person with fiduciary responsibilities associated with the Company.
Job Title - examples: Owner, President or Vice President of Corporation/Home Owner Association, Manager.
Company Name - examples: Project owner, Corporation, Home Owner Association, Municipality.
Mailing Address, City, State, Zip Code - location of applicant, will be put on certificate.
Phone number, ext and fax - applicant's phone, extension and fax number.
Email address - applicant's email address.
7. **Authorization** - No one other than named applicant can sign the application unless there is a letter of authorization, attach.

ATC FEES				
Public water supply system		Sewer collection system		
\$250.	150 or less connections	Gravity Sewer only, including manholes		
\$500.	151 to 300 connections	\$500.	Serving 50 connections or less	
\$750.	301 to 450 connections	\$1000.	Serving 51 to 300 connections	
\$1000.	451 to 600 connections	\$1500.	Serving 301 or more connections	
\$1250.	601 to 750 connections	Force Mains + Gravity Sewer		
\$1500.	751 to 900 connections	\$800.	Serving 50 connections or less	
(every 150 add \$250.)		\$1300.	Serving 51 to 300 connections	
Septic Soils and Hydrology Report		\$1800.	Serving 301 or more connections	
\$300.	50 lots or less	Other Components		
\$600.	51 to 100 lots	\$350.	Storage Tanks	\$500.
\$900.	101 to 150 lots	\$350.	Wells	\$250.
\$1200.	151 to 200 lots	\$350.	Pressure Tanks	\$150.
(every 50 lots add \$300. to the total for the project)		\$350.	Sewer Lift Station	\$150.
		\$350.	Booster Stations	\$150.
				Other
❖ Double the fee for expedited review.				
❖ Any fee questions contact MCESD				

Exhibit 6

EXHIBIT JMR-RB6

Decision No. 68303, dated November 14, 2005
Public Safety/Fire Flow plant accounting order

1 The Town of Paradise Valley ("Town") has requested the fire-flow improvements since
2 they are needed to reduce the risk to life and property. Mr. Thomas M. Martinsen, the town
3 manager of the Town has requested expedited review. Town residents' safety and the protection
4 of their property are highly dependent on this program.

5 * * * * *

6 Having considered the Company's application and Staff's memorandum dated October 20,
7 2005, the Commission finds, concludes, and orders that:

8 FINDINGS OF FACT

9 1. Arizona-American is a Class-A regulated water and wastewater utility which serves
10 approximately 131,000 customers throughout the state of Arizona pursuant to various Certificates
11 of Convenience and Necessity granted by the Commission to the Company and its predecessors in
12 interest.

13 2. The Company's deferral request in this docket pertains only to the Company's
14 Paradise Valley water district, where the Company provides service to approximately 5,000
15 customers in portions of Paradise Valley, Scottsdale and unincorporated Maricopa County.

16 3. The Company seeks an accounting order in this proceeding authorizing the deferral
17 of capital costs and expenses it expects to incur before these costs can be recognized in rates. An
18 accounting order is a rate-making mechanism whereby a regulatory commission provides specific
19 deferral authorization to treat costs in a manner that differs from generally accepted accounting
20 principles. Such a deferral mechanism, pursuant to an authorized accounting order, is permitted
21 under National Association of Regulatory Commissioners ("NARUC") Uniform System of
22 Accounts ("USOA") guidelines.

23 4. Arizona-American seeks an accounting order authorizing it to defer capital costs,
24 specifically depreciation expense and "gross return" related to public safety/fire flow improvement
25 facilities placed into service in Paradise Valley.

26 5. The Town has requested the fire-flow improvements since the improvements are
27 needed to reduce the risk to life and property.

28 ...

1 3. The cost deferral authorization granted herein does not constitute a finding or
2 determination that such costs are reasonable, appropriate, or prudent.

3 4. It is in the public interest to allow the Company to record the capital costs for
4 projects that improve fire flows, produce no significant additional revenues, and do not materially
5 reduce operating expenses in a deferred account for the Paradise Valley water district, subject to
6 the conditions recommended by Staff as set forth and discussed herein.

7 ORDER

8 IT IS THEREFORE ORDERED that the application by Arizona-American Water
9 Company for an accounting order to improve fire flows for public safety is approved, authorizing
10 the deferral of depreciation expense (at authorized depreciation rates) and a post-in-service
11 AFUDC, with the rate set at its cost of debt concurrent with the deferral period, subject to the
12 conditions and requirements recommended by Staff, as described herein.

13 IT IS FURTHER ORDERED that the cost deferral authorization granted herein does not
14 constitute a finding or determination that the deferred costs are reasonable, appropriate, or prudent.

15 IT IS FURTHER ORDERED that this Decision shall not be construed as providing the
16 Arizona-American Water Company any relief through rates with respect to the ultimate recovery
17 of the above-authorized cost deferrals.

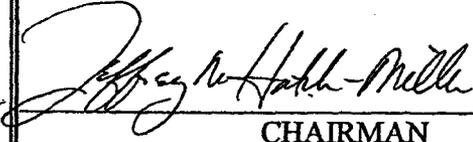
18 IT IS FURTHER ORDERED that the Company shall prepare and retain accounting records
19 sufficient to permit detailed review, in a rate proceeding, of all deferred costs recorded as
20 authorized above.

21 ...
22 ...
23 ...
24 ...
25 ...
26 ...
27 ...
28 ...

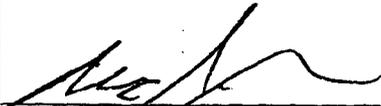
1 IT IS FURTHER ORDERED that a determination of recovery of the deferral will be made
2 in the Company's instant rate case or the Company's future rate cases for the Paradise Valley
3 water district.

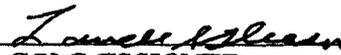
4 IT IS FURTHER ORDERED that this Decision shall become effective immediately.

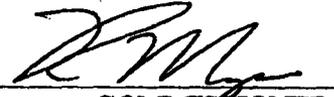
5
6 **BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION**

7 
8
9 CHAIRMAN


10
11 COMMISSIONER


12 COMMISSIONER


13 COMMISSIONER


14 COMMISSIONER

15 IN WITNESS WHEREOF, I BRIAN C. McNEIL, Executive
16 Director of the Arizona Corporation Commission, have
17 hereunto, set my hand and caused the official seal of this
18 Commission to be affixed at the Capitol, in the City of
19 Phoenix, this 14th day of November, 2005.


20 BRIAN C. McNEIL
Executive Director

21 DISSENT: _____

22
23 DISSENT: _____

24 EGJ:JRM:rdp/
25
26
27
28

1 SERVICE LIST FOR: Arizona-American Water Company, Inc.
2 DOCKET NO. W-01303A-05-0704

3 Mr. Craig A. Marks
4 Arizona-American Water Company
5 101 Corporate Center
6 19820 North 7th Street, Suite 201
7 Phoenix, Arizona 85024

8 Mr. Scott S. Wakefield
9 RUCO
10 1110 West Washington Street
11 Suite 220
12 Phoenix, Arizona 85007

13 Mr. Ernest G. Johnson
14 Director, Utilities Division
15 Arizona Corporation Commission
16 1200 West Washington
17 Phoenix, Arizona 85007

18 Mr. Christopher C. Kempley
19 Chief Counsel
20 Arizona Corporation Commission
21 1200 West Washington
22 Phoenix, Arizona 85007
23
24
25
26
27
28

Exhibit 7

EXHIBIT JMR-RB7

Staff's response to Company data request AAW 2.1

COMMISSIONERS
JEFF HATCH-MILLER - Chairman
WILLIAM A. MUNDELL
MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES



BRIAN C. McNEIL
Executive Director

ARIZONA CORPORATION COMMISSION

January 31, 2006

Craig A. Marks, Esq.
Arizona American Water
101 Corporate Center
19820 N. 7th Street, Ste. 201
Phoenix, AZ 85024

*Via E-Mail to Craig.marks@amwater.com
Original Mailed*

Re: Docket No. WS-01303A-05-0405
Arizona Corporation Commission's Responses to
Arizona-American's Second Set of Data Requests

Dear Mr. Marks:

Enclosed are Staff's responses to Arizona-American's second set of data requests to the Arizona Corporation Commission in the above-referenced matter. Please do not hesitate to contact me if you have any questions regarding the responses.

Very truly yours,

A handwritten signature in black ink, appearing to read "Diane M. Targovnik".

Diane M. Targovnik
Attorney, Legal Division
(602) 542-3402

DMT:daw
Enclosures
cc: Darron W. Carlson
James Dorf

**ARIZONA CORPORATION COMMISSION STAFF
RESPONSES TO ARIZONA-AMERICAN WATER COMPANY'S
SECOND SET OF DATA REQUESTS
(Docket No. WS-01303A-05-0405)**

January 31, 2006

AAW 2.1 **Reference Igwe direct, p. 12 at 5 thru p. 14 at 4. Please identify the entries included in the Company's response to RUCO data request 9.03 that Staff believes should have been allocated to specific operating districts, and ultimately lead to Staff Operating Expense Adjustment No. 5.**

Respondent: Darron Carlson

Response: As per Igwe direct, p. 12 at 16, Staff reviewed the invoices supplied by the Company. The entries mentioned in your data request do not provide enough information to enable Staff to identify much beyond dates and dollar amounts. Following find a summary of the items that Staff took note of and believes should have been directly allocated to the district(s) that benefited from the expenditure (and in a few instances notates other reasons that would facilitate a recommendation of disallowance):

Pg.1 1-8

05/28/2004	West Valley View subscription	\$48.00
05/28/2004	ACC/City of Surprise lunch	85.92
06/14/2004	Wastewater collection review class	155.00
10/25/2004	Northwest Valley Chamber of Commerce	800.00

Pg.1 9-15

12/31/2003	Wal-Mart – Anthem employee of Quarter	40.00
01/23/2004	West Side Food Bank	500.00
03/23/2004	Wal-Mart – Sun City employee of Quarter	25.00
07/11/2004	Target – Sun City employee of Quarter	25.00
09/15/2004	Target – Sun City employee of Quarter	25.00

Pg.1 18-36

None specific

Pg.2 62-67

08/31/2004	Interstate Battery – Northwest Valley Reclamation	84.01
08/13/2004	Interstate Battery – Northwest Valley Reclamation	106.26
08/13/2004	I P Steel – shade for Agua Fria lift station	396.00
10/06/2004	Buckeye Valley Chamber of Commerce	25.00

**ARIZONA CORPORATION COMMISSION STAFF
RESPONSES TO ARIZONA-AMERICAN WATER COMPANY'S
SECOND SET OF DATA REQUESTS
(Docket No. WS-01303A-05-0405)**

January 31, 2006

Pg.2 68

09/04/2004	Weed control bills – vague but list Agua Fria, Litchfield, PHX OM Luke, etc.	2,600.00
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Pg.3 10-102

None specific

Pg.3 71-84

12/03/2003	Diaz Lawn Maintenance – Repair Sun City main break	701.50
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Pg.3 94-9

01/13/2004	Ace Hardware – Anthem	30.06
01/13/2004	Ace Hardware – Anthem	29.30
01/19/2004	Chevron – propane for forklift New River	14.30
08/30/2004	Ace Hardware – Anthem	29.32
08/24/2004	Ace Hardware – Anthem	12.29
08/24/2004	Ace Hardware – Anthem	8.48
08/29/2004	Chevron – propane for forklift New River	17.64
10/11/2004	Southwest Rubber – hose for sludge truck	541.40

Pg.4 1-17

08/02/2004	News West – Advertising in Bullhead City, Az.	766.48
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Pg.4 2

07/30/2004	Advertising bill to Sun City Water not Az-Am	542.52
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Pg.4 21-25

11/08/2004	Fennemore Craig – acquisition of Citizens	80.50
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Pg.4 26-31

None specific

**ARIZONA CORPORATION COMMISSION STAFF
RESPONSES TO ARIZONA-AMERICAN WATER COMPANY'S
SECOND SET OF DATA REQUESTS
(Docket No. WS-01303A-05-0405)**

January 31, 2006

Pg.4 32

08/31/2004	JRP Group – fee for hiring Engineer (While not an issue of allocation – certainly this is a non recurring expense)	33,000.00
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Pg.5 34

None specific

Pg. 5 38

02/20/2004	Greenstripe Media – air time in Lake Havasu, Az.	672.00
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Pg.5 51

	Sabrosa District - New River	700.00
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Pg.5 53-60

12/11/2003	Woodenship – Northwest Chamber of Commerce ad	615.50
04/17/2004	Woodenship – Bullhead City ad	445.13
09/30/2004	Woodenship = Hardyville days ad	426.50

Pg.5 61-67

Not test year	Woodenship – November 2003 publication	5,298.14
03/12/2004	Woodenship –Lake Havasu	1,150.00
02/27/2004	Woodenship – Water Quality Notice - not PV	590.00

Pg.6 68-74

03/11/2004	Direct Impact – small system CCRs	129.50
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Pg.6 77-102

03/06/2004	Diamond Ball – Wigwam Resort Litchfield Park, Az.	5,000.00
10/02/2004	Southwest Valley Chamber of Commerce	150.00

**ARIZONA CORPORATION COMMISSION STAFF
RESPONSES TO ARIZONA-AMERICAN WATER COMPANY'S
SECOND SET OF DATA REQUESTS
(Docket No. WS-01303A-05-0405)**

January 31, 2006

Pg.7 103-140

02/27/2004	City of Goodyear – West Valley Water Coalition	2,500.00
04/15/2004	Sun City West, Az.	6,431.11
03/15/2004	Westmarc – dues	5,000.00
Quarterly	AUIA dues 1250 X 4 – 100% shareholder expense	5,000.00

Pg.8 141-154

10/11/2004	Fry's – snacks Youngtown – Sun City	5.67
10/13/2004	Chick-fil-A – Youngtown – Sun City	4.00
10/14/2004	Chick-fil-A – Youngtown – Sun City	12.22
10/14/2004	Anthem Community Center	1,000.00
10/15/2004	TEC Learning – wastewater training	70.00
11/22/2004	IOWUA dues – 100% shareholder expense	2,000.00

Pg.8 155

None specific

Pg.8 157

NAWC dues – Az-Am made no deduction for lobbying portion of dues & should be aware that Commission requires such an adjustment.	21,823.00
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Pg.8 161-174

Extensive board member fees

Pg.8 178-185

Extensive board member fees and travel expenses.

Pg.10 212-230

01/12/2004	American Fence – fence rental in Anthem, Az.	176.22
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Although there are many more entries in the miscellaneous account, the Company did not provide any more invoices to substantiate expenses other than reviewed in the above noted pages.

Exhibit 8

EXHIBIT JMR-RB8

Documentation in support of Company Income Statement
Adjustment AAW-5

COMPANY: ARIZONA AMERICAN WATER
DISTRICT(S): PARADISE VALLEY DISTRICT
DOCKET NO: WS-01303A-05-0405

Response provided by: Joel M. Reiker

Title: Intermediate Rate Analyst

Address: 19820 North 7th Street, Suite 201
Phoenix, AZ 85024-1694

Company Response Number: RUCO 7.04

- Q. Allocated Expenses – Further to RUCO data request 5.09 and with reference to the Company's response to provide documentation to substantiate the Corporate Office costs, please review the response and accurately address the question. Specifically;
- a. Provide the ledger detail of all transactions in the aggregate total of Management Fees totaling \$6,598,018;
 - b. Provide the ledger detail of all transactions in the aggregate total of Miscellaneous costs totaling \$1,810,024;
 - c. Explain the discrepancy between amounts recorded on Company's workpaper "Corp Allocation.xls Details" for "Insurance Other Than Group" in the amounts of \$605,605 for 2004 Corp and \$0.00 for 2004 Central Div and the amounts recorded on workpaper #311 of \$638,447 and workpaper #328 of \$2,811;
 - d. Explain the discrepancy between amounts recorded on the Company's workpaper "Corp Allocation.xls Details" for "Miscellaneous" in the amount of \$538,251 for 2004 Central Div and the amount recorded on workpaper #330 of \$537,302;
 - e. Explain why the amount recorded on Company workpaper "Corp Allocation.xls Details" for "Rent" in the amount of \$141,181 for 2004 Corp is not reduced by the amount of \$14,593 as stated by the Company in its response to RUCO data request 5.02 b & c; and
 - f. Explain the type of costs that are included in the "Labor" category of \$1,154,237 versus the "Management Fees" Labor of \$4,107,078 as recorded on workpaper #310.

COMPANY: ARIZONA AMERICAN WATER
DISTRICT(S): PARADISE VALLEY DISTRICT
DOCKET NO: WS-01303A-05-0405

- A. a. Please see \RUCO 7.04.a.pdf\.
- b. Please see \RUCO 7.04.b.xls\.
- c. The amount recorded on the Company's workpaper \Corp Allocation.xls\Details for AZ-Corporate, \$605,605 is the amount recorded for Arizona American Water – Total Company (see workpaper page 281). It is necessary to use this figure, rather than the AZ-Corporate amount of \$638,447 (see workpaper 311) because, while the gross amount is charged to AZ-Corporate, the amounts transferred to construction are credited to each district, and therefore not reflected on the AZ-Corporate income statement. Therefore, it is necessary to use the amount reported on the Arizona American – Total Company income statement.
- d. The amount recorded on workpaper 330, \$537,302, is the correct amount.
- e. The amount, \$141,181 for AZ Corp. should not be reduced by the amount \$14,593 because the amount, \$14,593 was not charged to BU 2301 (AZ Corp.), it was charged to BU 2320 (Cent. Div. Corp.). Therefore, the amount, \$19,971 for Central Div. Corp – Rent in \Corp Allocation.xls\, should actually be reduced by the amount \$14,593. The effect is the same. See \RUCO 7.04.e.pdf\.
- f. The amount, \$1,154,237, charged to AZ Corp. and Central Div. Corp. is related to the employees listed in the \Benefits\ tab in \Corp Allocation.xls\. These employees work for Arizona American Water Co. and are located in Arizona. Their position titles are listed in column 'E'.

The amount, \$4,107,078, for Management Fees labor is for Service Company labor. Service Company labor includes the call center, accounting, administration, audit, communications, legal, engineering, finance, human resources, information systems/financial, operations, rates and revenues, water quality, and risk management.

**COMPANY: ARIZONA AMERICAN WATER
DISTRICT(S): PARADISE VALLEY DISTRICT
DOCKET NO: WS-01303A-05-0405**

Response provided by: David Weber
Title: Senior Financial Analyst
Address: 3906 Church Road
Mount Laurel, NJ 08054

Company Response Number: RUCO 5-02

- Q. Income Statement – With reference to the Company's response to RUCO data request 3.06 and adjustment – B-3 and B-4 – to normalize and reclassify office lease expenses, please provide additional documentation to substantiate:
- a. Test year rent expense of \$24,086.30 (identify the general ledger account where this amount was recorded);
 - b. The \$18,241 adjustment to reclassify office-lease costs erroneously capitalized in the test year; and
 - c. Identify the capital account number where the \$18,241 was recorded in the test year.
- A.
- a. The \$24,086.30 was recorded to PVWC's account 931 'Rents Real Property'.
 - b. (and c.) The \$18,241 was recorded \$14,593 to Arizona-American Corporate district's account 931 'Rents Real Property' and \$3,648 to Arizona-American Corporate district's account 184 'Engineering Overhead'. [See attached spreadsheet for listing of payments]

Account Ledger Print

Account 232005.541000.16 Rents-Real Prop Oper AG

Date - 1/18/06
Page - 1
From Date/Per 12/13/03
To Date/Per 12/10/04
Ledger Type AA
Sub Ledger/Ty
Currency Code P

DT	Document	Date	Explanation	Batch	Subl/MO#	Debit	Credit
PV	40630352	12/15/03	U Haul - PO/REMIT CUST #99003875	3220156	12/15/03	79.14	
PV	40630370	12/15/03	U Haul - PO/REMIT CUST #99003875	3220156	12/15/03	79.14	
PS	40634487	12/18/03	Youngtown Mini Storage - REMIT Storage Unit #74 - 6 mo. Units 1.00	3222073	12/18/03	461.70	
PR	40641237	01/01/04	U Haul - PO/REMIT STORAGE UNIT 311	3225074	12/29/03	111.42	
PR	40641238	01/01/04	U Haul - PO/REMIT STORAGE UNIT 311	3225074	12/29/03	111.42	
PR	40641239	01/01/04	U Haul - PO/REMIT STORAGE UNIT 3313	3225074	12/29/03	111.42	
PV	40645709	01/05/04	U Haul - PO/REMIT cust #99003875	3227035	01/05/04	79.14	
PV	40647668	01/07/04	U Haul - PO/REMIT cust #99003875	3227944	01/07/04	89.14	
PV	40653079	01/13/04	U Haul - PO/REMIT CUST # 99003875	3230456	01/13/04	82.70	
PV	40658472	01/20/04	U Haul - PO/REMIT CUST # 99003875	3234427	01/20/04	79.14	
PR	40664449	02/01/04	U Haul - PO/REMIT STORAGE UNIT 3313	3238015	01/27/04	111.42	
PR	40664450	02/01/04	U Haul - PO/REMIT STORAGE UNIT 3315	3238015	01/27/04	111.42	
PR	40666755	02/01/04	U Haul - PO/REMIT STORAGE UNIT#311	3239918	01/29/04	111.42	
PV	40676017	02/11/04	U Haul - PO/REMIT cust #99003875	3246839	02/11/04	79.14	
PV	40676019	02/11/04	U Haul - PO/REMIT cust #99003875	3246839	02/11/04	82.70	
CC	159040	02/26/04	ROBERT GARCIA	3254575	02/26/04	10.78	
PR	40673878	03/01/04	UHAUL GRAND U Haul - PO/REMIT STORAGE UNIT 3313	3245629	02/09/04	111.42	
PR	40673880	03/01/04	U Haul - PO/REMIT STORAGE UNIT 3315	3245629	02/09/04	111.42	

User ID BROOKAC
Invoice 1964223
User ID BROOKAC
Invoice 1960693
User ID DIETZMDP
Invoice 00025966
User ID DIETZMDP
Invoice UH030103REC
User ID DIETZMDP
Invoice UH030103REC
User ID DIETZMDP
Invoice UH030103REC
User ID BROOKAC
Invoice 1974427
User ID BROOKAC
Invoice 1976278
User ID BROOKAC
Invoice 1980966
User ID BROOKAC
Invoice 1979691
User ID BROOKAC
Invoice UH030103REC
User ID BROOKAC
Invoice UH030103REC
User ID BROOKAC
Invoice UH020104REC
User ID BROOKAC
Invoice 1994034
User ID BROOKAC
Invoice 1994033
User ID SCHAFFCE
User ID BROOKAC
Invoice UH030103REC
User ID BROOKAC
Invoice UH030103REC

Account 232005.541000.16 Rents-Real Prop Oper AG

DT Document	Date	Explanation	Batch	Subl/WO#	Debit	Credit
PR 40673881	03/01/04	U Haul - PO/REMIT STORAGE UNIT #311	3245629	02/09/04	111.42	
PV 40698668	03/11/04	U Haul - PO/REMIT CUST# 99003875	3262815	03/11/04	61.30	
PV 40701737	03/16/04	U Haul - PO/REMIT CUST # 99003875	3264554	03/16/04	89.14	
PV 40715193	04/01/04	U Haul - PO/REMIT CUST #99003875	3274125	04/01/04	89.14	
PV 40715233	04/01/04	U Haul - PO/REMIT CUST #99003875	3274289	04/01/04	61.30	
PR 40718023	04/05/04	U Haul - PO/REMIT storage unit 3313	3276287	04/06/04	111.42	
PR 40718027	04/05/04	U Haul - PO/REMIT storage unit 3315	3276287	04/06/04	111.42	
PR 40718030	04/05/04	U Haul - PO/REMIT storage unit #311	3276287	04/06/04	111.42	
PV 40731323	04/23/04	U Haul - PO/REMIT ORDER# 721044 00014194	3285715	04/23/04	82.70	
PV 40737496	04/29/04	U Haul - PO/REMIT SERVICES RENDERED	3289426	04/29/04	61.30	
PR 40734289	05/05/04	U Haul - PO/REMIT storage unit 3313	3287005	04/27/04	111.42	
PR 40734290	05/05/04	U Haul - PO/REMIT storage unit 3315	3287005	04/27/04	111.42	
PR 40734291	05/05/04	U Haul - PO/REMIT storage unit #311	3287005	04/27/04	111.42	
PR 40734367	05/05/04	Trailer Tether - REMIT RENTS REAL PROP	3287005	04/27/04	246.45	
PV 40748435	05/14/04	U Haul - PO/REMIT SERVICES RENDERED	3297926	05/14/04	92.70	
PV 40763927	06/03/04	U Haul - PO/REMIT CUST #99003875	3308911	06/03/04	89.14	
PV 40763929	06/03/04	U Haul - PO/REMIT CUST #99003875	3308911	06/03/04	64.87	
PV 40764645	06/04/04	U Haul - PO/REMIT CUST 99003875	3309699	06/04/04	79.14	

P User ID BROOKAC
 P Invoice UH020104REC
 P User ID BROOKAC
 P Invoice 2000245
 P User ID BROOKAC
 P Invoice 2006205
 P User ID BROOKAC
 P Invoice 2002913
 P User ID BROOKAC
 P Invoice 2012514
 P User ID BROOKAC
 P Invoice UH030104
 P User ID BROOKAC
 P Invoice UH030104A
 P User ID BROOKAC
 P Invoice UH030104B
 P User ID DIETZMDP
 P Invoice 2019751
 P User ID BROOKAC
 P Invoice 2025893
 P User ID BROOKAC
 P Invoice UH030104
 P User ID BROOKAC
 P Invoice UH030104A
 P User ID BROOKAC
 P Invoice UH030104B
 P User ID BROOKAC
 P Invoice PR91
 P User ID DIETZMDP
 P Invoice 2033786
 P User ID BROOKAC
 P Invoice 2040323
 P User ID BROOKAC
 P Invoice 2039741
 P User ID BROOKAC

Account Ledger Print

Account 232005.541000.16 Rents-Real Prop Oper AG

Date - 1/18/06
 Page -
 From Date/Per 12/13/03
 Thru Date/Per 12/10/04
 Ledger Type AA
 Sub Ledger/Type
 Currency Code

DT Document	Date	Explanation	Batch	Subl/NO#	Debit	Credit
PR 40756867	06/05/04	U Haul - PO/REMIT storage unit 3313	3304454	Batch Date 05/25/04	111.42	
PR 40756868	06/05/04	U Haul - PO/REMIT storage unit 3315	3304454	Batch Date 05/25/04	111.42	
PR 40756869	06/05/04	U Haul - PO/REMIT storage unit #311	3304454	Batch Date 05/25/04	111.42	
PR 40756979	06/05/04	Tubac Trailer Tether - REMIT RENTS REAL PROP	3304454	Batch Date 05/25/04	246.45	
PV 40773731	06/16/04	U Haul - PO/REMIT CUST 99003875	3315182	Batch Date 06/16/04	79.14	
PV 40773753	06/16/04	U Haul - PO/REMIT CUST 99003875	3315376	Batch Date 06/16/04	76.27	
PR 40783598	07/05/04	U Haul - PO/REMIT storage unit 3313	3323119	Batch Date 06/28/04	111.42	
PR 40783599	07/05/04	U Haul - PO/REMIT storage unit 3315	3323119	Batch Date 06/28/04	111.42	
PR 40783600	07/05/04	U Haul - PO/REMIT storage unit #311	3323119	Batch Date 06/28/04	111.42	
PR 40783706	07/05/04	Tubac Trailer Tether - REMIT RENTS REAL PROP	3323119	Batch Date 06/28/04	246.45	
PV 40810641	07/29/04	Dan Madison & Co Inc-REMIT expense recovery- AZ AmWater	3341079	Batch Date 07/29/04	49.77	
PV 40810642	07/29/04	Dan Madison & Co Inc-REMIT expense recovery/AZ AmerWtr	3341079	Batch Date 07/29/04	49.77	
PV 40810643	07/29/04	Dan Madison & Co Inc-REMIT exp recov adjmt/AZ AmWater	3341079	Batch Date 07/29/04	99.51	
PV 40810644	07/29/04	Dan Madison & Co Inc-REMIT exp recovery/AZ AmerWater	3341079	Batch Date 07/29/04	49.77	
PV 40810645	07/29/04	Dan Madison & Co Inc-REMIT exp recovery/AZ AmerWater	3341079	Batch Date 07/29/04	49.77	
PV 40810646	07/29/04	Dan Madison & Co Inc-REMIT exp recovery/ AZ AmerWater	3341079	Batch Date 07/29/04	49.77	
PV 40815233	08/04/04	U Haul - PO/REMIT CUST 99003875	3343573	Batch Date 08/04/04	93.59	
PR 40806061	08/05/04	U Haul - PO/REMIT	3338274		111.42	

Invoice 2042339
 User ID BROOKAC
 Invoice UH030104
 User ID BROOKAC
 Invoice UH030104A
 User ID BROOKAC
 Invoice UH030104B
 User ID BROOKAC
 Invoice PR91
 User ID BROOKAC
 Invoice 2046032
 User ID BROOKAC
 Invoice 2046249
 User ID BROOKAC
 Invoice UH030104
 User ID BROOKAC
 Invoice UH030104A
 User ID BROOKAC
 Invoice UH030104B
 User ID BROOKAC
 Invoice PR91
 User ID BROOKAC
 Invoice 620
 User ID BROOKAC
 Invoice 611
 User ID BROOKAC
 Invoice 584
 User ID BROOKAC
 Invoice 591
 User ID BROOKAC
 Invoice 601
 User ID BROOKAC
 Invoice 629
 User ID BROOKAC
 Invoice 1067631

Account Ledger Print

Date - 1/18/06
Page - 4
From Date/Per 12/13/03
Thru Date/Per 12/10/04
Ledger Type AA
Sub Ledger/Ty *
Currency Code

Account 232005.541000.16 Rents-Real Prop Oper AG

DT Document	Date	Explanation	Batch	Subl/Wo#	Debit	Credit
		storage unit #311	Batch Date 07/26/04			
PR 40806062	08/05/04	U Haul - PO/REMIT storage unit #311	3338274 Batch Date 07/26/04		111.42	
PR 40806063	08/05/04	U Haul - PO/REMIT storage unit #311	3338274 Batch Date 07/26/04		111.42	
PR 40806115	08/05/04	Dan Madison & Co Inc-REMIT RENTS-REAL PROP O	3338274 Batch Date 07/26/04		2,848.93	
PR 40806165	08/05/04	Tubac Trailer Tether - REMIT RENTS REAL PROP	3338274 Batch Date 07/26/04		246.45	
PR 40833656	08/27/04	U Haul - PO/REMIT cust 99003875 AZ Amer Water	3357319 Batch Date 08/27/04		120.34	
PR 40833679	08/27/04	U Haul - PO/REMIT cust 99003875 AZ Amer Water	3357319 Batch Date 08/27/04		93.59	
PR 40832467	09/05/04	U Haul - PO/REMIT storage unit #311	3356217 Batch Date 08/25/04		111.42	
PR 40832468	09/05/04	U Haul - PO/REMIT storage unit #315	3356217 Batch Date 08/25/04		111.42	
PR 40832469	09/05/04	U Haul - PO/REMIT storage unit #311	3356217 Batch Date 08/25/04		111.42	
PR 40832522	09/05/04	Dan Madison & Co Inc-REMIT RENTS-REAL PROP O	3356217 Batch Date 08/25/04		2,848.93	
PR 40832576	09/05/04	Tubac Trailer Tether - REMIT RENTS REAL PROP	3356217 Batch Date 08/25/04		246.45	
PR 40857314	09/27/04	U Haul - PO/REMIT cust 99003875 AZ Amer Water	3373541 Batch Date 09/28/04		120.34	
PR 40857315	09/27/04	U Haul - PO/REMIT cust 99003875 AZ Amer Water	3373541 Batch Date 09/28/04		93.59	
RI 10039895	09/27/04	U Haul - PO/REMIT To resolve dup pynts/paid	3372991 Batch Date 09/27/04			2,782.00
PR 40857311	10/05/04	U Haul - PO/REMIT storage unit #313	3373541 Batch Date 09/28/04		111.42	
PR 40857312	10/05/04	U Haul - PO/REMIT storage unit #315	3373541 Batch Date 09/28/04		111.42	
PR 40857313	10/05/04	U Haul - PO/REMIT storage unit #311	3373541 Batch Date 09/28/04		111.42	
PR 40857369	10/05/04	Dan Madison & Co Inc-REMIT	3373541		2,848.93	

Account 232005-541000.16 Rents-Real Prop Oper AG

DT Document	Date	Explanation	Batch	Subl/WO#	Batch Date	Debit	Credit
PR 40857413	10/05/04	Tubac Trailer Tether - REMIT	3373541	09/28/04	246.45		
PR 40879901	10/27/04	U Haul - PO/REMIT	3389667	10/26/04	120.34		
PR 40879902	10/27/04	U Haul - PO/REMIT	3389667	10/26/04	93.59		
PR 40879898	11/05/04	U Haul - PO/REMIT	3389667	10/26/04	111.42		
PR 40879899	11/05/04	U Haul - PO/REMIT	3389667	10/26/04	111.42		
PR 40879900	11/05/04	U Haul - PO/REMIT	3389667	10/26/04	111.42		
PR 40879955	11/05/04	Dan Madison & Co Inc-REMIT	3389667	10/26/04	2,848.93		
PR 40879959	11/05/04	Tubac Trailer Tether - REMIT	3389667	10/26/04	246.45		
PR 40903350	11/27/04	U Haul - PO/REMIT	3406684	11/23/04	120.34		
PR 40903351	11/27/04	U Haul - PO/REMIT	3406684	11/23/04	93.59		
PR 40903347	12/05/04	U Haul - PO/REMIT	3406684	11/23/04	111.42		
PR 40903348	12/05/04	U Haul - PO/REMIT	3406684	11/23/04	111.42		
PR 40903349	12/05/04	U Haul - PO/REMIT	3406684	11/23/04	111.42		
PR 40903397	12/05/04	Dan Madison & Co Inc-REMIT	3406684	11/23/04	2,848.93		
PR 40903441	12/05/04	Tubac Trailer Tether - REMIT	3406684	11/23/04	246.45		
						23,573.90	2,782.00

----- Account Balances -----
20,791.90

Ledger Total
Unposted

09200P

Account Ledger Print

Date - 1/18/06
Page 6
From Date/Per 12/13/03
Thru Date/Per 12/10/04
Ledger Type AA
Sub Ledger Ty *
Currency Code
p

Account 232005.541000.16 Rents-Real Prop Oper AG

DT Document	Date	Explanation	Batch	Subl/MO#	Debit	Credit
		Year-to-Date			20,791.90	
		Cumulative			20,791.90	

Exhibit 9

EXHIBIT JMR-RB9

Decision No. 68302, dated November 14, 2005 – property taxes
Decision No. 68176, dated September 30, 2005 – property taxes

1 BEFORE THE ARIZONA CORPORATION COMMISSION

Arizona Corporation Commission

2 COMMISSIONERS

DOCKETED

3 JEFF HATCH-MILLER, Chairman
4 WILLIAM A. MUNDELL
5 MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES

NOV 14 2005

DOCKETED BY



6 IN THE MATTER OF THE APPLICATION OF
7 ARIZONA WATER COMPANY, AN ARIZONA
8 CORPORATION, FOR ADJUSTMENTS TO ITS
RATES AND CHARGES FOR UTILITY SERVICE
9 FURNISHED BY ITS WESTERN GROUP AND
FOR CERTAIN RELATED APPROVALS.

DOCKET NO. W-01445A-04-0650

DECISION NO. 68302

OPINION AND ORDER

10 DATES OF HEARING:

October 15, 2004 (Oral Argument), June 10 and 16,
2005 (Pre-Hearing Conferences), June 17, 20, 21, 22, 23
and 24, 2005

11 PLACE OF HEARING:

Phoenix, Arizona

12 ADMINISTRATIVE LAW JUDGE:

Teena Wolfe

13 IN ATTENDANCE:

Kristen K. Mayes, Commissioner

14 APPEARANCES:

15 Norman D. James and Jay L. Shapiro, FENNEMORE
16 CRAIG, and Robert W. Geake, Vice President and
General Counsel, on behalf of Arizona Water Company;

17 Marvin S. Cohen, SACKS TIERNEY, on behalf of
Pivotal Group, Inc.;

18 Joan S. Burke and Danielle D. Janitch, OSBORN
19 MALEDON, on behalf of the City of Casa Grande;

20 Daniel Pozefsky, on behalf of the Residential Utility
Consumer Office; and

21 Timothy J. Sabo and Diane M. Targovnik, Attorneys,
22 Legal Division, on behalf of the Utilities Division of the
Arizona Corporation Commission.

23 BY THE COMMISSION:

24 I. **INTRODUCTION**

25 On September 8, 2004, Arizona Water Company ("Arizona Water," "Company," or
26 "Applicant") filed the above-captioned application with the Arizona Corporation Commission
27 ("Commission") requesting a rate increase for the Company's Western Group systems. Arizona
28

1 involved, and a comparison to other cases, we find that it is reasonable to allow rate case expense of
2 \$250,000 in this case, amortized over three years.

3 **E. Property Tax Expense**

4 The methodology used by the Company and Staff to estimate property tax expense, which is
5 to use adjusted test year revenues and the projected revenues under the newly approved rates as
6 inputs to the ADOR assessment formula, is the same methodology adopted in numerous prior cases
7 over the objections of RUCO.¹⁰ RUCO proposes, as it has many times before, to instead use
8 revenues from the test year and the two years prior to the test year to calculate property tax expense
9 (Tr. at 1003). RUCO has not demonstrated a basis for departure from our prior determinations on
10 this issue. RUCO's argument regarding regulatory lag (RUCO Br. at 14, RUCO Reply Br. at 7-8)
11 has been advanced and rejected (*see Rio Rico Utilities*, Decision No. 67279 (October 5, 2004)).
12 Regulatory lag is inherent to the regulatory process, working sometimes to the benefit of ratepayers
13 and sometimes to the benefit of shareholders. Its existence does not provide a justification for
14 understating a utility's property tax expense. RUCO's calculation methodology, which uses only
15 historical revenues, unfairly and unreasonably understates property tax expense, and is therefore
16 inappropriate for ratemaking purposes. The Company and Staffs calculation for property tax
17 expense yields the best estimate of Anzona Water's property tax expense for the period in which new
18 rates will be in effect.
19
20

21 Based on the revenue requirement we adopt herein, and utilizing the methodology adopted by
22 the Commission in our prior Decisions, an allowance will be made for property tax expense in the
23 amount of \$768,963 on for the Western Group systems. This figure includes an estimation of the
24

25
26 ¹⁰ *E.g., Chaparral City Water*, Decision No. 68176 (September 30, 2005) (finding that RUCO's calculation methodology,
27 which uses only historical revenues, unfairly and unreasonably understates property tax expense, and is therefore
28 inappropriate for ratemaking purposes); *Rio Rico Utilities*, Decision No. 67279 (October 5, 2004) (finding that use of only
historic revenues understates the expense level); *Arizona American Water Company*, Decision No. 67093 (June 30, 2004);
Bella Vista Water Company, Decision No. 65350 (November 1, 2002); *Arizona Water Company*, Decision No. 64282
(December 28, 2001). RUCO has not appealed any of these Decisions.

1 **BEFORE THE ARIZONA CORPORATION COMMISSION**

Arizona Corporation Commission

2 COMMISSIONERS

DOCKETED

3 JEFF HATCH-MILLER, Chairman
4 WILLIAM A. MUNDELL
5 MARC SPITZER
6 MIKE GLEASON
7 KRISTIN K. MAYES

SEP 30 2005

DOCKETED BY

CR

8 IN THE MATTER OF THE APPLICATION OF
9 CHAPARRAL CITY WATER COMPANY, AN
10 ARIZONA CORPORATION, FOR A
11 DETERMINATION OF THE CURRENT FAIR
12 VALUE OF ITS UTILITY PLANT AND
13 PROPERTY AND FOR INCREASES IN ITS
14 RATES AND CHARGES FOR UTILITY SERVICE
15 BASED THEREON.

DOCKET NO. W-02113A-04-0616

DECISION NO. 68176

OPINION AND ORDER

11 DATE OF PRE-HEARING CONFERENCE:

May 26, 2005

12 DATE OF HEARING:

May 31, June 1, June 6 and June 8, 2005

13 PLACE OF HEARING:

Phoenix, Arizona

14 ADMINISTRATIVE LAW JUDGE:

Teena Wolfe

15 IN ATTENDANCE:

Kristen K. Mayes, Commissioner

16 APPEARANCES:

Norman D. James and Jay L. Shapiro,
FENNEMORE CRAIG, on behalf of
Chaparral City Water Company;

Daniel Pozefsky, on behalf of the
Residential Utility Consumer Office; and

David Ronald, Staff Attorney, Legal
Division, on behalf of the Utilities
Division of the Arizona Corporation
Commission.

22 **BY THE COMMISSION:**

23 **I. INTRODUCTION**

24 **A. Procedural History**

25 On August 24, 2004, Chaparral City Water Company ("Chaparral City" or "Company") filed
26 with the Arizona Corporation Commission ("Commission") an application for a determination of the
27 current fair value of its utility plant and property and for increases in its rates and charges for utility
28

5. Purchased Power Expense

The Company proposes that purchased power expense should be adjusted to take into account recent rate increases of Salt River Project ("SRP") and Arizona Public Service Company ("APS") (Bourassa Rj. at 17). Staff agrees with this adjustment (Moe Sb. at 16). RUCO opposes this adjustment claiming that the increases in power rates are too far outside the test year (Moore Sb. at 11). The SRP and APS rate increases are known and measurable expenses. The adjustment proposed by the Company and Staff is appropriate and will be adopted, for total purchased power expense of \$510,947.

6. Property Tax Expense

The Arizona Department of Revenue ("ADOR") determines the value of utility property for tax purposes using a formula that is based on the utility's historical revenues. The Company and Staff propose to follow recent Commission Decisions² to use adjusted test-year revenues in the application of the ADOR formula in order to determine allowed property tax expense (Bourassa Rj. at 16; Moe Dt. at 19). RUCO continues to disagree with the Commission's use of adjusted test year revenues in the application of the ADOR formula for estimating property tax expense for ratemaking purposes, and argues that only historical revenues should be used.

In an attempt to support its argument, RUCO compared the results of its methodology, using the Company's historical revenues for the years 2001, 2002 and 2003, with the results of the Commission's methodology, using the Company's historical revenues and adjusted test year revenues, in order to predict the property taxes assessed by ADOR in 2004 (*see* Hearing Exhibit R-2), and asserts that because its methodology more accurately predicted the actual 2004 tax assessment,

²E.g., *Rio Rico Utilities*, Decision No. 67279 (October 5, 2004) (finding that use of only historic revenues understates the expense level); *Arizona Water Company*, Decision No. 64282 (December 28, 2001) (accepting Arizona Water Company's property tax calculation, which included proposed revenues); *Bella Vista Water Company*, Decision No. 65350 (November 1, 2002) (concluding that "the most logical approach is to use the two most recent historic years' revenues, and the projected revenues under the newly approved rates"); *Arizona American Water Company*, Decision No. 67093 (June 30, 2004).

that the Commission should adopt its approach (RUCO Br. at 8-9). We do not agree. Exhibit R-1 does not, and cannot, include a comparison of results of RUCO's backward-looking methodology with results of the Commission's approach for any years beyond 2004, because the actual assessments for the years following 2004 are unknown. What is known is that any revenue increase approved in this proceeding will increase the Company's property taxes, barring the occurrence of very extraordinary circumstances. ADOR will never again use the inputs of revenues for the years 2001, 2002 and 2003, the years RUCO advocates using in this proceeding, to determine property tax levels for Chaparral City. RUCO's calculation methodology, which uses only historical revenues, unfairly and unreasonably understates property tax expense, and is therefore inappropriate for ratemaking purposes.

As we have repeatedly found, the input of known revenue increases is necessary in order to fairly estimate property tax expense for ratemaking purposes. RUCO has not demonstrated in this proceeding a basis for departure from our prior determinations on this issue.³ We will therefore adopt the recommendations of the Company and Staff to follow recent Commission Decisions to use adjusted test year revenues in determining property tax expense.

The legislature recently enacted Arizona House Bill 2779, which will gradually lower the assessment ratio for Class 1 properties, such as utility property, from 25 percent to 20 percent over a ten year period, by means of a reduction in the assessment ratio of 1/2 percent a year. Assessment ratios are applied to full cash value to derive an assessed value on which property tax is applied (Tr. at 643). Although the new assessment ratios are known, their actual effect on the amount of property taxes assessed in the future is unknown, because unlike the assessment ratios which are set by the legislature, actual property tax rates are set by counties and other governmental entities (Tr. at 643, 645). As requested, the parties introduced schedules at the hearing that estimate the impact of HB

RUCO has not appealed prior Commission Decisions rejecting its proposed methodology.

1 2779 on the Company's property tax expense level (see Hearing Exhibits A-26, R-8, S-15). The
2 schedules show that even if property tax rates were to remain constant, the effect of calculating HE
3 2779's lower assessment ratios into property tax estimates would have a de minimus effect on rates in
4 this case (see Tr. at 596; 644). No party recommended that its property tax calculation be amended.

5 Based on the revenue requirement we adopt herein, and utilizing the methodology adopted by
6 the Commission in our prior Decisions for the reasons set forth herein, an allowance will be made for
7 property tax expense in the amount of \$299,495.

9 7. Depreciation Expense

10 The Company's application showed test year depreciation expense of \$920,648. The
11 Company did not perform a depreciation study, but chose instead to base its depreciation rates on
12 Staffs developed typical and customary depreciation rates (Bourassa Rb at 2, Rj. at 17). Based on its
13 proposed plant in service amounts, the Company proposed test year adjusted depreciation expense of
14 \$1,432,828 (Bourassa Rj. Sched. C-1, p. 1). Staff accepted the Company's use of Staffs developed
15 typical and customary depreciation rates to calculate its proposed test year adjusted depreciation
16 expense of \$1,365,295, based on its proposed plant in service (Moe Sb. Sched. JRM-24). RUCO
17 disagrees with the use of Staffs developed typical and customary depreciation rates and proposes the
18 use of a different set of depreciation rates instead, as discussed in Section XI hereinbelow. Using its
19 proposed depreciation rates, RUCO proposed test year adjusted depreciation expense of \$1,113,339,
20 based on its proposed plant in service amounts (Moore Dt. Sched. RLM-10, p. 1 of 2). Applying
21 RUCO's proposed depreciation rates to the plant in service amounts approved herein would result in
22 test year adjusted depreciation expense of approximately \$1,139,194. Consistent with our discussion
23 of appropriate depreciation rates in Section XI hereinbelow, we adopt test year adjusted depreciation
24 expense of \$1,432,828, based on the plant in service amounts authorized herein and using the
25 depreciation rates proposed by the Company and Staff.
26
27
28

Exhibit 10

EXHIBIT JMR-RB10

Annual Incentive Plan



Rewarding Achievement
The 2004 Annual Incentive Plan



The 2004 American Water Annual Incentive Plan

The 2004 American Water Annual Incentive Plan (AIP) recognizes the opportunity and the accountability we share for achieving our goals. Your accomplishments have helped to build American Water's success to this point, and the AIP will reward you for the contribution you make to the achievement of our goals.

Who Is Eligible for the 2004 AIP

As in our previous plan, all full-time management, professional and technical employees (exempt from overtime) in American Water are eligible to participate in the 2004 AIP.

Eligible employees who join American Water before September 30 of a plan year (January 1 – December 31) are also eligible to participate in the plan on a prorated basis.

Eligible employees seconded from RWE/Thames Water will participate in the plan for the duration of their secondment.

Your Award Opportunity

Your award opportunity is based on your role. Your manager will confirm your award opportunity to you in writing.

If you are promoted during the plan year to a position with a higher award level, your opportunity will be prorated to reflect the full months at each award level. Similarly, if you are reclassified to a position with a lower AIP award level, your award opportunity will be prorated to reflect the full months at each award level.

What the Plan Measures

The AIP is designed to reward participants for the performance results they and the Company attain during the plan year. There are three performance components: financial, operational and individual.

- The **Financial** component includes two new measures – Value Added and Free Cash Flow I.

Goals will be set for the business unit in which you work based on the 2004 business plan. In 2003, goals were set at your work and at the next higher organizational level; in 2004, financial goals will only be based on your business unit level, e.g., California American.

- The **Operational** component includes performance measures tied to the American Water balanced scorecard through which customer service, environmental and health & safety measures and goals, as appropriate to your role, are the key performance indicators. Those in American Water Business Center roles in Voorhees will have a mix of financial and individual measures, but no Operational component.
- The **Individual** component includes objectives (Key Performance Indicators) within the company performance management process.

Financial Measures	Operational Measures	Individual Measures
<ul style="list-style-type: none"> ▪ Value Added ▪ Free Cash Flow I 	<p>Examples include:</p> <ul style="list-style-type: none"> ▪ Customer Service – This will make up 50% of the total operational component. This measure deals with services that directly benefit the customer. ▪ Environmental ▪ Health & Safety <p>...as applicable to your business unit and role</p>	<ul style="list-style-type: none"> ▪ 5 Key Performance Indicators (KPI's) to be agreed by AIP participant and their manager by the end of April.

A Note on "Value Added" and "Free Cash Flow I"

In the 2003 AIP Plan, the measures were Operating Result and Net Debt. For 2004, we've chosen Value Added and Free Cash Flow I as the measures for the Financial component of the AIP because they are critical gauges of our business success, and are now the standard used by RWE. Here's how we define these new terms.

- **Value Added**

- An established measure which reflects the contribution made by a business unit to the Group, relative to its cost of capital
- It is calculated using operating result and operating assets

- **Free Cash Flow I**

- An important operating figure that is also linked to net debt performance.
- It is defined as the cash flow from operating activities (after interest and tax) plus capital expenditure. It does not include the impact of financial restructuring or any impact of acquisitions or disposals.

Each measure has equal weighting and business plan performance will deliver half the relevant financial bonus element. Therefore, if only one measure is met, there could be a potential award under the plan.

Each performance measure has a straight-line payment profile, with the mid-point defining "on-target" performance, i.e. 100%. The slope of the payment profile is determined by reference to the volatility (inconsistency) associated with the measure. For Value Added, volatility is determined by potential variations in operating result; for Free Cash Flow I ("FCFI"), volatility is determined by Earnings Before Interest Tax Depreciation and Amortization (EBITDA).

In all cases, the 2004 plans have been adjusted for the capital expenditure challenge that we have set as a company.

How Your Award Is Weighted

Your award opportunity is based on up to three performance components, depending on your role. You can earn part of your award for each component independent of the others. That means you can receive an award based on all, some or none of the applicable components, depending on actual performance results.

Note that the American Water Board reserves the right to determine whether incentives are payable to any individual or group of individuals. The Board may withhold all incentive payments in exceptional circumstances, such as failing to meet minimum financial goals. In any case, individuals who do not meet our performance expectations will not be eligible to receive an incentive award.

The portion of your award opportunity you can earn for each component is reflected in weightings assigned to each, based on your role in the organization, as the following chart shows.

If your position is...	Your Financial component weighting is...	Your Operational component weighting is...	And your Individual component weighting is...
Regional Managing Directors & their direct reports*	70%	20%	10%
Business Center employees (Voorhees, Procurement, IT, Belleville, SSC)	70%	N/A	30%
Other eligible management and exempt employees	60%	25%	15%

* (Does not apply for administrative or short-term special assignment employees who report to Regional Managing Directors. Those individuals would fit under the "other eligible management and exempt employee category in the chart above.)

Note that award opportunities for all Business Center (Voorhees) roles will have a mix of Financial and Individual measures, but no Operational component.

Your manager will discuss these with you and confirm in writing the measures and weightings that apply to you.

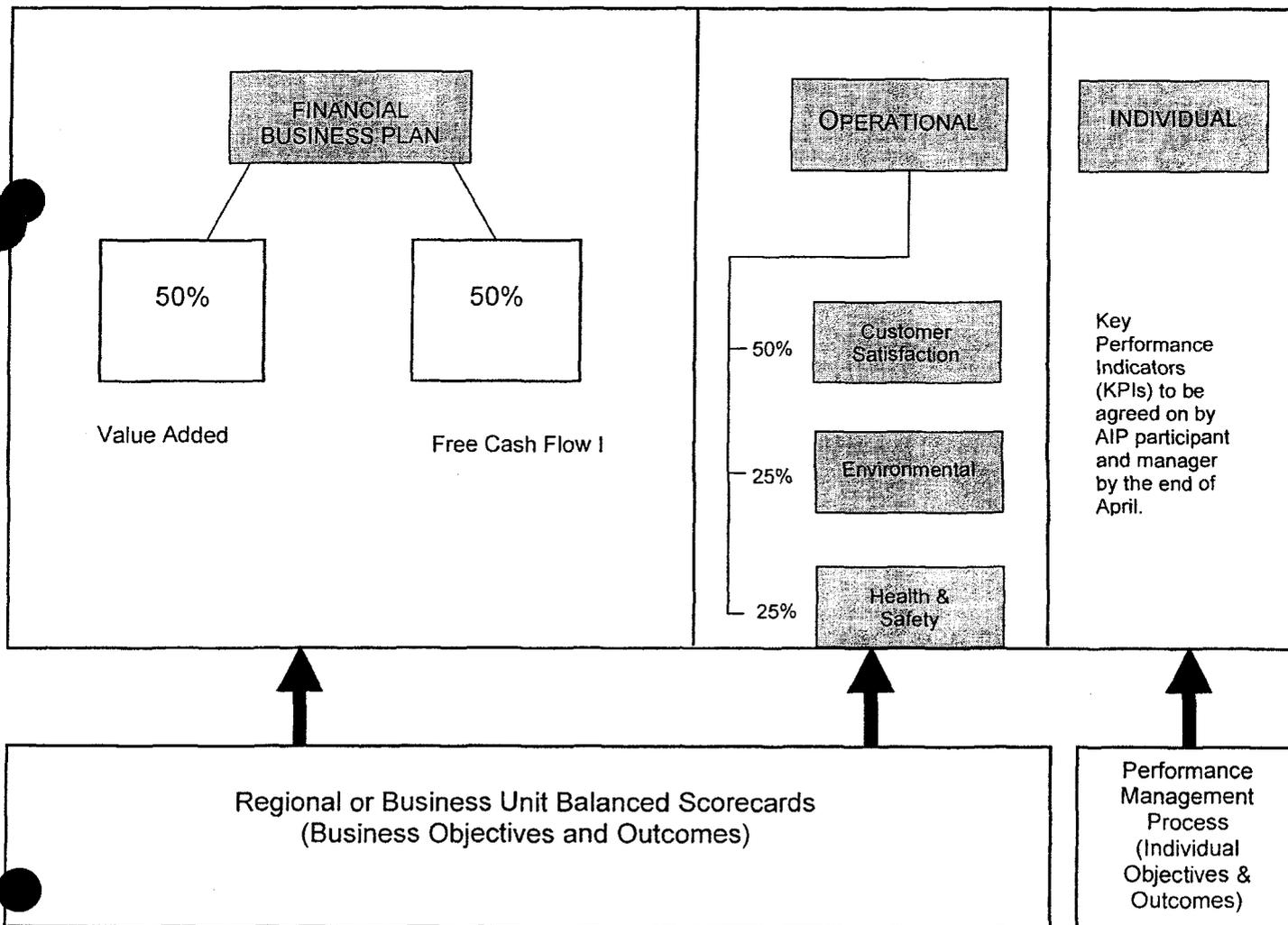
How the Weightings Come Together

Here is an **example** of how the three performance components and their weightings come together. As you can see, the measures within each component are also weighted.

The weightings within the financial component are always based on your business unit measures of Value Added and Free Cash Flow I, to determine the portion of the financial component award opportunity that is payable.

You will receive a graph for your business unit. Each will detail the percentage of your financial award opportunity payable at a given level of combined Value Added and Free Cash Flow I achievement, ranging from a minimum level of achievement that qualifies for an award up to the maximum level. The closer actual results come to target financial performance, the higher the award for the financial component.

EXAMPLE



Performance You Can Impact

We believe it's essential that participants be accountable for, measured on and rewarded for performance that they can directly impact or influence. That's why performance measures for the financial component are based on your local or "home" organization, i.e., the business unit where you work.

Similarly, the operational and individual measures and goals that apply to you will reflect your role. Your manager will review and discuss all applicable financial and operational measures and goals with you.

Individual Performance

The individual performance will be assessed using American Water's Performance Management and Development Review (PDR) process. This process has been revised to align with the new Balanced Scorecard. The first section of the PDR form contains a scorecard in which your individual Key Performance Indicators (KPIs) will be documented. KPIs are individual performance objectives. You will jointly identify and agree to your individual KPIs and relative weightings to be achieved during the year with your direct supervisor.

In overview, the PDR requires each individual to have 5 KPIs agreed at the beginning of 2004. The KPIs should be specific and measurable and linked to the Balanced Scorecard. Each KPI needs to be weighted (out of 100%) according to its importance relative to other KPIs. In this way excelling at your highest priority KPI, which has the heaviest weighting, will drive a bigger award. At least one of the KPIs should be linked to a personal development objective. At the beginning of 2005, a structured performance review will be conducted to determine how well individuals performed against their KPIs in 2004.

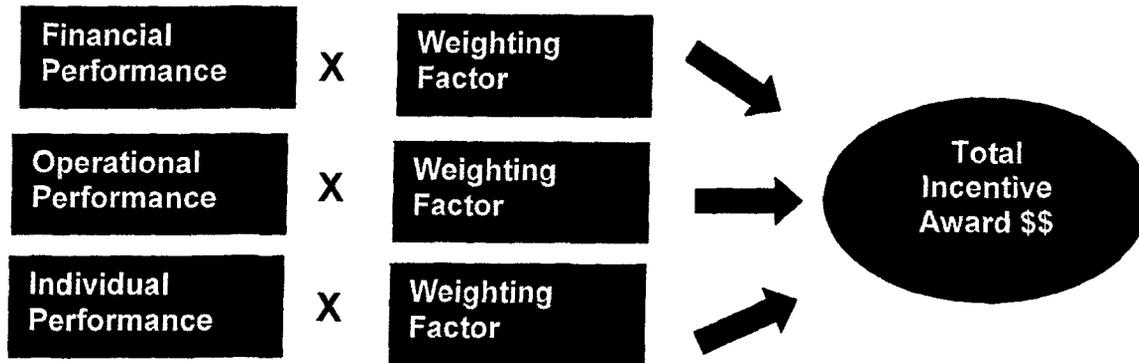
The percentage amounts paid for varying levels of achievement against each KPI should be as follows:

Performance Category	Percent Amounts
• Target not achieved	0 %
• Target partially achieved	25%
• Target largely achieved	75%
• Target fully achieved	100%
• Target exceeded	Up to 120%

Percentages other than these are possible. However, percentages must be expressed in 5% increments (so for example 50% would be a valid scoring, 51% would not). When targets are exceeded a percentage of up to 120% can be defined. This should be used only in cases of exceptional and outstanding performance against KPIs. If an individual received a "too soon to rate" on their PDR they would not be eligible for an AIP award.

How Your Payout Is Determined

At the end of the year, the amount for each component is based on performance against each goal within the component and its relative weighting. Here is a simplified way to think of it.



Target Bonuses

As part of American Water's alignment with RWE's incentive processes, the focus of the bonus communication in the future will be on "target bonus." Target bonus is defined as the bonus paid at 100% for both company and individual awards. This means business plan is achieved for the company and operational element, and the employee has met his/her objectives for the individual element.

It is theoretically possible in the design to generate a combination of company and individual performance that would allow greater bonuses than the agreed maximums. However, the Company will cap the awards at a maximum percentage. The following example will illustrate how the award is calculated.

EXAMPLE:

Regional Employee (other than a Regional Managing Director or their direct report) with an AIP target of 17.3% and 11.5% of their base pay. Example illustrates 100% achievement on each AIP performance component and how it totals each employee's AIP Target. Since it is possible to exceed 100% of each AIP component the company has established a maximum for plan participants. The "Maximum" column illustrates the maximum award for employee 1 and employee 2. ⁽¹⁾ Meet Business Plan + 100% of personal KPIs met. ⁽²⁾ Maximum is defined as exceeding Business Plan

	60% Financial Component		25% Operational Component	15% Individual Component	AIP Target ⁽¹⁾	Maximum ⁽²⁾
	Value Added	Free Cash Flow I	Operational	Individual		
Emp. 1	5.2%	5.2%	4.3%	2.6%	17.3%	22.5%
Emp. 2	3.5%	3.5%	2.9%	1.7%	11.5%	15.0%

⁽¹⁾ Meet Business Plan + 100% of personal KPIs met

⁽²⁾ Maximum is defined as exceeding Business Plan

Adjustments for uncontrollable events

The financial data included in the appendices has been prepared on the basis of the business plans agreed in 2003, using the assumptions set at that time. As in previous years, the actual results used for assessment will be amended to reflect the impact of events that are not considered to be within the control of local management. Any such amendments will require the explicit approval of the Water Division Finance Director, and where material the Board of RWE Thames Water plc, whose decision will be final. The following items are those most likely to be considered for amendment:

- The impact of movements in foreign exchange rates
- The impact of changes in intra-group recharges
- Disposal/acquisition of businesses not anticipated in the business plan, but subsequently mandated by the Board of Directors

Award Payments

To be eligible to receive an AIP award, you must be actively employed at the end of the plan year for which the award is earned. However, in case of disability, retirement, layoff or death during the plan year, a prorated award based on full months' participation in the plan may be payable. Note that no AIP awards are payable if termination is for cause.

If you become eligible to join the AIP during a plan year, any payout for that year will be prorated to reflect the number of full months you participated in the plan.

Awards are usually determined and paid in cash as soon as practical after RWE's release of financial results. Payments will be made by the end of the first quarter of the following year. Appropriate taxes will be withheld from awards.

The American Water Board reserves the right to determine whether incentives are payable to any individual or group of individuals. The Board may withhold all incentive payments in exceptional circumstances, such as failing to reach minimum financial goals. Individuals with poor performance will not be eligible to receive an incentive award.

Rewarding Achievement

Our AIP goals are challenging, but with your focus and contributions and effective teamwork, they can be achieved. Remember, your individual results do matter; our overall performance is the collective results of all AIP participants.

It's important that you clearly understand your goals, how we're performing against the goals, and how the AIP works so you know how you personally affect our performance. Be sure to talk to your manager or your local HR representative if you have questions.

This brochure describes the 2004 American Water Annual Incentive Plan. The Plan Administrator, whose decisions will be final and binding, will determine interpretations of the Plan. The Company reserves the right to amend, modify, or discontinue the Plan during the plan year or at any time in the future. Participation in the Plan does not convey any commitment to ongoing employment. If there are any differences between the information contained here and the Plan Document, the Plan Documents will govern.



American
Water

Rewarding Achievement
The 2005 Annual Incentive Plan

The 2005 American Water Annual Incentive Plan

The 2005 American Water Annual Incentive Plan (AIP) recognizes the opportunity and the accountability we share for achieving our goals. Your accomplishments have helped to build American Water's success to this point, and the AIP will reward you for the contribution you make to the achievement of our goals.

Who Is Eligible for the 2005 AIP

As in our previous plan, all full-time management, professional and technical employees (exempt from overtime) in American Water are eligible to participate in the 2005 AIP.

Eligible employees who join American Water before September 30 of a plan year (January 1 – December 31) are also eligible to participate in the plan on a prorated basis.

Eligible employees seconded from RWE/Thames Water will participate in the plan for the duration of their secondment. Target levels for assignees seconded from the UK/Germany are aligned with incentive opportunities for UK or German based employees to maintain the "home country terms and conditions" approach adopted for assignees.

Your Award Opportunity

Your award opportunity is based on your role. Your manager will confirm your award opportunity to you in writing. Any award you earn is based on your salary as of December 31, 2005.

If you are promoted during the plan year to a position with a higher target level, your bonus plan will be prorated to reflect the full months at each award level. Similarly, if you are reclassified to a position with a lower AIP award level, your bonus plan will be prorated to reflect the full months at each award level.

What the Plan Measures

The AIP is designed to reward participants for the performance results they and the Company attain during the plan year. There are three performance components: 'Company' (financial), 'Operational' and 'Individual'.

- The **Company** component is based on two key measures – Value Added and Free Cash Flow I. (See next page for definitions of these measures.)

You will have performance targets set at your business unit/regional level. Your AIP letter will provide you with your Company component targets.

- The **Operational** component includes performance measures tied to the American Water balanced scorecard through which customer service, environmental and health & safety measures and goals, as appropriate to your role, are the key performance indicators. If you were in American Water Business Center roles in Voorhees will have a mix of financial and individual measures, but no Operational component.
- The **Individual** component includes Performance Targets (KPIs) as agreed by you and your manager within the companywide standard performance management process.

Financial Measures	Operational Measures	Individual Measures
<ul style="list-style-type: none"> ▪ Value Added ▪ Free Cash Flow I 	<p>Examples include:</p> <ul style="list-style-type: none"> ▪ Customer Service – This will make up 50% of the total operational component. This measure deals with services we provide that directly benefit the customer. ▪ Environmental ▪ Health & Safety <p>...as applicable to your business unit and role</p>	<ul style="list-style-type: none"> ▪ 5 Performance Targets (KPIs) agreed by AIP participant and their manager.

Company (Financial)

A Note on "Value Added" and "Free Cash Flow I"

For the 2005 AIP, we will continue to use Value Added and Free Cash Flow I as the measures for the Company component of the AIP because they are critical gauges of our business success, and they are now the standard used by RWE. Here's how we define these terms.

Value Added

- An established measure which reflects the contribution made by a business unit to the Group, relative to its cost of capital
- It is calculated using operating result and operating assets

Free Cash Flow I

- An important operating figure that is linked to net debt performance.
- It is defined as the cash flow from operating activities (after interest and tax) plus capital expenditure. It does not include the impact of financial restructuring or any impact of acquisitions or disposals.

Each financial measure is independent of the other and has equal weighting. Business performance in relation to the business plan will deliver half the relevant financial bonus element. If only one financial measure is met, there could be a potential award under the plan.

Awards are calculated on a straight-line basis between each target and range from an award of 50% - 150% of target with no award for performance below 50%. The two elements can cross-subsidize each other and it is only the overall Company (financial) bonus which is capped at 150%.

Example

Free Cash Flow 1 Result	175%
Value Added Result	110%
Combined Company Bonus Result	$(175\% + 110\%) \div 2 = 142.5\%$

How Your Award Is Weighted

Your award opportunity is based on two or three performance components (see page 3), depending on your role. You can earn part of your award for each component independent of the others. That means you can receive an award based on all, some or none of the applicable components, depending on actual performance results.

Note that the American Water Board reserves the right to determine whether incentives are payable to any individual or group of individuals. The Board may withhold all incentive payments in exceptional circumstances, such as failing to meet minimum financial goals. In any case, individuals who do not meet their performance expectations will not be eligible to receive an incentive award.

The portion of your award opportunity you can earn for each component is reflected in weightings assigned to each, based on your role in the organization, as the following chart shows. The award has a target and a maximum opportunity.

BUSINESS CENTER 2005			
Company (Financial)		Individual	Target Opportunity
VA	FCF1		
4.325%	4.325%	8.65%	17.30%
2.875%	2.875%	5.75%	11.50%
0.950%	0.950%	1.90%	3.80%

REGION 2005				
Company (Financial)		Individual	Operational	Target Opportunity
VA	FCF1			
4.325%	4.325%	4.325%	4.325%	17.30%
2.875%	2.875%	2.875%	2.875%	11.50%
0.950%	0.950%	0.950%	0.950%	3.80%

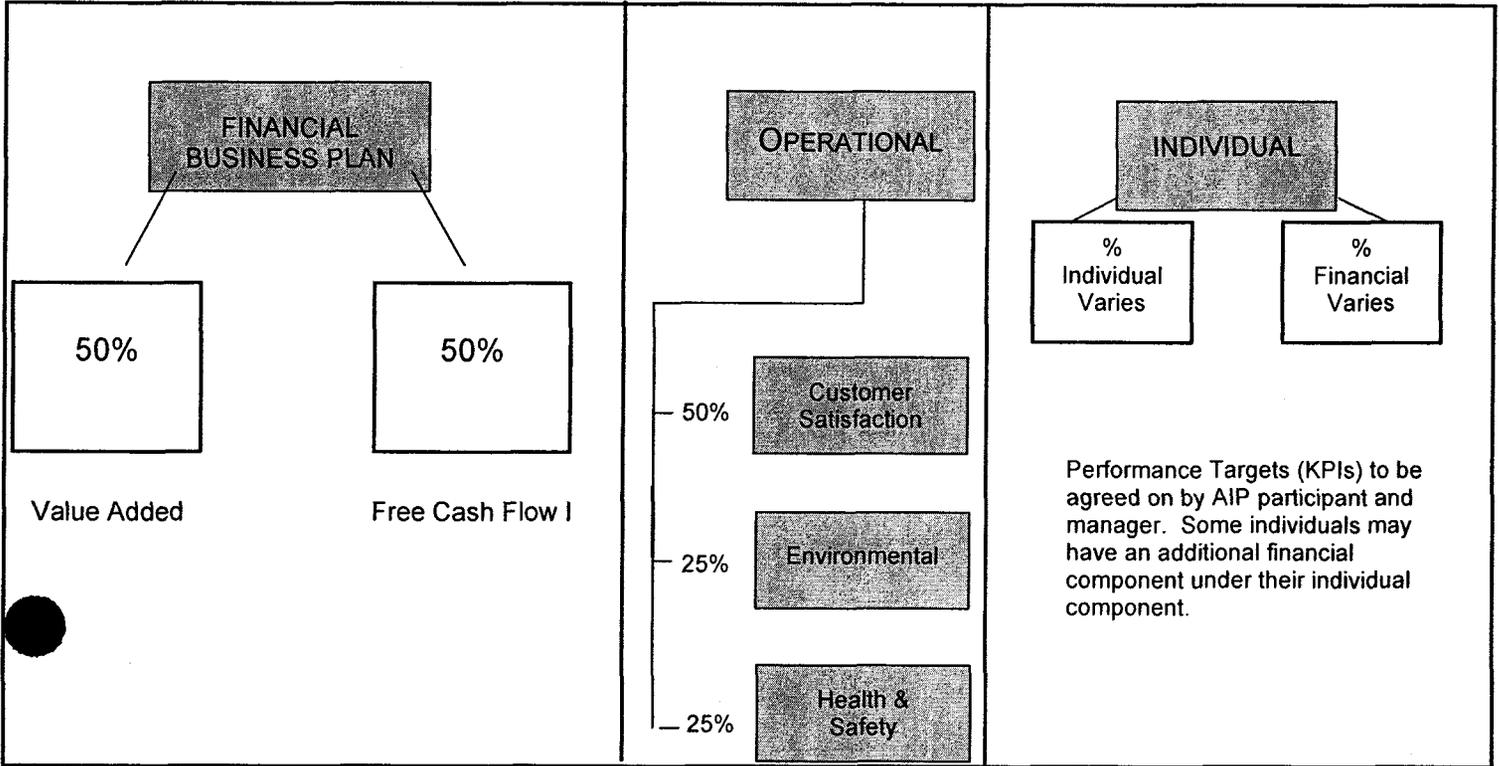
Note that award opportunities for all Business Center (Voorhees) roles will have a mix of Financial and Individual measures, but no Operational component.

Your manager will discuss these with you and confirm in writing the performance measures, weightings and target maximums that apply to you.

How the Weightings Come Together

Here is an example of how the three performance components and their weightings come together. As you can see, the measures within each component are also weighted.

EXAMPLE



Water Division/Regional or Business Unit Balanced Scorecards
(Business Objectives and Outcomes)

Performance Management Process
(Individual Performance Targets aligned with the company balanced scorecard)

Operational

Operational components are performance measures tied to the American Water scorecard. Customer Service makes up 50% of this component and is measured on a state by state basis. All other operational components are measured on a regional basis.

Operational components are evaluated on a range from 0 to 120%.

Performance You Can Impact

We believe it's essential that you are accountable for, measured on and rewarded for performance that you can directly impact or influence. For 2005, this means that a much larger part of your AIP is dependent on individual performance measures.

You and your manager need to work together to agree on your individual performance targets. These targets can be based on financial, customer related or operationally based and should relate back to the balanced scorecard for your business unit or region and should directly reflect your role.

Individual Performance

Individual performance will be assessed using American Water's Performance Management and Development Review (PDR) process. This process has been revised to align with the Balanced Scorecard. The first section of the PDR form contains a scorecard in which your individual Performance Targets will be documented. You will jointly identify and agree to your individual Performance Targets and relative weightings to be achieved during the year with your direct supervisor. You should have already agreed these as part of the annual performance management review so attaching the AIP component to them should be straight forward.

In overview, the PDR requires each individual to have 5 Performance Targets. The Performance Targets should be specific and measurable and aligned with the Balanced Scorecard. Each target needs to be evaluated on a range of 0 to 120% according to its importance relative to other targets. In this way excelling at your highest priority target, which has the heaviest weighting, will drive a bigger award. At least one of the targets should be linked to a personal development objective. At the beginning of 2006, a structured performance review will be conducted to determine how well you performed against your targets in 2005. **It will be the Performance Scorecard Summary Rating for these 5 Performance Targets and NOT the "overall" performance rating that will be used for AIP award purposes (see below).**

American Water
Annual Performance and Development Review

Name: _____ Location: _____
 Position Title: _____ Appraisal Period: _____
 Performance Rating: Exceeds Expectations Meets Expectations Progressing Does Not Meet Expectations Too Soon To Rate

+ Double-click here to make selections.

Performance Scorecard						
BSC Quadrant	Performance Target	Target Measure	Weight %	Results/Comments	Emp. Rating	Sup. Rating
Finance						
Customer						
Process						
Employee						

Scorecard Summary Rating (click one box) Exceeds Meets Progressing Does Not Meet Too Soon

Performance Category

Each participant in the AIP plan should have 5 performance targets. An assessment should be made of performance against each target. Once evaluated, each individual performance target rating will be added and averaged to determine an overall rating.

Example #1

Performance Target Rating (PT)	AIP Performance Rating	Percentage Amount	Weighting	Subtotal
PT#1 (Meets Expectation)	Target fully achieved	100	x 20%	= 20
PT#2 (Progressing) *	Target largely achieved	75	x 20%	= 15
PT#3 (Does Not Meet Expectation)	Target not achieved	0	x 20%	= 0
PT #4 (Progressing) *	Target partially achieved	25	x 20%	= 5
PT #5 (Exceeds Expectation)	Target exceeds	120	x 20%	= 24

Take each performance target percentage amount and multiply it by its assigned weight. Add the subtotal numbers = 64 (Individual Weighting Factor) 64% would be used as the INDIVIDUAL weighting factor in the AIP plan.

Example #2

Performance Target Rating (PT)	AIP Performance Rating	Percentage Amount	Weighting	Subtotal
PT#1 (Exceeds Expectation)	Target exceeds fully achieved	110	x 10%	= 11
PT#2 (Progressing) *	Target largely achieved	85	x 20%	= 17
PT#3 (Does Not Meet Expectation)	Target not achieved	0	x 10%	= 0
PT #4 (Progressing) *	Target partially achieved	85	x 20%	= 17
PT #5 (Meets Expectation)	Target fully achieved	100	x 40%	= 40

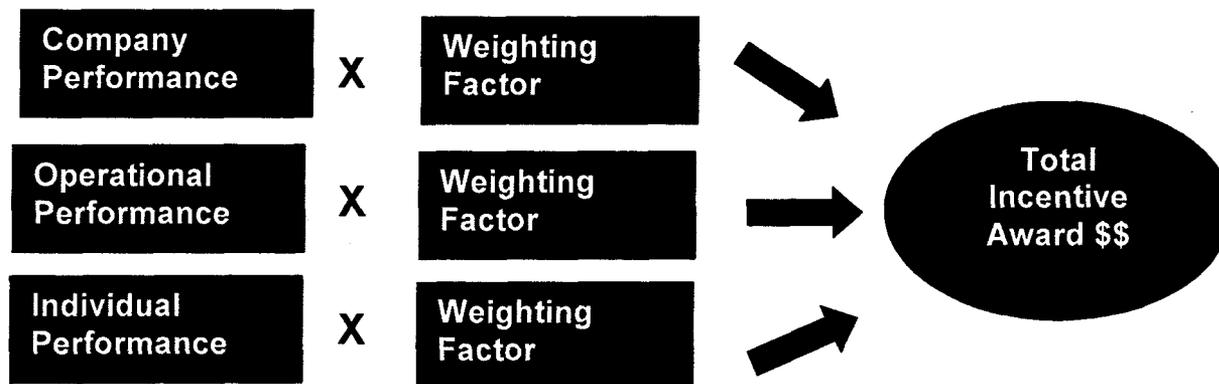
85 would be the subtotal and 85 would be used as the INDIVIDUAL weighting factor in the AIP plan.

* The system allows a % amount of 5% to 95% to be assigned to Progressing.

Percentages other than these are possible. Performance ratings can range from 0% - 120%. The degree of percentage given will be based on the supervisor's assessment of performance on the performance target. The maximum payment you can receive under the Individual component is 120%. This would only be awarded if an individual exceeded all 5 performance targets. This should be used only in cases of exceptional and outstanding performance against a target. If an individual received a "too soon to rate" on their performance review they would not be eligible for an AIP award.

How Your Payout Is Determined

At the end of the year, the amount for each component is based on performance against each goal within the component and its relative weighting. However, the maximum of the three components is capped at the maximum opportunity of each component.



(See example on page 10)

Company Performance

Value Added = 98.2% of Business Plan Target

Free Cash Flow 1 = 112.8% of Business Plan Target

Company Performance = $(112.8\% + 98.2\%) \div 2 = 105.5\% \times 5.75\%$ (Target) = 6.066%

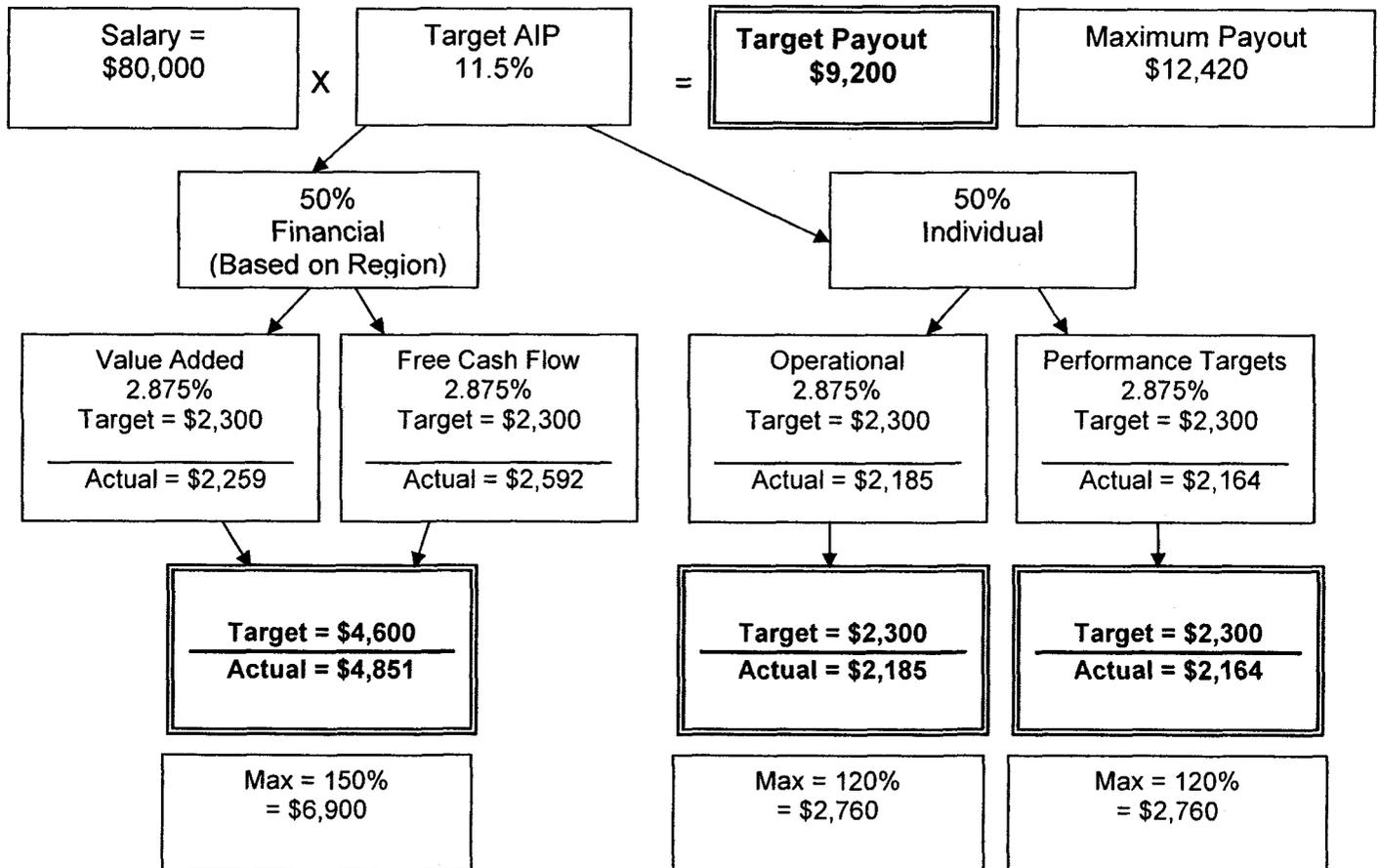
Operational Performance

Achievement against operational targets = $95\% \times 2.875\%$ (Target) = 2.731%

Individual Performance

Achievement against 5 Performance targets = $94.1\% \times 2.875\%$ (Target) = 2.705%

Total AIP Payable = 6.066% (Company) + 2.731% (Operational) + 2.705% (Individual) = 11.50% of base salary of \$80,000 = **\$9,200**



Note: Actual results may vary due to rounding.

Target Bonuses

You will have received a letter which states your target bonus opportunity. Target bonus is defined as the bonus paid at 100% for both company and individual awards. This means business plan is achieved for the company and operational element, and the employee has met his/her objectives for the individual element.

The maximum bonus you can receive is 150% of your Company (financial) element, 120% of operational and 120% of your Individual element.

Adjustments for Uncontrollable Events

The financial data included in the appendices has been prepared on the basis of the business plans agreed in 2005, using the assumptions set at that time. As in previous years, the actual results used for assessment will be amended to reflect the impact of events that are not considered to be within the control of local management. Any such amendments will require the explicit approval of the Water Division Finance Director, and where material the Board of RWE Thames Water plc, whose decision will be final. The following items are those most likely to be considered for amendment:

- The impact of movements in foreign exchange rates
- The impact of changes in intra-group recharges
- Disposal/acquisition of businesses not anticipated in the business plan, but subsequently mandated by the Board of Directors

Award Payments

To be eligible to receive an AIP award, you must be actively employed at the end of the plan year for which the award is earned. However, in case of disability, retirement or death during the plan year, a prorated award based on full months' participation in the plan may be payable. Employees who resign, are terminated or laid off at any time during the plan year are not eligible.

Awards are usually determined and paid in cash as soon as possible after RWE's release of financial results. Awards are normally paid by April of the following year. Awards are subject to all federal, state and local income tax withholdings.

If you become eligible to join the AIP during a plan year, any payout for that year will be prorated to reflect the number of full months you participated in the plan.

The American Water Board reserves the right to determine whether incentives are payable to any individual or group of individuals. The Board may withhold all incentive payments in exceptional circumstances, such as failing to reach minimum financial goals. Individuals with poor performance will not be eligible to receive an incentive award.

Rewarding Achievement

Our AIP goals are challenging, but with your focus and contribution and effective teamwork, they can be achieved. Remember, your individual results do matter; our overall performance is the collective results of all AIP participants.

It's important that you clearly understand your goals, how we're performing against the goals, and how the AIP works so you know how you personally affect our performance. Be sure to talk to your manager or your local HR representative if you have questions.

This brochure describes the 2005 American Water Annual Incentive Plan. The Plan Administrator, whose decisions will be final and binding, will determine interpretations of the Plan. The Company reserves the right to amend, modify, or discontinue the Plan during the plan year or at any time in the future. Participation in the Plan does not convey any commitment to ongoing employment. If there are any differences between the information contained here and the Plan Document, the Plan Documents will govern.

Townsley

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

JEFF HATCH-MILLER, Chairman
WILLIAM A. MUNDELL
MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES

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 PARADISE
VALLEY DISTRICT

DOCKET NO. W-01303A-05-0405

**REBUTTAL TESTIMONY
OF
PAUL G. TOWNSLEY
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
FEBRUARY 13, 2006**

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**REBUTTAL TESTIMONY
OF
PAUL G. TOWNSLEY
ON BEHALF OF
ARIZONA AMERICAN WATER COMPANY
FEBRUARY 13, 2006**

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EXECUTIVE SUMMARY

1
2 Paul Townsley testifies that the high-block usage surcharge should be used as a contribution to
3 directly offset the fire-flow improvement infrastructure investments, and that the public safety
4 surcharge should be used to recover the additional revenue requirement, after applying the
5 contribution, necessary to comply with the fire-flow improvement infrastructure installation
6 timetable desired by the Town of Paradise Valley.

7
8 Paul Townsley further testifies that American Water's Annual Incentive Plan benefits customers
9 both in the short-term and long-term by aligning employees' efforts around making the Company
10 a more effective and customer-focused utility that has the capability to attract and retain high
11 quality employees, to obtain capital for utility plant investments, and to mitigate cost increases
12 through increased efficiencies.

13

1 **I. INTRODUCTION AND QUALIFICATIONS**

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

4 A. My name is Paul G. Townsley. My business address is 303 H Street, Suite 205, Chula
5 Vista, California 91910. My telephone number is (619) 409-7700.

6
7 **Q. ARE YOU THE SAME PAUL G. TOWNSLEY WHO PROVIDED DIRECT**
8 **TESTIMONY IN THIS CASE ON BEHALF OF ARIZONA-AMERICAN WATER**
9 **COMPANY?**

10 A. Yes I am.

11
12 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

13 A. On behalf of Arizona-American Water Company (“Arizona-American” or the
14 “Company”), I address certain positions taken by RUCO and Commission Staff regarding
15 the Paradise Valley Fire-flow Improvement Program. I also further explain the benefit to
16 customers of the Company’s Annual Incentive Plan.

17
18 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

19 A. I have included an Executive Summary at the beginning of my testimony.

20
21 **II. PARADISE VALLEY FIRE-FLOW IMPROVEMENT PROGRAM**

22 **Q. WHY HAS THE COMPANY EMBARKED ON A FIRE-FLOW IMPROVEMENT**
23 **PROGRAM IN ITS PARADISE VALLEY DISTRICT?**

24 A. As described in my direct testimony and as further discussed by Company witness Brian
25 Biesemeyer in his direct testimony, improving the capability to fight fires in the
26 community is critically important to the Town leaders and residents of Paradise Valley

1 They have sought the assistance of the three water utilities that serve the Town (Arizona-
2 American, Berneil Water Company, and the City of Phoenix) to make this happen. The
3 Company works very hard to meet the needs of its customers and prides itself on being a
4 customer responsive organization. Accordingly, the Company and the Town have been
5 working together to improve the capability to fight fires in this community.

6
7 **Q. WHY IS ARIZONA-AMERICAN SEEKING A SURCHARGE TO FUND THE**
8 **PARADISE VALLEY FIRE-FLOW IMPROVEMENT PROGRAM?**

9 A. The Company's investment in a fire-flow improvement program is discretionary, not
10 required under current Commission rules and regulations. The Company cannot invest in
11 a long-term fire-flow improvement program unless the Commission agrees to reduce the
12 regulatory lag and regulatory risk associated with these investments. The Town
13 understands and accepts that this project will only continue to the extent that the
14 Company can promptly recover the costs associated with the discretionary investments.
15 To this end, after consultation with the Town, the Company proposed a surcharge on its
16 customers' bills to enable it to finance and operate this project.

17
18 **Q. DOES RUCO AGREE WITH THIS APPROACH?**

19 A. No. RUCO witness Marylee Diaz Cortez discusses the Public Safety surcharge in her
20 testimony on pages 2-11. She also opposes the high block usage surcharge. She also
21 takes no position on rate base treatment of this project's expenses to-date of over \$3
22 million in fire-flow improvements completed in 2005 and already dedicated to public
23 service. To fund the fire-flow investments, she would have the Town of Paradise Valley
24 contribute the funds in advance for the fire-flow improvement projects; even though the
25 Town Attorney has stated that the transfer of funds from the Town of Paradise Valley to
26 Arizona-American would not be legal.

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Q. MS. DIAZ CORTEZ ASSERTS ON PAGE 9 OF HER TESTIMONY THAT APPROVING RATE RECOGNITION OF FIRE-FLOW PROJECTS WOULD SEND THE MESSAGE TO OTHER ARIZONA WATER COMPANIES THAT THEY CAN DOUBLE THE SIZE OF THE RATE BASES. DO YOU AGREE?

A. I do not really understand what RUCO witness Marylee Diaz Cortez is asserting here especially since her testimony documents how successful the fire-flow improvement project in Paradise Valley has been to-date. The Company is responding to requests from its Paradise Valley customers to make investments in infrastructure to provide the community with improved capability to fight fires. What this means to other communities and other Arizona water companies is not relevant to this case.

Ms. Diaz Cortez's musings are misplaced that this is simply an opportunity to maximize earnings at ratepayer expense to "create rate shock in Arizona's water industry as a whole" because, absent a specific request from the community of Paradise Valley, the Company would not be pursuing this investment. As other communities served by Arizona-American request fire-flow infrastructure investments and are willing to pay the extra cost attributed to it, the Company will respond to their requests. For example, a recently completed study of fire-flow improvements in Youngtown / Sun City recommended up to \$4 million in capital expenses ultimately causing a 6% rate increase there – far less than a doubling of rate base. This is not about maximizing earnings, this is about being responsive to the communities we serve.

1 **Q. WHAT WOULD BE THE RESULT IF THE COMMISSION WERE TO ADOPT**
2 **THE MS. DIAZ CORTEZ' POSITION?**

3 A. Arizona-American would be forced to terminate its Paradise Valley fire-flow
4 improvement program. The Town would not be able to achieve its goals of improving its
5 capability to fight fires throughout its Town boundaries through increased water flow.
6 This would be a terrible disservice to community members, Town leadership, and
7 Company representatives who have worked so hard over the past two years to develop
8 and execute a plan clearly desired by customers.

9
10 **Q. HOW DO YOU RESPOND TO COMMISSION STAFF WITNESS JAMES**
11 **DORF'S TESTIMONY CONCERNING FIRE-FLOW INVESTMENT?**

12 A. I agree with Mr. Dorf's recommendation on page 4 of his testimony, that \$3,018,867 of
13 fire-flow improvement infrastructure placed in service in 2005 should be included in rate
14 base as a post test-year addition. Further, in early January 2006, we placed another fire-
15 flow project known as "Nauni Valley Drive" in service, at a total cost of \$420,755.
16 Consistent with Mr. Dorf's testimony, this also should be included in rate base. The
17 technical aspects of this new project are supported by Company engineering witness Joe
18 Gross and the financial details are supported by Company witness Joel Reiker.

19
20 **Q. COMMISSION STAFF WITNESS DARRON CARLSON PROPOSES, AS AN**
21 **ALTERNATIVE TO THE PUBLIC SAFETY SURCHARGE, TO APPLY ALL**
22 **HIGH-BLOCK SURCHARGE REVENUES AS A CONTRIBUTION TO OFFSET**
23 **FIRE-FLOW INVESTMENT. HOW DO YOU RESPOND?**

24 A. Arizona-American can accept this portion of Mr. Carlson's recommendation. However,
25 since he recommends denial of the Public Safety Surcharge, the Company would have to
26 reduce its capital investment in fire-flow improvement infrastructure in Paradise Valley

1 so that the annual amount of investment would not exceed the annual amount of high-
2 block usage surcharge revenue; in other words, a "pay as you go" project. This would
3 push back completion of the project until 2015 or later. The Company is prepared to
4 spend approximately \$3 million annually over five years, but the high-block usage
5 surcharge would fund recovery of less than half that annual amount. Therefore, the
6 Public Safety Surcharge is necessary to timely complete the project.
7

8 **Q. DO YOU HAVE AN ALTERNATIVE TO MR. CARLSON'S PROPOSAL?**

9 A. Yes. I agree with Mr. Carlson that the high-block usage surcharge can be best used as a
10 contribution to directly offset the fire-flow improvement infrastructure investments. The
11 Company appreciates that Commission Staff has embraced its proposal for a high-block
12 usage surcharge in this case because appropriate pricing signals are the most direct and
13 effective way to encourage conservation among high-use customers. Commission Staff
14 improved our proposal by recommending that the revenue generated be used to offset our
15 fire-flow investments, since the surcharge is likely to create a significant revenue stream.
16 However, the additional high-block revenue will not be enough to timely fund the
17 required investments.
18

19 **Q. WOULD THE HIGH-BLOCK USAGE SURCHARGE GENERATE ENOUGH**
20 **REVENUE TO FUND PLANNED FIRE-FLOW IMPROVEMENTS?**

21 A. No. Commission Staff estimates that the high-block usage surcharge would generate
22 approximately \$1.7 million per year in additional revenue, although the elasticity of
23 demand once this surcharge is put in place is unknown at this point. While the
24 Company's Paradise Valley Water District customer demand has tended to be inelastic to
25 increasing demand, high usage customers have not experienced surcharges of this order

1 of magnitude before. Consequently, the amount of revenue available for fire-flow
2 improvement programs in Paradise Valley could be significantly less than Commission
3 Staff projects and the Company could also lose base revenue on reduced sales volume.
4 Given that continuing investments of over \$3 million annually will be required to
5 complete the fire-flow projects on the schedule desired by the Town, reduced Public
6 Safety Surcharges will still be needed to recover this investment.

7
8 **Q. HOW DO YOU SEE THIS WORKING?**

9 A. I see it being administered exactly as the Commission has designed the combined ACRM
10 and arsenic impact fee in the Company's Havasu district. Thus, once fire-flow plant has
11 been placed in service the associated investment will be first reduced by actual
12 contribution from the high-block surcharge. The remaining plant, if any, will be
13 recovered via the Public Safety Surcharge, based on its associated revenue requirement.
14 As further described in the testimony of Company witness Mr. Broderick, the Company
15 could file the same schedules Commission Staff requires to process an ACRM step
16 increase, but in this case it would be for fire-flow improvements in Paradise Valley.

17
18 **Q. CAN THE COMPANY ACCEPT SOME ADDITIONAL RESTRICTIONS ON
19 THE PUBLIC SAFETY SURCHARGE?**

20 A. Yes. Given Commission Staff's recommended inclusion of over \$3 million in post-test-
21 year fire-flow plant in rate base and its proposed high-block surcharge applied as a
22 contribution, we could accept just two step increases in the Public Safety surcharge rather
23 than the five steps initially proposed. The first step increase would be effective
24 September 2007 or later and the second step increase would be effective September 2008
25 or later. Also, we accept Commission Staff's requirement to file our next rate case by
26 September 30, 2008, or nearly two years earlier than our original proposal. Additionally,

1 the Company is willing to periodically brief Commission Staff on its updated spending
2 plans for fire-flow in Paradise Valley including updated priorities from the Town,
3 expenses to-date and actual amounts of high-block surcharge contributions. Clearly, if I
4 learn the Commission is reluctant to support a particular phase of the fire-flow project, I
5 will slow down and revert to the "pay as you go" approach. When we look back at this in
6 a few years, I think all parties will be glad that this flexibility was built in to the process.
7 These rate cases are expensive and time-consuming.

8
9 **Q. THE COMMISSION RECENTLY APPROVED AN ACCOUNTING DEFERRAL**
10 **ORDER FOR THE COMPANY'S FIRE-FLOW INVESTMENTS IN EXCESS OF**
11 **CONTRIBUTIONS PLACED IN SERVICE UNTIL ITS NEXT RATE CASE.**
12 **WHY ISN'T THAT ADEQUATE TO ALLOW THE COMPANY TO CONTINUE**
13 **SPENDING ON A 5-YEAR SCHEDULE?**

14 A. The terms of this deferral order do not defer all legitimate costs and its application is not
15 consistent. For example, the AFUDC rate approved for use in this deferral order is not
16 our authorized cost of capital, but rather our lower average cost of long-term debt. Also,
17 Commission Staff's recommendations in this case set aside this order in regards to the
18 more than \$3 million in post test year fire-flow improvement infrastructure additions.
19 These additions were completed in 2005, the deferral order was approved in October
20 2005, and we anticipate permanent rates in this case on August, 1, 2006. However,
21 Commission Staff's recommendation does not include recovery of costs deferred from
22 October 2005 until August 2006. Company witness Joel Reiker, in his rebuttal
23 testimony, has included the recovery of this deferral in accordance with the
24 Commission's order. This must be approved in rates for the Company to associate any
25 real value to this deferral order going forward.
26

1 Unfortunately, the Company's present financial situation does not permit the undertaking
2 of discretionary projects with deferred rate recovery. Deferred rate recovery creates only
3 non-cash earnings, whereas the construction of these facilities requires cash payments.
4 As the Commission knows from other recent proceedings, the Company is unable to
5 attain and maintain a 40% equity ratio and was recently required to submit an equity plan
6 by December 31, 2005. The plan submitted contained eleven tangible and realistic steps
7 that require both Company and Commission actions. The Company is committed to this
8 plan. One step includes seeking approval for an infusion of up to \$35 million in equity
9 from our parent, American Water, in 2006. Unfortunately, although that request is
10 pending approval later this month by the American Water Board, we just recently
11 suffered an impairment of \$23 million of the Company's capital structure under FAS 142,
12 thereby offsetting much of the equity ratio improvement of the upcoming potential
13 infusion.

14
15 The years 2006 through 2008 will be absolutely crucial for Arizona-American. The
16 Company's 3-year rate request moratorium recently expired and we will be filing a series
17 of rate cases in many districts seeking recovery of approximately \$125 million that has
18 been excluded from rate base since January 2002 under the Commission's Order
19 approving the acquisition of former Citizens Utilities' properties in Arizona by the
20 Company. (Decision No 64002, dated August 30, 2001). Additionally, the Company
21 expects to have very significant refunds due in Anthem in 2006 and 2007, while we
22 continue to carry nearly \$50 million in CWIP for its arsenic projects that it will soon be
23 seeking recovery via the recently approved ACRM. And these are but the big projects in
24 2006 and 2007 as we have many millions in other smaller capital projects. Therefore,
25 additional deferrals at this time are unacceptable to the Company.

1 **Q. DOES THE COMPANY SEE OTHER BENEFITS FROM THE APPROVAL OF**
2 **THE PUBLIC SAFETY SURCHARGE?**

3 A. Yes. More customers will see the linkage between the Public Safety surcharge and fire-
4 flow investments in their community; the Company will be better able to make annual
5 investments at a pace consistent with what the Town of Paradise Valley has requested;
6 and surcharges from high-block usage customers would be used to reduce the overall
7 impact on customer bills. Based on our discussions with the Town of Paradise Valley, it
8 is clear they would prefer to accelerate the fire-flow improvement program rather than
9 slow it down. My modified proposal will allow the Company to be responsive to the
10 Town's and its customers' on-going and emerging needs and preferences.

11
12 **III. ANNUAL INCENTIVE PLANS**

13 **Q. RUCO WITNESS MOORE STARTING ON PAGE 26 RECOMMENDS**
14 **REMOVAL OF INCENTIVE PLAN PAYMENTS. DO YOU AGREE?**

15 A. No. Some kind of incentive pay is an important part of any compensation plan.
16 Incentive pay creates a sense of ownership in improving the business that straight salary
17 dollars, no matter how large, don't convey. A well-designed incentive-pay plan can also
18 help pull people together, align them with the direction the Company wants them to go,
19 and help Arizona-American better compete in today's competitive environment.

20
21 **Q. WHEN ARIZONA-AMERICAN COMPARES ITS EMPLOYEE**
22 **COMPENSATION LEVELS TO THE LABOR MARKET IT COMPETES IN, IS**
23 **THE ANNUAL INCENTIVE PLAN INCLUDED?**

24 A. Yes. The Company's compensation philosophy is to design, implement, and manage
25 total compensation programs that support the attraction and retention of talent and
26 reinforce a performance culture. As part of this philosophy, the Company defines Total

1 Compensation as the sum of all elements of an employees' compensation including base
2 salary, incentive plan, and benefits. When the Company compares its competitiveness
3 for labor against competitors, it uses Total Compensation, which includes its annual
4 incentive plan. Even though the annual incentive plan is at risk for payment in any year,
5 depending upon achievement of targets that year, it is still included in Total
6 Compensation when being used to compare against competitors. Eliminating the
7 possibility for an annual incentive plan would make it more difficult for the Company to
8 attract labor in this market.

9
10 **Q. DO THE CUSTOMERS BENEFIT FROM A WELL-DESIGNED INCENTIVE**
11 **PAY PLAN?**

12 A. Absolutely. First of all, the ability to attract and retain qualified employees is certainly in
13 the best interest of customers. Even more importantly, however, the Annual Incentive
14 Plan (AIP) is designed to encourage and reward exactly the results and employee
15 behaviors that matter to customers. I will provide some examples below.

16
17 **Q. PLEASE DESCRIBE ARIZONA-AMERICAN'S ANNUAL INCENTIVE PLAN?**

18 A. Arizona-American's AIP is the same plan that is offered throughout American Water.
19 All full-time management, professional and technical employees (exempt from overtime)
20 are eligible to participate in the AIP. The AIP is designed to award participants for the
21 performance results they attain during the plan year. There are three performance
22 components to the plan: *financial, operational, and individual.*
23

1 **Q. YOU STATED THAT THERE ARE THREE PERFORMANCE COMPONENTS:**
2 **FINANCIAL, OCCUPATIONAL, AND INDIVIDUAL - WHAT ARE THE**
3 **FINANCIAL MEASURES?**

4 A. We have selected two measures (Value Added and Free Cash Flow) as the AIP financial
5 measures. We believe that these measures are the most critical gauges of our business
6 success and are consistent with other affiliated business units. Value Added is an
7 established measure, sometimes referred to as economic value added, which reflects the
8 economic contribution made by a business unit. It is calculated using operating results
9 and operating assets. Free Cash Flow is an important operating figure that is also linked
10 to net debt performance. It is defined as the cash flow from operating activities (after
11 interest and tax) minus capital expenditures. It does not include the impact of financial
12 restructuring or any impact of acquisitions or disposals.

13
14 **Q. HOW DOES THE FINANCIAL COMPONENT BENEFIT CUSTOMERS?**

15 A. There are a number of ways that the financial component benefits customers. First of all,
16 a financially sound company benefits customers. A financially sound company has a
17 reduced cost of debt, which reduces the cost of capital to customers. A financially sound
18 company is also better able to raise capital to make investments that benefits customers,
19 such as investments that improve the reliability, safety, and quality of the water they
20 drink. A financially sound company is better able to compete for employees and retain
21 employees in an ever demanding marketplace for talent. Arizona-American is seeking to
22 improve its financial soundness so that it can continue to provide high-quality service to
23 customers for the long run.

24

1 Second, the water industry is an increasing-cost business. Investment requirements due to
2 aging infrastructure and new water quality regulations are going up every year.

3 Operational costs related to these new investments are also increasing, as are the costs of
4 energy, chemicals, labor, and other components of the business. These increasing costs
5 can be seen perhaps most clearly in this case in the new arsenic treatment plants and the
6 operating cost increases attributable to these plants. In an increasing-cost environment
7 the Company and its employees must work diligently to better utilize every dollar
8 received from customers and to stretch those dollars so that future cost increases are less.
9 The AIP financial component aligns all eligible employees' efforts to gather behind this
10 task by managing operating costs efficiently and maximizing the effectiveness of
11 investment dollars. The Company spends considerable time and effort in the
12 development of its annual budgets and business plans to find more efficient, more cost-
13 effective, and new ways to provide service to our customers. The AIP financial
14 component aligns all eligible employees behind this critical effort which benefits
15 customers short term and long term.

16
17 **Q. WHAT ARE THE OPERATIONAL COMPONENTS INCLUDED IN THE AIP?**

18 A. The operational components of the AIP include performance measures tied to American
19 Water's Balanced Scorecard through which customer satisfaction, environmental targets,
20 and health and safety measures are the key performance indicators. This year the targets
21 are (i) customer service quality rating, (ii) customer satisfaction rating, (iii)
22 environmental Notices of Violation, and (iv) Injury Frequency Rate.

23

1 **Q. PLEASE DESCRIBE EACH PART OF THE OPERATIONAL COMPONENT**
2 **AND HOW THESE BENEFIT CUSTOMERS.**

3 A. Under the Customer Service measure, we are striving to improve on an annual basis in
4 two key areas. The first is "Customer Satisfaction Rating," which is the percent of
5 customer responses to question #23 in our annual customer satisfaction survey for which
6 a rating of "satisfied" or "very satisfied" is received. Question #23 states, "Overall, how
7 satisfied are you with the services offered by your water company?" In December 2004,
8 Arizona-American achieved a score of 95%, and a year later in December 2005 Arizona-
9 American achieved a score of 94%.

10
11 The second is "Customer Service Quality Rating" which is the percent of all customer
12 service quality survey responses to question #29 for which a rating of "very good" or
13 "excellent" is received. Question #29 states, "Overall how satisfied with the outcome of
14 your service contact?" During the 2nd quarter of 2005, Arizona-American achieved a
15 score of 90%; during the 3rd quarter of 2005 the score was 72%, and during the 4th quarter
16 of 2005 the score was 80%. Our current target for this rating is equal to or greater than
17 75%.

18
19 These two measures benefit customers because they ensure a diligent focus and
20 continuous improvement by employees on the quality of customer service we provide to
21 our customers every day.

22
23 For the Environmental measure, our annual target is to have no more than four violations
24 throughout the Western Region of drinking water regulations that require public
25 notification or customer advisory. These violations could range from a temporary
26 exceedance of water quality parameters above state or federal rules, an error in analytical

1 laboratory results or recordkeeping, or the oversight of collecting a particular water
2 quality sample within a sampling window. During the last three years, Arizona-
3 American has had only one violation and this violation did not affect its Paradise Valley
4 water system. The Company works very hard to provide high quality water and
5 wastewater service to its customers in Arizona and needs the focused effort of each one
6 of its employees to maintain that quality consistently throughout the year. This
7 component benefits customers by ensuring that the water quality we provide, the testing
8 that we do and the record-keeping that we perform, are all of the highest standards.

9
10 For the Health and Safety measure, our annual goal is to reduce our Injury Frequency
11 Rate (IFR), which is the number of lost time injuries per million hours worked, to a level
12 at or below 6.5. Since we have included this as a part of our operational goals we have
13 been able to reduce our IFR in Arizona from 16.8 in 2003, to 7.8 in 2004, and to 3.1 in
14 2005. This component benefits customers by improving the safety of the workplace
15 including workplaces in the community through reduced cost for workers compensation
16 insurance, improving morale of employees, and by reducing the hours employees are not
17 able to work because of injury.

18
19 **Q. WHAT IS THE INDIVIDUAL COMPONENT?**

20 A. The Individual component is based on an employee's accomplishment of his or her
21 individual goals as agreed between the employee and his or her supervisor.

22
23 **Q. HOW ARE THESE INDIVIDUAL GOALS SET AND MEASURED?**

24 A. At the beginning of each year, every exempt employee develops individual goals aligned
25 with broader goals established for the Western Region of American Water. These broad
26 Western Region goals encompass four areas: improving the customer experience,

1 improving the employee experience, achieving financial results, and improving business
2 processes. Each employee identifies individual goals, which are tied to these broader
3 goals to focus on during the year. The employee's supervisor must also agree that these
4 goals are appropriate for the job, are measurable, are stretching yet achievable, and are
5 specific enough to be measured. The goals, typically four or five in number, vary from
6 individual to individual and may align either with each of the four Western Region goals
7 or may instead focus on one or two of those goals. At the end of the year, the supervisor
8 and employee meet to measure progress against the employee's goals and determine
9 whether or not they have been achieved. The achievement of these goals is the basis for
10 the individual component of the AIP.

11
12 **Q. HOW DO THE INDIVIDUAL COMPONENT OF THE AIP BENEFIT**
13 **CUSTOMERS?**

14 A. Many of the individual employee goals are directly related to improving customer service
15 and responsiveness to customer issues. Others relate to improving the safety or reliability
16 of our production and distribution facilities, or the quality of the water we serve. Still
17 others relate to improving employee skills such as team-working and problem solving.
18 Overall, the goals support Arizona-American's overall performance as a high-quality
19 water and wastewater service provider, which circles back to the customer benefits that I
20 just discussed.

21
22 **Q. HOW ARE THE THREE AIP COMPONENTS (FINANCIAL, OPERATIONAL,**
23 **AND INDIVIDUAL) WEIGHTED IN DETERMINING AN EMPLOYEE'S**
24 **AWARD?**

25 A. One of our key incentive principles is that participants should be measured on
26 performance they can directly influence. Therefore, different employee classes have

1 different component weightings. In our current AIP, front-line managers will have 70%
2 percent of their goals tied to operational and individual components and the balance to
3 the financial component. Mid-level managers will also have 70% percent of their goals
4 tied to operational individual components and the balance to the financial component.
5 Senior executives will have 60% percent of their goals tied to operational and individual
6 components, and the balance to the financial component.

7
8 **Q. RUCO WITNESS RODNEY MOORE STATES ON PAGE 27 OF HIS**
9 **TESTIMONY THAT INCENTIVE PAYMENTS ARE NOT MADE UNLESS THE**
10 **COMPANY MEETS ITS FINANCIAL PERFORMANCE TARGET. DO YOU**
11 **AGREE?**

12 A. No. As I stated previously, the Annual Incentive Plan has three components: financial,
13 operational, and individual. Employees are eligible for a portion of their incentive plan
14 for each of those three components in which targets are achieved, so payments can be
15 made irrespective of whether the Company meets its financial targets.

16
17 **Q. MR. MOORE GOES ON TO SAY ON PAGE 27 THAT STOCKHOLDERS ARE**
18 **THE PRIMARY BENEFICIARIES OF THE ACHIEVEMENT OF THESE**
19 **PERFORMANCE TARGETS. DO YOU AGREE?**

20 A. No, I do not. As I have stated above, achievement of targets in the annual incentive
21 program benefits customers. While there are also benefits to employees and to
22 stockholders, I have shown in my previous testimony that achievement of targets will
23 benefit customers in both the short run and the long run, regardless of whether they are
24 financial targets, operational targets, or individual targets. Arizona-American realizes
25 that as a regulated utility, its customers do not have a choice from whom they receive
26 their water service, and for this reason the Company works very hard to ensure that all

1 employees are focused on providing the highest quality water and customer service they
2 can. RUCO witness Rodney Moore points out on page 29 of his testimony that in 2004
3 the Company made incentive awards despite the fact that it could not achieve its financial
4 goals. This further demonstrates that the focus of the incentive program is not solely a
5 financial focus but is a short-term and long-term focus on improving and maintaining
6 high levels of customer service and efficiency of the Company in meeting its utility
7 obligations. Earlier in my testimony, I discussed the very significant financial issues this
8 Company faces—I need highly motivated employees to work through these and other
9 issues.

10
11 **Q. RUCO WITNESS MOORE ON PAGE 28 OF HIS TESTIMONY CLAIMS THAT**
12 **INCENTIVE PAY IS NOT A KNOWN AND MEASURABLE EXPENSE. DO**
13 **YOU AGREE?**

14 **A.** Not in the sense that he states in his testimony. Because Arizona uses historic Test Years
15 (in our case Test Year 2004), the amount of incentive pay that was paid that year is
16 clearly known and measurable. While no one can predict the exact amount of the AIP
17 payout in future years, neither can one predict with any precision the amount of many
18 other costs occurring in the future (outside of a Test Year) whether they are fuel, power,
19 chemicals, maintenance, or other expenses normally incurred by utilities. So, witness
20 Moore's allegation that incentive pay is not known or measurable is incorrect.

21
22 Mr. Moore goes on to state at the bottom of page 28 that, presumably, there should be
23 inherent efficiencies realized in the future, implying that these efficiencies somehow
24 would negate the need for including AIP costs in rates. As I've stated in my previous
25 testimony, water is a rising-cost utility due to a number of reasons, not the least of which
26 is the need to comply with ever increasing federal and state standards related to the Safe

1 Drinking Water Act and the Clean Water Act. In addition, as water becomes more scarce
2 in the arid Southwest, new sources of water become more costly than historic sources of
3 water to develop, and as infrastructure which supplies water and wastewater service to
4 customers ages and the cost of replacement of this infrastructure increases, our costs as a
5 Arizona utility will increase. Simultaneous with rising costs, per-capita consumption is
6 decreasing. Since 1985, the Arizona Department of Water Resources has published a
7 series of management plans for the Phoenix Active Management Area that include annual
8 gallons-per-capita-per-day water use target for each water provider. Targets for each
9 successive management period have become increasingly stringent since 1985. Since
10 1990, these efforts have reduced average per-capita water use by providers within the
11 Phoenix Active Management Area by approximately 10 percent, and there is every
12 reason to believe per-capita use will continue to decline in the future.

13
14 **Q. CAN YOU SUMMARIZE YOUR COMMENTS ON THE ANNUAL INCENTIVE**
15 **PLAN?**

16 A. Yes. The Annual Incentive Plan is designed to align all eligible employees' efforts
17 around the mission of making Arizona-American a more effective and customer focused
18 utility that has the capability to attract and retain high quality employees and capital for
19 utility plant investments. In addition, the ability to mitigate the rate of cost increases
20 through increased efficiencies in a rising cost utility business is also a customer benefit.
21 Through a focus on customers, operations and financial targets, the Annual Incentive
22 Plan clearly benefits customers both in the short-term and long-term.

23
24 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

25 A. Yes it does.

Broderick

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

JEFF HATCH-MILLER, Chairman
WILLIAM A. MUNDELL
MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES

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 PARADISE
VALLEY DISTRICT

DOCKET NO. W-01303A-05-0405

**REBUTTAL TESTIMONY
OF
THOMAS M. BRODERICK
ON BEHALF OF
ARIZONA AMERICAN WATER COMPANY
FEBRUARY 13, 2006**

**REBUTTAL TESTIMONY
OF
THOMAS M. BRODERICK
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ARIZONA AMERICAN WATER COMPANY
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EXECUTIVE SUMMARY

1
2
3 Thomas M. Broderick testifies that:
4
5

6 The appropriate amount of rate case expense to recover is \$301,832 over three years.
7

8 The new Paradise Valley Country Club contract application should be joined into this application
9 as suggested by Commission Staff.

10
11 An identical second tier should be added to the Turf Irrigation rate starting at 25,000,000 gallons
12 per month, which would then be subject to the high-block surcharge of \$2.15 per 1000 gallons.
13

14 The Company accepts Staff's recommendation to file its next rate case by September 30, 2008,
15 as a requirement of the ACRM in Paradise Valley.
16

17 Certain expense adjustments proposed by RUCO to allocated corporate expenses are
18 inappropriate.
19

20 The Company is no longer requesting an interim Accounting Order for its arsenic removal
21 facility in Paradise Valley district since that facility will be in service after permanent rates are
22 effective in this case.
23

24 The Company will file schedules in support of two Public Safety surcharge step increases
25 including an earnings test.
26

27 The Company strongly urges the Commission not to impose a new rate case filing moratorium as
28 this would have disastrous consequences for the Company. The Company's previous three-year
29 rate case filing moratorium expired on January 11, 2006. To improve the Company's equity
30 ratio, the Company must file new rate cases to recover new investments and increased costs.
31 Absent these required filings, the Company would be unable to maintain, let alone improve its
32 existing equity ratio. Further, Mr. Rogers' recommendation would be contrary to the minimum
33 equity agreement negotiated with Staff just three years ago and approved by the Commission as
34 part of the RWE acquisition conditions (Decision No. 65453, December 12, 2003). It would also
35 contravene Commission-mandated rate-filing deadlines in previous ACRM rate cases. Nor
36 would the recommendation provide any economic benefit to customers. Finally, even though
37 other utilities in Arizona have equity ratios below 40%, the Commission has never sanctioned
38 such draconian measures to help the utility to improve its equity ratio.
39

40 Even if the Company's requested revenues in this docket are fully granted, it will not have the
41 opportunity to earn its authorized return on equity during the period rates are in effect.
42
43
44
45

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 telephone number is 623-445-2420.

6 **Q. DID YOU PREVIOUSLY SUBMIT TESTIMONY IN THIS DOCKET?**

7 A. No. However, I am now sponsoring portions of the testimony of David P. Stephenson
8 and Stacey A. Fulter and the entire testimony of Ralph Jordan. No party to this
9 proceeding took issue with any of Ralph Jordan's revenue adjustments.

10 **Q. PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY.**

11 A. I have included an Executive Summary at the beginning of my rebuttal testimony.

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

13 A. I first respond to issues raised in Commission Staff's testimony. I next respond to issues
14 raised in RUCO's direct testimony.

15 **II. RESPONSE TO COMMISSION STAFF**

16 **A. RATE CASE EXPENSE**

17 **Q. HAVE YOU REVIEWED THE TESTIMONY OF COMMISSION STAFF**
18 **WITNESS MR. IGWE CONCERNING RATE CASE EXPENSES?**

1 A. Yes. Mr. Igwe recommends a total of \$208,700 in rate case expenses amortized over
2 three years. The Company recommends \$301,832, but agrees with a three year
3 amortization period. The Company originally requested \$282,841 and I subsequently
4 provided in discovery an update of \$301,832. Exhibit TMB-1 displays each component
5 of this estimate. As correctly noted by Mr. Igwe, the Company now seeks recovery of
6 the entire costs for cost of capital testimony.

7 I became responsible for the Arizona Rates function after the filing of this case and I
8 cannot support and, therefore, modify Company witness Stacey Fulter's original proposal
9 to share 50/50 the costs for external consultant's cost of capital testimony on the basis
10 that cost of capital testimony, if accepted, partially benefits investors. In this case, just
11 the opposite is true – it supports our customers' health with new arsenic removal facilities
12 and improves safety with improved fire flows. The Company has indicated its cost of
13 capital for undertaking these programs for the benefit of our customers. While we have
14 no choice but to comply with the arsenic standard, the Company does have discretion
15 regarding continuing the fire flow project. Obtaining authorization for our cost of capital
16 is critical in the Company continuing this project on behalf of customers.

17 The Mohave rate cases filed January 13, 2006, do not offer to share costs for cost of
18 capital expertise from the Brattle Group. The Company must presently rely upon the best
19 available expertise in light of the low 9% return on equity granted in our most recent
20 Arizona rate cases, which placed Arizona American Water last among all the state
21 affiliates of American Water. We did not know Staff's recommendation in this Paradise
22 Valley case when we filed the Mohave rate cases and we will not know the outcome of
23 the Paradise Valley case when we file four more rate cases in May 2006.

1 **Q. DID YOU REDUCE RATE CASE EXPENSE FOR SOME CATEGORIES IN**
2 **YOUR REVISED ESTIMATE OF \$301,832?**

3 A. Yes. Our original rate case expense estimate included a very modest \$36,000 for outside
4 legal expenses, which has been removed as the Arizona Rates function is now entirely
5 supported by Mr. Marks, our in-house legal counsel, even though we will have
6 miscellaneous legal costs for such items as hearing transcripts. I also reduced other
7 category estimates as noted by Mr. Igwe to further reduce costs. Thus, some of our
8 estimated rate-case expenses have risen, while others have fallen. Certainly, the
9 Commission should accept both types of revisions. It would be unfair to accept only
10 reduced expenses, while ignoring increased expenses.

11 **Q. ARE YOUR PROPOSED RATE CASE EXPENSES COMPARABLE WITH RATE**
12 **CASE EXPENSES APPROVED IN RECENT WATER CASES?**

13 A. Yes. In the recent Chaparral City Water rate case, the Commission approved \$285,000 in
14 rate case expense and it approved \$250,000 in the most recent Arizona Water Western
15 Division rate case.

16 **B. PARADISE VALLEY COUNTRY CLUB CONTRACT**

17 **Q. THE COMPANY SEPARATELY FILED ON DECEMBER 22, 2005, A NEW**
18 **SPECIAL CONTRACT WITH PARADISE VALLEY COUNTRY CLUB. WHAT**
19 **IS THE RELEVANCE OF THAT NEW CONTRACT TO THIS CASE?**

20 A. If approved, the contract is effective upon implementation of new permanent rates in
21 Paradise Valley. The parties agreed to charge the Paradise Valley Country Club the turf
22 tariff, including all surcharges, reduced by a 15% discount. Hence, both the rate design
23 of the turf tariff and the effective date of new rates in this case are relevant to this
24 contract.

1 **Q. HAS COMMISSION STAFF ISSUED ITS REPORT CONCERNING THE NEW**
2 **CONTRACT?**

3 A. Yes, on January 31, 2006, Commission Staff issued its report and recommends approval
4 of the new contract without modification. Commission Staff indicated a willingness to
5 bring that application into this rate case and the Company believes this is a most
6 appropriate action. Based on that assumption, the Company has included additional
7 annual revenue of \$8,515 in Company Income Statement Adjustment AAW-17.

8 **Q. AS A RESULT OF THE NEW CONTRACT, IS THE COMPANY PROPOSING**
9 **ANY CHANGES TO THE RATE DESIGN OF THE TURF TARIFF?**

10 A. Yes. The Company recommends the turf tariff have a second tier for monthly
11 consumption in excess of 25,000,000 gallons. However, the base rate charge for this
12 second tier would be equal to the first tier. Hence, the purpose of creating this second tier
13 is solely to make it subject to the high block surcharge of \$2.15 per 1000 gallons. This is
14 appropriate for two reasons. First, Commission Staff is recommending that revenues
15 generated by the high block surcharge be applied as a contribution to fire flow and the
16 Company told the Country Club that it will support a share of the cost of this project.
17 Second, the second tier break at 25,000,000 gallons is calculated such that if the Country
18 Club remains below that amount in the summer months, it will very likely remain within
19 the limit set by the Arizona Department of Water Resources for the Country Club. So,
20 this new rate design achieves funding for fire flow or conservation or both.

21 The other two existing customers on the turf tariff will not be impacted by this rate design
22 change insofar as their monthly consumption is far below the 25,000,000 gallon
23 threshold.

1 **III. RESPONSE TO RUCO**

2 **A. RATE CASE EXPENSE**

3 **Q. HAVE YOU REVIEWED THE TESTIMONY OF RUCO WITNESS MOORE**
4 **CONCERNING RATE CASE EXPENSES?**

5 A. Yes. Mr. Moore recommends operating income adjustment No. 4 to reduce rate case
6 expense to \$73,179 amortized over five years. The Company disagrees with both the
7 amount and the amortization period. The Company recommends \$301,832 in rate case
8 expense amortized over three years.

9 **Q. WHAT REASON DOES MR. MOORE GIVE FOR A FIVE YEAR**
10 **AMORIZATION PERIOD?**

11 A. He cites the Company's original proposal to file its next rate case not later than May
12 2010. However, in his rebuttal testimony, Company witness Paul Townsley accepts
13 Commission Staff's requirement (Mr. Igwe, page 23, line 2) to file the next Paradise
14 Valley rate case, not later than September 30, 2008, as a requirement of the ACRM.
15 Therefore, there is no longer any arguable basis for Mr. Moore's five-year amortization
16 as the rates set in this proceeding will be in effect for 3 years (e.g., August 2006 through
17 August 2009).

18 **Q. WHAT ARE MR. MOORE'S REASONS FOR RECOMMENDING ONLY \$73,179**
19 **IN RATE CASE EXPENSE?**

20 A. He examined rate case expenses approved in previous Paradise Valley rate cases,
21 calculates per district costs for recent Arizona Water rate cases, selects a recent
22 Southwest Gas case, and declares the case is not "complex" as there are no contentious
23 issues.

1 **Q. IS THIS CASE COMPLEX?**

2 A. Absolutely. This case addresses ratemaking for over \$35 million in new investment in
3 arsenic and fire flow improvements infrastructure – a tripling of the prior rate base.
4 RUCO has recommended a denial of the Public Safety surcharge, has taken no position
5 on treatment of post test-year fire-flow plant now in service, and would require illegal
6 contributions from the Town of Paradise Valley. RUCO also challenges the prudence of
7 the Company's arsenic investments and indicates it will seek delays in processing the
8 ACRM – a facility for which monthly carrying costs will exceed \$150,000. The
9 Company has not earned its authorized return on equity since 1991 - the period for which
10 it has records handy - and yet RUCO recommends so many expense adjustments in this
11 case that it recommends a large rate decrease.

12 **Q. HOW DO YOU RESPOND TO THE EXAMPLES RUCO SELECTED?**

13 A. Rate case expense for Arizona Water is somewhat relevant, but not expressed on a per
14 district basis. Most rate case expenses do not vary with the number of districts. The
15 same number of schedules are required and certain subjects (e.g. cost of capital, rate
16 design) will require expert testimony. Chaparral City's recent rate case resulted in
17 approval of \$285,000 in rate case expense. The selection of a Southwest Gas case is
18 clearly a biased non-representative selection. RUCO's reference to ancient Paradise
19 Valley rate cases is irrelevant given the magnitude and complexity of this current case.

20 The Company has already spent much more than the entire amount of rate case expense
21 RUCO would allow solely on cost of capital expertise from the Brattle Group.

22

1 **B. ARIZONA CORPORATE ALLOCATED EXPENSES**

2 **Q. MR. MOORE (PAGE 30, LINES 11 – 19) STATES HE IS ADJUSTING TEST**
3 **YEAR ARIZONA CORPORATE ALLOCATED EXPENSES DOWNWARD**
4 **(\$18,233). HOW DO YOU RESPOND?**

5 A. Mr. Moore's Schedule RLM-12, Page 3, Line 20 removes a Corporate Expense of
6 \$33,660 with the suggestion that the Company capitalize this expense. This expense is
7 payment to an executive search company for the filling of an executive position - our
8 Phoenix based Engineering Manager - who oversees all of the engineering functions
9 within the company. This position has been filled and the individual continues to work
10 for the Company. This is a regular, normal and recurring expense for many positions
11 within the organization and one would not capitalize such a human resource expense.
12 This same firm was paid a similar amount three months later for a Cost Engineer position
13 and again two months later for a Project Manager position. The Company presently has a
14 high job vacancy rate and it is in the best interests of our customers that these positions
15 be filled with the appropriate qualified persons. Paradise Valley's 8.12% share of this
16 expense is \$2,733 and it should be included in rates.

17 **Q. MR. MOORE'S SCHEDULE RLM-12, PAGE 3, LINE 40 DISALLOWS THE**
18 **NON-LOBBYING PORTION OF THE COMPANY'S DUES TO THE NATIONAL**
19 **ASSOCIATION OF WATER COMPANIES IN THE AMOUNT OF \$17,895.**
20 **HOW DO YOU RESPOND?**

1 A. NAWC is the only national trade association for private and investor-owned water
2 utilities. Its members provide safe, reliable drinking water to 22 million Americans.
3 NAWC seeks to strengthen America's investor-owned drinking water supply industry by
4 bringing its members information and knowledge to respond to federal legislative and
5 state regulatory initiatives having broad impacts on the industry. The association acts as
6 a forum for private and investor-owned water utilities, in which to exchange best
7 practices in customer service and operational practices. For instance, at the recent
8 NAWC sponsored National Drinking Water Symposium held last October, among the
9 many topics presented and discussed included lessons learned from Hurricane Katrina
10 and Rita; updates on American Water Works Association Research Foundation studies
11 and how they can be applied by water companies; how to more broadly communicate
12 wise water use to utility customers; progress of a program which uses weather forecasts
13 to communicate critical water and environmental issues; how Integrated Water Resource
14 Management can result in enhanced source water protection and reliability along with
15 increased cost efficiencies and sustainable development; recent efforts to improve
16 technical, financial and managerial capacity of small water systems; how good customer
17 service made a difference during a condemnation attempt of a water company; new
18 approaches to low income customer assistance programs to assist with affordability
19 challenges; and new technologies and approaches to help ensure drinking water security.
20 The association's relations with federal legislators, agency directors and public service
21 commissions, improve its members effectiveness in addressing common concerns of the
22 industry. Paradise Valley's 8.12% share of this expense is a modest \$1,453 and it should
23 be included in rates.

1 **Q. MR. MOORE'S SCHEDULE RLM-12, PAGE 3, LINES 42 – 43 REMOVES**
2 **BOARD OF DIRECTOR FEES AND EXPENSES OF \$15,687? IS THIS**
3 **APPROPRIATE?**

4 A. Board of Director's fees and expenses are only associated with external (non American
5 Water employee) board members. Arizona-American's Board performs various duties
6 necessary to governance of the company and its business as a whole. A corporation is
7 required by law to have a board of directors. To attract and retain qualified directors,
8 certain fees and expenses must be paid. The good conduct and financial well-being of the
9 corporation benefits all ratepayers in many facets. The Board of Directors plays a critical
10 role in bringing external perspectives to the Company's management. Arizona-American
11 Water's external Board members come from business and government and act as an
12 important resource for management as it seeks to continue progress as a water industry
13 leader in Arizona. Without a Board of Directors with external (non American Water)
14 membership, the Company could miss important viewpoints affecting its business,
15 customers and communities. Paradise Valley's 8.12% share of this expense is \$1,274 and
16 should be included in rates.

17 **Q. MR. MOORE SCHEDULE RLM-12, PAGE 3, LINE 46 DISALLOWS \$105,120 OF**
18 **BUSINESS SERVICE PROJECT EXPENSES. HOW DO YOU RESPOND?**

19 A. The Company reorganized its business and centralized the Customer Call Center to one
20 location in Alton, Illinois that is open 24 hours per day, 7 days per week and also
21 centralized its accounting, employee benefits, tax, accounts payable, fixed asset, and cash
22 management functions to a Shared Services Center. The Project Costs for doing this are
23 being amortized and are a legitimate cost of reorganizing the business. Paradise Valley's
24 8.12% share of this expense is \$8,536 and it should be included in rates.

1 **IV. INTERIM ARSENIC ACCOUNTING ORDER AND PUBLIC SAFETY**
2 **SURCHARGE**

3 **Q. DOES THE COMPANY STILL REQUEST AN INTERIM ACCOUNTING**
4 **DEFERRAL ORDER FOR ARSENIC FACILITIES IN PARADISE VALLEY?**

5 A. No. As the rebuttal testimony of Company Witness Mr. Gross states, the new arsenic
6 facility serving Paradise Valley district will be in-service in August 2006. We anticipate
7 a final order in this case by that time, so such an accounting deferral order is no longer
8 necessary.

9 **Q. COMMISSION STAFF AND RUCO RECOMMEND APPROVAL OF THE**
10 **COMPANY'S REQUEST FOR AN ACRM. HOW DO YOU RESPOND?**

11 A. The Company appreciates this recommendation and accepts the requirement stated on
12 page 23, line 2 of Mr. Igwe's testimony for the company to file its next rate case not later
13 than September 30, 2008. The Company, however, is quite concerned by vague and
14 unsupported statements concerning the prudence of our Paradise Valley arsenic facility
15 made by RUCO witness Moore. These statements are addressed by Company witness
16 Mr. Gross.

17 **Q. MR. TOWNSLEY, IN SUPPORT OF A REVISED TWO-STEP PUBLIC SAFETY**
18 **SURCHARGE, STATES THE COMPANY WILL FILE SUPPORTING**
19 **SCHEDULES AT THE TIME A STEP INCREASE IS SOUGHT? IS THAT**
20 **CORRECT?**

1 A. That's correct. It is my responsibility to file all ten schedules at the time of a specific
2 step increase. I remind the Commission that schedules 5 and 7 will display as a
3 contribution the total actual high block surcharge revenues as a reduction to fire flow rate
4 base, thereby directly reducing any Public Safety surcharge. Schedule 3 will display the
5 earnings test information, which serves as a ceiling on a step increase.

6 **V. 40% EQUITY AND NEXT RATE CASE**

7 **Q. COMMISSION STAFF WITNESS ROGERS (PAGE 35, LINES 20-23)**
8 **RECOMMENDS THAT THE COMPANY BE REQUIRED TO OBTAIN A**
9 **MINIMUM 40% EQUITY POSITION PRIOR TO FILING ITS NEXT RATE**
10 **CASE. HOW DO YOU RESPOND?**

11 A. While the Company and Commission Staff share the goal of attaining and maintaining a
12 minimum 40% equity ratio, we apparently disagree on some of the means to do so. I
13 urge the Commission to reject any recommendation for a new rate case filing
14 moratorium. The Company's previous three-year rate case filing moratorium expired on
15 January 11, 2006. To improve the Company's equity ratio, we must file new rate cases
16 to recover past and new investments and increased costs. Absent these required filings,
17 the Company would be unable to improve, let alone maintain its existing equity ratio.
18 Further, Mr. Rogers' recommendation would be contrary to the minimum equity
19 agreement negotiated with Staff just three years ago and approved by the Commission as
20 part of the RWE acquisition conditions (Decision No. 65453, December 12, 2003). It
21 would also contravene Commission-mandated rate-filing deadlines established in recent
22 ACRM rate cases. Nor would the recommendation provide any economic benefit to
23 customers and it would harm our ability to fund on-going construction projects. Finally,
24 even though other utilities in Arizona have equity ratios below 40%, the Commission has
25 never sanctioned such draconian measures to help the utility to improve its equity ratio.

1 **Q. WHY MUST ARIZONA-AMERICAN FILE NEW RATE CASES?**

2 A. In Decision No. 65453, the Commission conditioned approval of RWE's acquisition of
3 American Water on a three-year moratorium (until January 11, 2006) on rate case filings.
4 In Decision No. 67593, the Commission specifically granted relief from this condition to
5 allow filing of this rate case for the Company's Paradise Valley Water District. No other
6 rate cases could be filed until January 11, 2006. The Company promptly filed its next
7 rate cases on January 13, 2006, for its Mohave Water and Wastewater districts. We did
8 not receive Commission Staff's testimony in this case until afterwards on January 17,
9 2006. Later in 2006, the Company expects to file a rate case for its Anthem Water
10 district, its Anthem / Agua Fria Wastewater district, its Sun City Wastewater district and
11 its Sun City West Wastewater district.

12 Rate cases are required for many of our districts, because costs have increased and the
13 Company has made new investments, for which it is entitled recovery. Because of the
14 rate moratorium, there is a backlog of cases that would otherwise have been filed earlier.
15 Many of Arizona-American's districts are earning almost nothing or even demonstrate
16 negative earnings. Further, Arizona-American has been unable to pay any dividends to
17 American Water since 2003. Equity is created through retained earnings, but, given the
18 Company's overall earnings record over the last several years, retained earnings have
19 actually been negative—equity has been destroyed. To reverse this trend, new rate cases
20 must be filed and timely rate relief received.

21 **Q. HAS THE COMMISSION ALREADY IMPOSED A MINIMUM-EQUITY**
22 **REQUIREMENT?**

1 A. Yes. In 2003, Arizona-American and Staff negotiated a number of conditions concerning
2 approval of RWE's purchase of American Water. Among those conditions was
3 Condition No. 12, which reads

4 #12. Arizona-American shall maintain a minimum common equity ratio of 35 percent of
5 total capital. Arizona-American's total capital is defined as common equity, preferred
6 equity, and long-term debt. Arizona-American shall not make remittances or pay
7 dividends to American Water Works unless Arizona-American's common equity is at
8 least 35 percent of total capital. If Arizona-American's common equity falls to 30 percent
9 of total capital, American Water Works shall provide a cash infusion of equity sufficient
10 to bring Arizona-American's common equity ratio back to a minimum of 35 percent of
11 total capital. Arizona-American shall not be prohibited from requesting that the foregoing
12 equity percentages be decreased based on changes to capital markets or other conditions
13 that make it prudent to alter Arizona-American's capital structure.

14 Staff recommended approval of this condition and the Commission adopted it without
15 modification. (Decision No. 65453, December 12, 2003). However, the Commission did
16 depart from one Staff recommendation and imposed a three-year rate case moratorium in
17 Condition 15, instead of the one year recommended by Staff. Even though condition 12
18 permits the Company to request the equity percentages be decreased, it has not done so.

19 **Q. HOW DOES MR. ROGERS' PROPOSAL DIFFER FROM THE MINIMUM**
20 **EQUITY TARGET CURRENTLY IN PLACE FOR ARIZONA-AMERICAN?**

1 A. The most important difference is that the current condition only requires an equity
2 infusion if “Arizona-American’s common equity falls to 30 percent of total capital . . .”
3 By contrast, Mr. Rogers would penalize Arizona-American by prohibiting any rate filings
4 if the Company’s common-equity percentage is below 40 percent. This is a huge
5 difference. As of December 31, 2005, Arizona-American’s total invested capital was
6 \$299.8 million with equity representing \$101.1 million or 33.7%. The difference
7 between a 33.7 percent and 40 percent equity requirement is \$31.5 million in additional
8 equity. The Company does have pending a request for a \$35 million equity infusion, but
9 even if this is provided, the Company will not long thereafter slip again below a 40%
10 equity ratio. It is important to note that equity infusions take a number of months from
11 formulation of a request to actual equity infusion and rate cases likewise have long lead
12 times to prepare, thereby further making this recommendation impractical.

13 **Q. HOW WOULD STAFF’S RECOMMENDATION CONTRAVENE CURRENT**
14 **COMMISSION FILING REQUIREMENTS FOR ARIZONA-AMERICAN?**

15 A. In Decision No. 68310, dated November 14, 2005, the Commission ordered, among other
16 things: “that Arizona-American Water Company shall file permanent rate applications for
17 its Sun City West, Agua Fria, and Havasu districts by no later than April 30, 2008, based
18 on a 2007 test year.” However, Staff’s recommendation would not allow these rate
19 filings if Arizona-American’s equity ratio was less than 40 percent.

20 **Q. WOULD STAFF’S RECOMMENDATION BENEFIT CUSTOMERS OR**
21 **OTHERWISE MAKE ANY ECONOMIC SENSE?**

1 A. No. Although the Company and Staff share the goal of 40 percent equity for Arizona-
2 American Water, no one in this proceeding can claim a precise optimal capital structure
3 for a water company. As explained by Dr. Kolbe in his testimony, the overall cost of
4 capital remains constant across a broad range of capital structures. This means that other
5 things equal, customers of a utility with a higher debt ratio will enjoy lower rates - even if
6 its ROE has been appropriately adjusted upward to reflect increased financial risk. The
7 reason being that the tax benefit associated with the use of debt is passed on to customers
8 in the form of lower rates.

9 **Q. ARE SHAREHOLDERS SOMEHOW BENEFITING FROM A LOW EQUITY**
10 **RATIO?**

11 A. No. The shareholders are seeing their equity destroyed. At page 35 of his testimony, Mr.
12 Rogers testifies that the Commission should not adjust Arizona-American's rate of return
13 to reflect financial risk in the next rate case. This is the equivalent of recommending that
14 the Commission grant the Company a rate of return *lower* than its cost of capital - as
15 punishment for not earning its cost of capital (as evidenced by not maintaining its equity
16 ratio.)

17
18 Mr. Roger's recommendation can only lead me to believe that Commission Staff simply
19 has not taken appropriate notice and consideration of the Company's current poor
20 financial condition. Unlike other large Arizona utilities with thin equity, Arizona-
21 American Water has not paid a dividend since 2003 and will not pay one in 2006. While
22 those utilities enjoy the benefit of rates designed to allow them to earn on equity that
23 doesn't exist and they continue to pay dividends, we once again face the prospect of a
24 rate moratorium. Staff's recommendations and testimony in this and other recent cases
25 (e.g., Ms. Crystal Brown, ACRM cases) indicates that they believe that the Company's

1 deteriorating equity ratio is somehow a benefit to shareholders, when that is clearly not
2 the case.

3
4 **Q. MR. ROGERS MENTIONS THAT THE COMPANY WAS REQUIRED TO FILE**
5 **AN EQUITY PLAN BY DECEMBER 31, 2005. DID ARIZONA-AMERICAN**
6 **MAKE THIS FILING?**

7 A. Yes. On November 30, 2005, Arizona-American filed the comprehensive equity-
8 maintenance plan required by Decision No. 68310. Although Mr. Rogers never discusses
9 the content of the plan, Staff had this plan to review for approximately six weeks before
10 their testimony was due in this case. The Company is most interested in Commission
11 Staff's overall opinion of this plan. As the testimony of Mr. Townsley indicates, the
12 Company has requested a \$35 million equity infusion in 2006, but unfortunately the
13 Company just suffered an equity impairment of approximately \$23 million under FAS
14 142 which partially offsets the equity ratio improving benefit of the infusion. This
15 impairment is reflected in the 33.7% equity ratio stated above.

16
17 The 2005 Equity Plan is very frank about the financial challenges currently facing
18 Arizona-American and those it will continue to face over the next five years. As a result,
19 even with the requested 2006 equity infusion, the Company still expects to have
20 difficulty maintaining a 40% equity ratio. However, for the Company to have any shot at
21 maintaining this target, it must be able to timely file rate cases to recover the
22 extraordinary investments and other costs that are not yet reflected in rates. If the
23 Company were to face a new moratorium, I would expect it to shortly thereafter file
24 emergency rate cases or take even stronger action.

1 **Q. ARE THERE OTHER ARIZONA UTILITIES WITH EQUITY RATIOS BELOW**
2 **40%?**

3 A. Yes. Putting aside certain small water utilities that effectively are 100% debt financed,
4 Arizona's second largest investor-owned electric company, Unisource Energy, has only
5 about a 25% equity ratio, and Arizona's largest natural-gas distribution company,
6 Southwest Gas, had a test-year equity ratio in its last rate case of 35.8%.

7 **Q. HAS STAFF PROPOSED RATE CASE MORATORIUMS FOR EITHER**
8 **UNISOURCE ENERGY OR SOUTHWEST GAS?**

9 A. Not to my knowledge. In fact, these two utilities utilize another method to help them
10 increase their equity ratios. The Commission allows each utility to use a hypothetical
11 capital structure as a mechanism to help it improve actual equity ratios. Staff still
12 supports this mechanism.¹ In its just filed Mohave rate cases, the Company requests a
13 hypothetical capital structure. And because of new federal arsenic standards and other
14 requirements, Arizona-American's net investment per customer, both currently and
15 required in the future, is likely substantially higher than either Unisource Energy or
16 Southwest Gas.

17 **Q. DOES IT MAKE SENSE TO SINGLE OUT ARIZONA-AMERICAN FOR**
18 **PUNITIVE EQUITY INCENTIVES?**

19 A. No. Staff has in no way suggested that Arizona-American deserves some kind of
20 punishment, yet their recommendation if implemented would be a punishment.

¹ See direct testimony of Staff witness James J. Dorf in Docket No. E-0933A-04-0408, dated June 24th, 2005, and direct testimony of Staff witness Stephen G. Hill in Docket No. G-01551A-04-0876, dated July 26, 2005, as well as previous rate case dockets for Tucson Electric Power Company and Southwest Gas Corporation.

1 **VI. PROJECTIONS**

2 **Q. IF THE RATES PROPOSED BY THE COMPANY IN ITS REBUTTAL CASE**
3 **ARE APPROVED BY THE COMMISSION, WILL THE COMPANY HAVE A**
4 **REASONABLE OPPORTUNITY TO EARN ITS AUTHORIZED RETURN**
5 **DURING THE PERIODS NEW RATES ARE IN EFFECT?**

6 A. Even though the Commission supports several important rate-making innovations such as
7 the ACRM and the high block surcharges for which the Company is appreciative, the
8 answer, unfortunately, is not really. The Company estimates that the electric rate
9 increases sought by APS in 2006, if approved, will increase our electricity costs in
10 Paradise Valley alone by over \$120,000 per year as per their E-221 tariff. Furthermore,
11 incremental electricity consumed at the new Paradise Valley arsenic removal facility in
12 Paradise Valley is ineligible for recovery in the ACRM. The Company already employs
13 the employee that will operate that facility and has requested recovery of his labor costs
14 in this rate case. If that request is not authorized, the Company will absorb the cost of
15 that position until at least mid-2009 as such labor costs are not eligible for recovery in the
16 ACRM. Also, labor and labor-related expenses, in general, increase with inflation each
17 year and Paradise Valley is largely built-out and lacks customer growth helpful for
18 covering inflation. Furthermore, the high block surcharge will result in conservation –
19 exactly how much is unknown presently. Tariffs are based on test-year adjusted amounts
20 and sales volume declines are a distinct possibility. For all these reasons and more, the
21 Company has accepted Commission Staff's proposal to file its next rate case not later
22 than September 30, 2008. Fortunately, Paradise Valley is not a former Citizens water
23 district and, therefore, its earnings are not impacted by financial legacy issues such as
24 regulatory advances and contributions excluded from rate base.

25
26 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

1

A. Yes.

INCOME ADJUSTMENT AAW-4 RATE CASE EXPENSE

Calculation of Rate Case Expense			
Description	Company As Filed	Staff Adjustment	Company As Revised
Jim Harrison - Consultant	\$14,500.00	\$9,288.00	\$9,288.00
Legal Fees	\$36,000.00	\$0.00	\$0.00
Shared Service Center (SSC)	\$72,949.00	\$22,687.00	\$22,687.00
SSC Expense	\$4,100.00	\$3,250.00	\$3,250.00
Company Labor	\$39,594.00	\$57,559.00	\$57,559.00
Company Expenses	\$14,830.00	\$4,855.00	\$4,855.00
Cost of Capital / Brattle Group	\$79,383.00	\$79,134.00	\$158,267.00
Witness Training	\$6,500.00	\$3,250.00	\$3,250.00
Cost of Service & Rate Design	\$14,985.00	\$28,677.00	\$42,677.00
Total	\$282,841.00	\$208,700.00	\$301,832.00
Three Year Average	\$94,280.00	\$69,567.00	\$100,610.67

Weber

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

JEFF HATCH-MILLER, Chairman
WILLIAM A. MUNDELL
MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES

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 PARADISE
VALLEY DISTRICT

DOCKET NO. W-01303A-05-0405

**REBUTTAL TESTIMONY
OF
DAVID L. WEBER
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
FEBRUARY 13, 2006**

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**REBUTTAL TESTIMONY
OF
DAVID L. WEBER
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ARIZONA-AMERICAN WATER COMPANY
FEBRUARY 13, 2006**

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EXECUTIVE SUMMARY

1
2
3 David L. Weber testifies that Staff witness Igwe incorrectly adjusted purchased power expenses
4 and that the Company accepts both Commission Staff and RUCO's adjustments to remove
5 contract labor expenses. The Company accepts RUCO's adjustments to Group Insurance and
6 OPEB expenses and rejects portions of RUCO's adjustments to Labor Expense, Pension
7 Expense, and Payroll Tax Expense.

1 **I. INTRODUCTION AND QUALIFICATIONS**

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

4 A. My name is David L. Weber. My business address is 131 Woodcrest Road, Cherry Hill,
5 NJ 08003, and my telephone number is 856-310-5718.

6
7 **Q. ARE YOU THE SAME DAVID L. WEBER THAT PREVIOUSLY SUBMITTED**
8 **DIRECT TESTIMONY IN THIS DOCKET?**

9 A. Yes.

10

11 **II. RESPONSE TO COMMISSION STAFF**

12 **A. STAFF ADJUSTMENT TO PURCHASED POWER EXPENSE.**

13 **Q. HAVE YOU REVIEWED MR. IGWE'S DISCUSSION CONCERNING THE**
14 **COMPANY'S COSTS FOR PURCHASED POWER?**

15 A. Yes. In Operating Expense Adjustment No. 2 on page 6 of his testimony, Mr. Igwe
16 proposes an adjustment of \$15,381 to decrease the Company's proposed purchased power
17 costs. Mr. Igwe's adjustment removes an amount that the Company accrued in its
18 general ledger. Mr. Igwe contends that the accrual represents an estimate of future costs
19 and that the Company did not provide any evidence that it incurred an additional expense
20 during the test year.

21

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

23 A. Mr. Igwe's adjustment would be inappropriate. The amount of \$15,381 was only an
24 estimate the Company made in its general ledger during 2004 to accrue the amount of
25 power costs incurred by the Company during that year, but which had not yet been

1 invoiced by the supplier. However, Arizona-American did not rely on the ledger accrual
2 amount of \$15,381 to calculate the adjusted test year expenses for purchased power.
3

4 **Q. IS IT UNUSUAL FOR A GENERAL LEDGER TO CONTAIN 11 MONTHS OF**
5 **ACTUAL PURCHASED POWER EXPENSE AND AN ACCRUAL FOR ONE**
6 **MONTH?**

7 A. No. In fact, it would be unusual for the ledger to look any different. In 2004, Arizona-
8 American received 12 power bills, but one of those (January 2004) would have been for
9 December 2003 consumption, so it would not go in the 2004 general ledger. Instead,
10 2004 would reflect the power bills received from February – December (for January –
11 November consumption) and an accrual (estimate) for December power costs. This is
12 typical accrual accounting, used by virtually all organizations.

13
14 **Q. HOW DID ARIZONA-AMERICAN CALCULATE A PROPOSED COST OF**
15 **PURCHASED POWER?**

16 A. In order to calculate the Company's annual cost of purchased power the Company used
17 the latest twelve months of actual invoices that were available at the time of filing -
18 March 2004 to February 2005. The actual invoices for this period totaled \$967,192,
19 compared to the 2004 general-ledger expense of \$972,975, which included the accrued
20 costs of \$15,381. In other words, the Company's adjusted total test year purchased
21 power costs of \$967,192 did not rely, in any fashion, upon the \$15,381 accrual.

22
23 As a check on the Company's annual cost of purchase power, we can compare the
24 \$967,192 figure to actual 2004 power costs. As discussed, the ledger included 11 months
25 of actual payments (for January through November consumption) and an estimate for
26 December. If we include the actual payment for December consumption, which was paid

1 early in 2005, the total bills paid for 2004 consumption were \$968,512. This clearly
2 supports the reasonableness of the Company's proposed cost of \$967,192.

3
4 The Company further adjusted its proposed purchased power costs by reclassifying costs
5 associated with the Miller Road Treatment Facility.

6
7 **Q. SO, YOU DISAGREE WITH THE STAFF'S PROPOSED ADJUSTMENT**
8 **REDUCING PURCHASED POWER EXPENSE BY \$15,381?**

9 A. Yes, actual 2004 power costs closely track the Company's adjusted test-year expense.
10 Reducing this amount, especially given today's rapidly increasing electricity costs, would
11 be confiscatory.

12
13 **B. STAFF ADJUSTMENT TO CONTRACT SERVICES.**

14 **Q. HAVE YOU REVIEWED MR. IGWE'S DISCUSSION CONCERNING THE**
15 **COMPANY'S INCLUSION OF COSTS ASSOCIATED WITH CONTRACT**
16 **SERVICES FOR A TEMPORARY EMPLOYEE?**

17 A. Yes. In Operating Expense Adjustment No. 3 on page 7 of his testimony, Mr. Igwe
18 proposes reducing operating costs by \$32,389 for costs associated with a temporary
19 employee that subsequently became a Company employee. Mr. Moore's testimony filed
20 by RUCO also proposes making the same adjustment as one component of his
21 Adjustment No. 7.

22
23 **Q. HOW DO YOU RESPOND?**

24 A. The Company accepts this specific proposal made by the Commission Staff and made by
25 RUCO as one component of RUCO Adjustment No. 7.

26

1 **III. RESPONSE TO RUCO**

2 **A. RUCO ADJUSTMENT TO CONTRACT SERVICES.**

3 **Q. YOU PREVIOUSLY STATED THAT YOU ACCEPT THIS ADJUSTMENT; IS**
4 **THAT CORRECT?**

5 A. Yes.

6
7 **B. RUCO ADJUSTMENT TO LABOR EXPENSE**

8 **Q. PLEASE DESCRIBE THE ADJUSTMENT MADE TO LABOR EXPENSE BY**
9 **MR. MOORE ON WP RLM-7 (2 of 3).**

10 A. As a component of Adjustment No. 7 on WP RLM-7 (2 of 3) Mr. Moore adjusted Labor
11 Expense to reflect the actual number of employees employed during the test year and the
12 actual percentage of time spent working for Paradise Valley versus the total hours worked
13 for Arizona-American. For certain employees this resulted in an increase in hours and for
14 others it created a decrease in hours compared to the Company proposed level. The
15 overall effect of Mr. Moore's adjustment was a reduction of 7,636 hours to the
16 Company's proposed level.

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

19 A. RUCO's overall reduction is primarily attributable to several employees who were hired
20 during or shortly after the test year and at the time were anticipated by the Company to
21 work for Paradise Valley at a full annual level of 2,080 hours. The Company has
22 subsequently determined that the employees in question are not needed exclusively for
23 Paradise Valley operations and therefore, for the purpose of reducing issues in the case,
24 accepts RUCO's proposed level of hours for some of the employees. The Company is
25 reluctant to accept this method for determining labor costs, because there are presently a
26 significant number of vacant positions within the Company. RUCO's methodology,

1 strictly applied, does not allow recovery of the costs for positions being actively
2 recruited.

3
4 **Q. YOU STATED THAT YOU COULD ONLY ACCEPT RUCO'S REDUCTION**
5 **FOR SOME OF THE EMPLOYEES; WHICH ONES CAN'T YOU ACCEPT?**

6 A. We cannot accept the reductions associated with three job classifications: meter readers,
7 field customer service representatives (CSRs), and plant operators. RUCO proposed a
8 total 3,626.5 hours for meter readers and CSRs based upon the actual test year hours for
9 seven employees working a portion of their time on those duties. A more accurate
10 assessment of the true working conditions in Paradise Valley is for one full-time meter
11 reader and one full-time CSR, represented by Employee # 19 and # 42, respectively.

12
13 **Q. HAVE YOU DETERMINED THE COST FOR THESE TWO EMPLOYEES?**

14 A. Yes, the calculation, which is provided on Exhibit DLW-1, uses a full annual level of
15 2,080 hours for employee #19 and the 2,212 hours as proposed by RUCO for employee
16 #42 on Line 42 of WP RLM-7 (2 of 3). The hours are multiplied by the employee rates
17 proposed by the Company and accepted by RUCO. The result is an increase to expense
18 of \$7, 825. Mr. Biesemeyer discusses the meter-reading position in his rebuttal
19 testimony.

20
21 **Q. WHAT ABOUT PLANT OPERATORS?**

22 A. On October 10, 2005 an Assistant Water Treatment Plant Operator from another Arizona-
23 American district was promoted to Arsenic Treatment Plant Operator for Paradise Valley.
24 The Company proposes the inclusion of this new position at the employee's current
25 hourly rate of \$20.00 as the Arsenic Treatment Plant Operator or \$41,600 annually as

1 shown on Exhibit DLW-1. Mr. Biesemeyer discusses the duties for this new position in
2 his rebuttal testimony.

3
4 **Q. PLEASE SUMMARIZE THE TOTAL ADJUSTMENTS TO RUCO'S PROPOSED**
5 **LABOR EXPENSE?**

6 A. As I stated, Arizona-American accepts for the purpose of reducing issues in this case,
7 much of RUCO's proposed Labor Expense, with a \$49,425 adjustment - \$7,825 for Meter
8 Readers and CSRs, and \$41,600 to include an Arsenic Plant Operator. Therefore,
9 RUCO's adjustment No. 7 to Operations Labor on WP RLM-7 Line 10 should be
10 changed from (\$92,863) to (\$56,714) and the adjustment to Maintenance Labor on WP
11 RLM-7 Line 11 should be changed from (\$34,101) to (\$20,825).

12
13 **C. RUCO ADJUSTMENT TO GROUP INSURANCE EXPENSE**

14 **Q. PLEASE DESCRIBE THE ADJUSTMENT MADE BY MR. MOORE TO GROUP**
15 **INSURANCE EXPENSE ON WP RLM-4.**

16 A. On WP RLM-4 Mr. Moore makes an adjustment of (\$2,972) to Group Insurance Expense
17 which includes an amount to reflect the actual percentage of each employee's time
18 allocated to Paradise Valley during the test year.

19
20 **Q. HOW DO YOU RESPOND?**

21 A. The Company accepts RUCO's adjustment of (\$2,972).

22
23 **D. RUCO ADJUSTMENT TO OPEB EXPENSE**

24 **Q. PLEASE DESCRIBE THE ADJUSTMENT MADE BY MR. MOORE OPEB**
25 **EXPENSE ON WP RLM-5.**

1 A. On WP RLM-5 Mr. Moore makes an adjustment of (\$2,093) to OPEB Expense which
2 includes an amount to reflect the actual percentage of each employee's time allocated to
3 Paradise Valley during the test year.

4

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

6 A. The Company accepts RUCO's adjustment of (\$2,093).

7

8 **E. RUCO ADJUSTMENT TO PENSION EXPENSE**

9 **Q. PLEASE DESCRIBE THE ADJUSTMENT MADE BY MR. MOORE TO**
10 **PENSION EXPENSE ON WP RLM-6.**

11 A. On WP RLM-6 Mr. Moore makes an adjustment of (\$12,037) to Pension Expense which
12 includes an amount to reflect the number of full-time equivalent employees based upon
13 actual percentage of each employee's time allocated to Paradise Valley during the test
14 year.

15

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

17 A. The Company accepts RUCO's adjustment with the exception of the pension cost
18 associated with the increase in Labor Expense for employees #19 & #42 and the new
19 Arsenic Plant Operator proposed in Section III B to this testimony.

20

21 **Q. HAVE YOU DETERMINED THE PENSION COSTS FOR EMPLOYEES #19 &**
22 **#42 AND THE NEW ARSENIC PLANT OPERATOR?**

23 A. Yes, the calculation, which is provided on Exhibit DLW-1, uses the hours associated
24 with these three employees to determine an increase of 1.32 full-time equivalents
25 compared to RUCO. The full-time equivalents are multiplied by pension cost per
26 participant as determined by RUCO on WP RLM-6 Line 3 of \$2,181. The result is an

1 increase in pension expense of \$2,879 compared to RUCO's proposal. The Company
2 proposes RUCO's adjustment to Pension Expense on WP RLM-6 Line 12 be changed
3 from (\$12,037) to (\$9,158).

4
5 **F. RUCO ADJUSTMENT TO PAYROLL TAX EXPENSE**

6 **Q. PLEASE DESCRIBE THE ADJUSTMENT MADE BY MR. MOORE TO**
7 **PAYROLL TAX EXPENSE ON WP RLM-11.**

8 A. On WP RLM-11 Mr. Moore makes an adjustment of (\$17,204) to Payroll Tax Expense
9 which includes an amount to reflect the actual percentage of each employee's time
10 allocated to Paradise Valley during the test year.

11
12 **Q. HOW DO YOU RESPOND?**

13 A. The Company accepts RUCO's adjustment with the exception of the payroll tax expense
14 associated with the increase in Labor Expense for employees #19 & #42 and the new
15 Arsenic Plant Operator proposed in Section III B to this testimony.

16
17 **Q. HAVE YOU DETERMINED THE PAYROLL TAX EXPENSE FOR**
18 **EMPLOYEES #19 & #42 AND THE NEW ARSENIC PLANT OPERATOR?**

19 A. Yes, the calculation, which is provided on Exhibit DLW-1, uses the Company proposed
20 increase in labor expense associated with these three employees of \$49,425 and
21 multiplies by the aggregate payroll tax rate of 9.90% as determined by referencing lines 2
22 through 5 on WP RLM-11. The result is an increase in Payroll Tax Expense of \$4,893
23 compared to RUCO. The Company proposes RUCO's adjustment to Payroll Tax
24 Expense on WP RLM-11 Line 8 be changed from (\$17,204) to (\$12,311).

25

1 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

2 A. Yes, it does.

Labor and Related Expenses for Meter Reader and Field Customer Service Representatives

LINE # LABOR EXPENSE:

Inclusion of Arsenic Treatment Plant Operator:

1	Operator Current Hourly Rate	\$20.00
2	Operator Annual Labor Expense @ 2,080 hours	\$41,600.00
3	Company Proposed Increase in Labor Expense for inclusion of Arsenic Plant Operator	\$41,600.00

Adjustment for Meter Reader and Field Customer Service Representative (CSR) Labor:

RUCO Proposed Meter Reader and CSR Labor:

	Line # on WP RLM-7 (2 of 3)	Meter Read Hours	CSR Hours	Total Hours	Rate	Total Amount
4	1	32.0	-	32.0	\$13.97	\$447
5	14	315.0	-	315.0	\$15.25	\$4,804
6	18	363.5	-	363.5	\$16.09	\$5,849
7	19	-	-	-	\$14.80	\$0
8	34	178.0	465.0	643.0	\$16.40	\$10,545
9	37	4.5	-	4.5	\$15.04	\$68
10	38	56.5	-	56.5	\$22.06	\$1,246
	42	2,143.0	69.0	2,212.0	\$16.09	\$35,591
11	Total	3,092.5	534.0	3,626.5		\$58,550

Revised Company Proposed Meter Reader and CSR Labor:

	Line #	Meter Read Hours	CSR Hours	Total Hours	Rate	Total Amount
12	19	2,080.0	-	2,080.0	\$14.80	\$30,784
13	42	-	2,212.0	2,212.0	\$16.09	\$35,591
14	Total	2,080.0	2,212.0	4,292.0		\$66,375
15	Company proposed increase in Labor Expense for Meter Readers and CSR's			665.5		\$7,825
16	Total Company proposed increase in Labor Expense [Lines 3 + 15]					\$49,425
17	Company proposed increase in Operations Labor Expense from RUCO Proposal @73.14%					\$36,149
18	Company proposed increase in Maintenance Labor Expense from RUCO Proposal @26.86%					\$13,276
19	RUCO proposed adjustment to Operations Labor Expense [RLM-7, Line 10]					(\$92,863)
20	RUCO proposed adjustment to Maintenance Labor Expense [RLM-7, Line 11]					(\$34,101)
21	Company accepted portion of RUCO adjustment to Operations Labor Expense					(\$56,714)
22	Company accepted portion of RUCO adjustment to Maintenance Labor Expense					(\$20,825)

LABOR RELATED EXPENSES:

Pension:

23	Company proposed increase in hours above RUCO		2,745.5
24	Full-Time Equivalent Employees	2,080 hours / FTE	1.32
25	Pension cost per FTE [RLM-6, Line 3]		\$2,181
26	Company proposed increase in Pension Expense from RUCO Proposal		\$2,879
27	RUCO proposed adjustment to Pension Expense [RLM-6, Line 12]		(\$12,037)
28	Company accepted portion of RUCO adjustment		(\$9,158)

Payroll Taxes:

29	Company Proposed Increase from RUCO's Labor Expense Proposal	\$49,425
30	Aggregate Payroll Tax Rate [RLM-11, Lines 2 + 3 + 4 + 5]	9.90%
31	Company proposed increase in Payroll Tax Expense from RUCO Proposal	\$4,893
32	RUCO proposed adjustment to Payroll Tax Expense [RLM-11, Line 8]	(\$17,204)
33	Company accepted portion of RUCO adjustment	(\$12,311)

Kolbe

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

JEFF HATCH-MILLER, Chairman
WILLIAM A. MUNDELL
MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES

IN THE MATTER OF THE APPLICATION OF
ARIZONA-AMERICAN WATER COMPANY,
INC., 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 PARADISE
VALLEY WATER DISTRICT.

DOCKET NO. WS-01303A-05-0405

**REBUTTAL TESTIMONY
OF
A. LAWRENCE KOLBE
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
FEBRUARY 13, 2006**

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1 **I. INTRODUCTION AND SUMMARY**

2 **Q1. Please state your name and address for the record.**

3 A1. My name is A. Lawrence Kolbe. My business address is The Brattle Group, 44 Brattle Street,
4 Cambridge, Massachusetts, 02138.

5 **Q2. Did you prepare direct testimony in this proceeding, filed on June 3, 2005?**

6 A2. Yes. Appendix R-A provides an updated copy of my qualifications.

7 **Q3. What is the purpose of your rebuttal testimony?**

8 A3. I have been asked by Arizona-American Water Company ("Arizona-American") to review the
9 Direct Testimony of Dennis Rogers ("Rogers Testimony") on behalf of the Staff of the
10 Arizona Corporation Commission and the Direct Testimony of William A. Rigsby ("Rigsby
11 Testimony") on behalf of the Residential Utility Consumer Office, and, if necessary, to
12 respond to statements made in those documents related to areas covered in my own direct
13 testimony ("Kolbe Direct").

14 **Q4. Before you turn to your review, what are the various recommended allowed rates of**
15 **return on equity for Paradise Valley?**

16 A4. They are:¹
17

¹ These values include all three testimonies' adjustments for financial risk.

Source	Range	Recommendation
Kolbe Direct, p. 11	12%-13%	12.5%
Rogers Testimony, Executive Summary	10.2%-10.6%	10.4%
Rigsby Testimony, pp. 32-33	9.13%-11.05%	10.00%

1 I understand that the Company has requested a return on equity of 12.0 percent.²

2 **Q5. Please summarize the results of your review.**

3 **A5.** I address the Rogers Testimony and the Rigsby Testimony in turn.

4 **Rogers Testimony:** I agree with Mr. Rogers's decision to make an explicit adjustment for
5 capital structure differences between his sample companies and the Paradise Valley Water
6 Company ("Paradise Valley"), and with his decision to base the adjustment on a formal
7 method from the financial literature, adapted from a method developed in a paper by Prof.
8 Robert S. Hamada.³ However, Mr. Rogers's calculations unfortunately do not actually reflect
9 the cited Hamada procedure for making that adjustment, since the Hamada paper relied on
10 *market-value* capital structures, not *book-value* capital structures. Additionally, the Hamada
11 technique is from a 1969 paper. The intervening three and a half decades have taught us much
12 more about the interaction of the cost of equity and capital structure than was known in 1969.

13 The capital structure procedures in the Kolbe Direct reflect the current state of
14 knowledge about the interaction of capital structure and the cost of equity. I show below that
15 Mr. Rogers is not correct to say that use of these principles for rate-regulated companies has
16 the effect of guaranteeing the market value of the company in question, nor will it lead to an
17 upward spiral of market values and allowed rates of return -- just the opposite. Since the after-

² Direct Testimony of David P. Stephenson, June 3, 2005, p. 8.

³ Rogers Testimony, pp. 34-5.

1 tax weighted-average cost of capital ("ATWACC") reflects the sample's underlying business
2 risk and is insensitive to capital structure, the rates of return on a regulated company's book
3 assets *and* on its book equity are not affected at all by changes in the sample's capital structure,
4 cost of equity estimation errors aside. No other result is possible with a flat ATWACC.

5 Mr. Rogers also asserts the merits of the market-to-book test of utility returns, but
6 without addressing the problems with that test described in the Kolbe Direct.⁴ My direct shows
7 that were the market-to-book test valid, the cost of equity for utilities would be absurdly low,
8 below the cost of long-term Treasury debt or even negative.⁵ That cannot be correct, so the
9 market-to-book test cannot be valid. Mr. Rogers does not dispute this demonstration, but
10 instead says that the underlying methodology works for bonds, so it must work for stocks.
11 That conclusion does not logically follow. To the contrary, the view that we understand the
12 processes that underlie stock prices well enough to rely on the market-to-book test is,
13 unfortunately, based on pure assumption, not the evidence. The evidence contradicts the
14 assumption.

15 **Rigsby Testimony:** I agree with Mr. Rigsby's decision to adjust for differences in financial
16 risk between Paradise Valley and his sample companies, but I disagree with his failure to
17 provide any analysis of how much adjustment is needed.

18 I am not sure how to respond to Mr. Rigsby's dismissal of the principles set out in the
19 Kolbe Direct as "an interesting exercise in academia." All of the methods used by modern
20 cost-of-capital witnesses are based on academic research. As Mr. Rogers notes, those

⁴ Kolbe Direct, pp. 25-33.

⁵ Kolbe Direct, Figure 6, p. 31.

1 responsible for the Capital Asset Pricing Model have been awarded Nobel Prizes.⁶ Myron J.
2 Gordon, source of the "Gordon growth model," which has come to be called the "Discounted
3 Cash Flow" model, is himself a professor. I do not understand why Mr. Rigsby would rely on
4 those academic results, but disparage reliance on the very large body of scholarly research
5 initiated by the 1958 paper of Profs. Modigliani and Miller, also recipients of the Nobel Prize.
6 Nor does Mr. Rigsby provide a reasoned refutation of that branch of the academic literature.
7 Absent such a refutation, I would submit that the literature on capital structure is no less
8 deserving of reliance than the literature on cost of capital estimation methods.

9 The results of that research, described in the Kolbe Direct, are both well established
10 and directly applicable to rate-regulated companies, whose stocks, after all, trade in exactly the
11 same capital markets as those of the companies in a "truly competitive environment"
12 mentioned by Mr. Rigsby. I show again below that the effect on the stock price of a loss in the
13 market value of the underlying assets depends just as much on the company's market-value
14 capital structure for a utility as for a competitive company (or, for that matter, as for an
15 unregulated monopoly). Mr. Rigsby's dismissal of this particular branch of the academic
16 literature is unwarranted.

17 As further evidence that the principles on which I rely are relevant for rate-regulated
18 companies, I would note that regulators in countries (e.g., Australia, New Zealand, and the
19 United Kingdom) that commenced rate regulation in recent times, with the benefit of access to
20 this modern literature, have adopted procedures consistent with these principles. The same
21 principles have been recognized in this country by the Surface Transportation Board and the
22 Missouri Public Service Commission.

⁶ Rogers Testimony, p. 27.

1 Then he provides a numerical example of the problems he envisions.

2 **Q9. Do you agree?**

3 A9. No. The passage suggests that I may not have been clear about what Dr. Vilbert and I do and
4 how we implement my recommendations. Our procedures are in no way premised on the
5 assumption that the Commission is obligated to maintain stock prices, nor is that their effect.
6 The difference between what we intend and the process envisioned by Mr. Rogers is perhaps
7 most easily illustrated by expanding the Rogers Testimony's numerical example and correcting
8 its contents to show our actual procedures.

9 **Q10. Please review Mr. Rogers's numerical example.**

10 A10. The example is contained in Mr. Rogers's Table 4, p. 37. Table R-1 below reproduces the
11 example (hereafter simply, "Table 4"). The example postulates a market-to-book ratio of 3 for
12 the company's equity, so that \$50 of book equity is worth \$150 in the stock market. Table 4
13 reports the overall WACC (i.e., the weighted average of the cost of equity and the pre-tax cost
14 of debt) at both market-value and book-value weights. (Recall that the ATWACC is instead
15 calculated with the after-tax cost of debt.) Importantly, the example keeps the cost of equity
16 constant at 10% in both cases. Mr. Rogers concludes from this example that the use of market-
17 value weights increases the WACC by 0.5 percent, which he feels is inappropriate.

Table R-1
Version 1: Table 4

	<u>Market-Value Capital Structure</u>				<u>Book-Value Capital Structure</u>			
	<u>Dollars</u>	<u>Percent</u>	<u>Cost</u>	<u>WACC</u>	<u>Dollars</u>	<u>Percent</u>	<u>Cost</u>	<u>WACC</u>
<u>Equity</u>	\$150	75%	10%	7.5%	\$50	50%	10%	5.0%
<u>Debt</u>	\$50	25%	8%	2.0%	\$50	50%	8%	4.0%
<u>ROR/WACC</u>				9.5%				9.0%

1 **Q11. How does this table fail accurately to reflect your recommendations and procedures?**

2 A11. The easiest way to respond is to walk through the ways in which the table needs to be changed
3 to reflect our procedures. This demonstration will involve a series of modifications to the
4 original version of Table 4. In particular, if I designate "Version 1" to be Table 4 as it
5 originally appears, reproduced above, the demonstration will involve:

6 Version 1. The original Table 4, my Table R-1 above;

7 Version 2. A reproduction of Table 4 with both the ATWACC and the after-tax *dollar*
8 returns on both market and book value added;

9 Version 3. A correction of the second version to hold the ATWACC constant, which is
10 what I recommend; and

11 Version 4. A revision of the third version to show approximately the magnitudes of the
12 relative market and book values and the cost of capital values that underlie my
13 direct testimony, included for comparison.

14 **Q12. You indicated that "Version 2" adds some items. Please provide "Version 2" and discuss
15 the items it adds.**

16 A12. The second version appears as Table R-2.

Table R-2

Version 2: Table 4 with Dollar Return and ATWACC Added

	<u>Market-Value Capital Structure</u>				<u>Book-Value Capital Structure</u>			
	<u>Dollars</u>	<u>Percent</u>	<u>Cost</u>	<u>WACC</u>	<u>Dollars</u>	<u>Percent</u>	<u>Cost</u>	<u>WACC</u>
<u>Equity</u>	\$150	75%	10%	7.5%	\$50	50%	10%	5.0%
<u>Debt</u>	\$50	25%	8%	2.0%	\$50	50%	8%	4.0%
<u>Totals (\$/%)</u>	\$200			9.5%	\$100			9.0%

	<u>After-Tax</u>		<u>After-Tax</u>	
	<u>ATWACC</u>	<u>Dollar Return</u>	<u>ATWACC</u>	<u>Dollar Return</u>
<u>Equity</u>	7.5%	\$15.00	5.0%	\$5.00
<u>Debt</u>	1.2%	\$2.40	2.4%	\$2.40
<u>Totals (\$/%)</u>	8.7%	\$17.40	7.4%	\$7.40

1 The top half of Table R-2 is identical to Table 4, except that it adds up the dollar
 2 market and book values to show the total asset value, in addition to the percentage
 3 “ROR/WACC.” The line label therefore is changed to “Totals (\$/%)”

4 The bottom half of the table adds quantities necessary to evaluate Mr. Rogers’s claims
 5 about our procedures. In particular, based on the decades of economic research discussed in
 6 my direct testimony (particularly in Appendix B), Dr. Vilbert and I treat the ATWACC as
 7 constant. However, Table 4 does not report the ATWACC associated with its assumptions, so
 8 it is not possible to see directly whether the table is consistent or inconsistent with our
 9 procedures. Additionally, while Mr. Rogers mentions “an ongoing rising spiral between
 10 revenues and stock prices,” Table 4 does not show the dollar returns implied by a particular
 11 rate of return applied to either the market or the book value of equity, debt, or assets.
 12 Accordingly, it is not possible to determine directly the associated revenues, either. The
 13 bottom half of Version 2 therefore adds both ATWACCs and dollar returns to the original
 14 Table 4.

1 These additions show that the ATWACC is *not* held constant between the market-
2 value and the book-value capital structures in the original Table 4. The ATWACC on the
3 market-value capital structures is 8.7 percent, while that on the book-value capital structures is
4 only 7.4 percent. (Compare the percentages in boldface and a larger font.) That could only be
5 economically appropriate if the *business* risk of the sample generating the market-value capital
6 structure data were much higher than the business risk of the entity associated with the book-
7 value capital structure. If the two are supposed to have comparable business risk, Table 4
8 provides an inadequate rate of return on the book-value capital structure.

9 Table R-2's Version 2 also shows that there are very different dollar values associated
10 with the market-value and book-value capital structures. The dollar return to the market-value
11 of assets is \$17.40, while that on the book-value of assets is only \$7.40. (Compare the dollar
12 numbers in boldface and italics.) While the market-to-book value of assets is 2.0 in Table 4
13 (i.e., \$200/\$100), the ratio of the dollar return on assets is materially higher, at 2.35 (i.e.,
14 \$17.40/\$7.40). This is another sign of a mismatch in the underlying business risk assumptions.

15 **Q13. Please present Version 3 and explain how it differs from Version 2.**

16 **A13. Version 3 is in Table R-3.**

Table R-3

Version 3: Corrected Table 4 with Dollar Return and ATWACC Added

	<u>Market-Value Capital Structure</u>				<u>Book-Value Capital Structure</u>			
	<u>Dollars</u>	<u>Percent</u>	<u>Cost</u>	<u>WACC</u>	<u>Dollars</u>	<u>Percent</u>	<u>Cost</u>	<u>WACC</u>
<u>Equity</u>	\$150	75%	10%	7.5%	\$50	50%	12.6%	6.3%
<u>Debt</u>	\$50	25%	8%	2.0%	\$50	50%	8%	4.0%
<u>Totals (\$/%)</u>	\$200			9.5%	\$100			10.3%

	<u>After-Tax</u>		<u>After-Tax</u>	
	<u>ATWACC</u>	<u>Dollar Return</u>	<u>ATWACC</u>	<u>Dollar Return</u>
<u>Equity</u>	7.5%	\$15.00	6.3%	\$6.30
<u>Debt</u>	1.2%	\$2.40	2.4%	\$2.40
<u>Totals (\$/%)</u>	8.7%	\$17.40	8.7%	\$8.70

1 This version adopts my recommendation to keep the ATWACC the same for both the
 2 market-value and the book-value capital structures. This is economically appropriate if the
 3 underlying business risk of the two halves of Table 4 is supposed to be the same. To achieve
 4 this end, the cost of equity is increased to reflect the additional financial risk equityholders bear
 5 when moving from the market-value capital structure, at which the cost of equity is estimated,
 6 to the the book-value capital structure, on which rate regulation is based. (See the figure in
 7 boldface near the upper right corner of the table.) The result is an 8.7 percent ATWACC in
 8 both halves of the table, as shown on the last line.

9 Note also that while correcting the example increases the book rate of return on equity
 10 and the ATWACC, they do *not* increase to the point where they provide the same dollar return
 11 on book value as on market value. Now, the dollar return on the book-value capital structure is
 12 \$8.70 (boldface italics, last line), exactly one half of that on the market-value capital structure.
 13 Thus, the dollar return has the same 2.0 ratio (i.e., \$17.40/\$8.70) as the assets do (i.e.,
 14 \$200/\$100).

1 Q14. Is there a way to depict the basic message of Versions 1 to 3 in Tables R-1 to R-3 in a
 2 figure?

3 A14. Yes, Figure R-1 does so. The leftmost pair of columns in Figure R-1 depict the sample's
 4 ATWACC and cost of equity, which are the same in both the original version and the corrected
 5 version. (The ATWACC column shows the shares going to debt and equity separately, to
 6 facilitate comparisons with the other versions.) The middle pair of columns show the original
 7 Table 4 approach for the regulated company, which is to keep the cost of equity constant and
 8 let the ATWACC decline. The last pair shows the corrected approach for the regulated
 9 company, which keeps the ATWACC constant by raising the cost of equity accordingly.

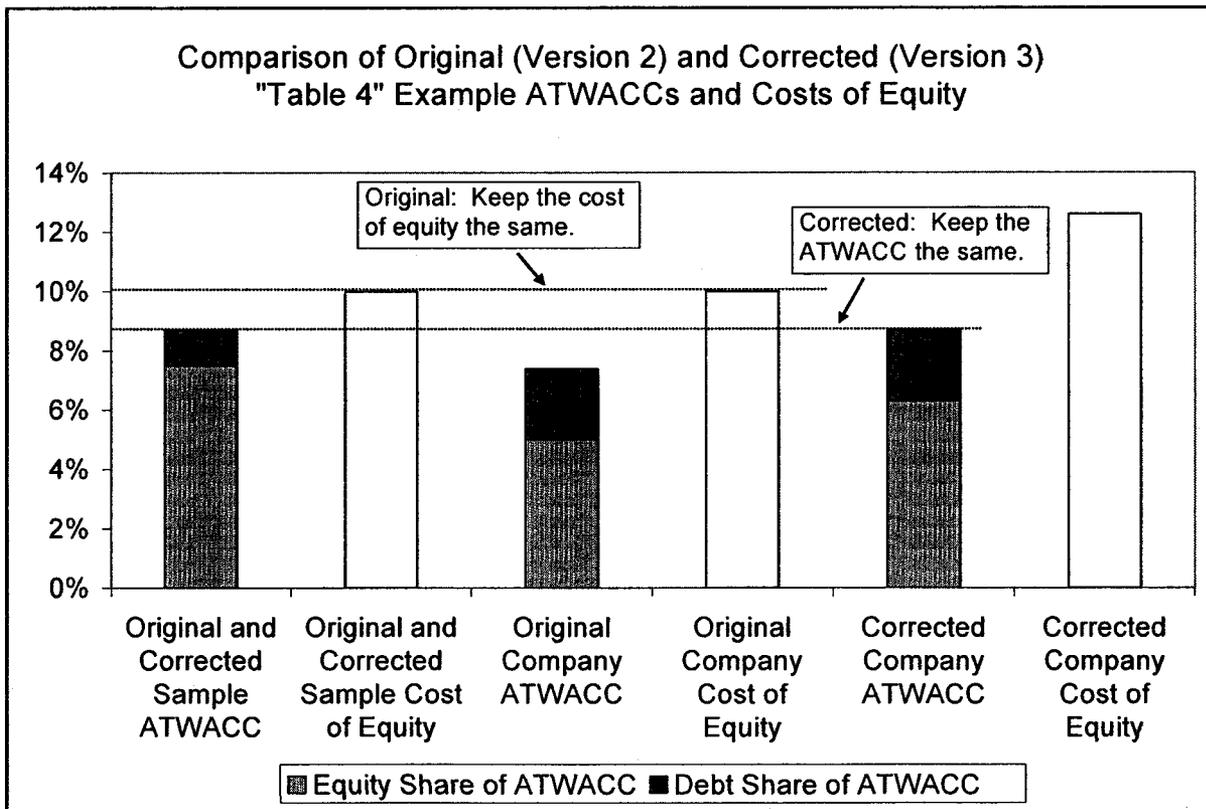


Figure R-1

1 Please recall that the problem with the original Table 4 example is that it keeps the cost
2 of equity the same even though the capital structures vary sharply between the sample and the
3 regulated company. The cost of equity at a lower equity ratio does not offer adequate
4 compensation for the higher level of financial risk at that equity ratio. As explained in my
5 original testimony, particularly in its Appendix B, decades of scholarly research lead to the
6 conclusion that the ATWACC is *not* sensitive to capital structure, which means the cost of
7 equity is very sensitive to capital structure (because unless the cost of equity goes up as the
8 share of equity goes down, the after-tax weighted-average cost of capital cannot stay constant).
9 Therefore, the correct quantity to hold constant is the ATWACC, not the cost of equity.
10 Version 3 makes this correction, which permits calculation of the higher cost of equity that the
11 sample would have had, estimation errors aside, if its actual capital structure had been the same
12 as the company's ratemaking capital structure. That provides an equivalent rate of return for
13 equivalent business risk.

14 **Q15. Please present and describe Verison 4 of Table 4.**

15 A15. Table R-4 presents the fourth version, which corresponds approximately to the actual situation
16 presented in my direct testimony.

Table R-4

Version 4: Corrected Table 4 with Dollar Return and ATWACC Added, at Approximate Kolbe Testimony Values

	<u>Market-Value Capital Structure</u>				<u>Book-Value Capital Structure</u>			
	<u>Dollars</u>	<u>Percent</u>	<u>Cost</u>	<u>WACC</u>	<u>Dollars</u>	<u>Percent</u>	<u>Cost</u>	<u>WACC</u>
<u>Equity</u>	\$106	66%	8.4%	5.6%	\$37	36.7%	12.5%	4.6%
<u>Debt</u>	\$54	34%	5.6%	1.9%	\$63	63.3%	5.6%	3.5%
<u>Totals (\$/%)</u>	\$160			7.5%	\$100			8.1%
	<u>After-Tax</u>				<u>After-Tax</u>			
	<u>ATWACC</u>	<u>Dollar Return</u>			<u>ATWACC</u>	<u>Dollar Return</u>		
<u>Equity</u>	5.6%	\$8.89			4.6%	\$4.57		
<u>Debt</u>	1.1%	\$1.83			2.1%	\$2.13		
<u>Totals (\$/%)</u>	6.7%	\$10.72			6.7%	\$6.70		

1 The ATWACC is about 6.7 percent, not 8.7. The ratio of the market value of assets to
 2 the book value of assets is about 1.6, not 2.0. The debt rate is about 5.6 percent, and the initial
 3 estimate of the cost of equity, reflecting the very low level of financial risk at the market-value
 4 capital structure, is only about 8.4 percent. However, Paradise Valley's ratemaking capital
 5 structure (which is based on Arizona-American's) contains much less equity than the sample's
 6 market-value capital structure, so its equity bears much more financial risk. It takes a 12.5
 7 percent return on equity at Paradise Valley's low equity ratio to produce the market-derived
 8 6.7 percent ATWACC.

9 While the percentage return on equity is higher for Paradise Valley than for the sample,
 10 however, the *dollar* return on equity is much smaller, at \$4.57, because the percentage of
 11 equity is so low. The total dollar returns on assets at the market-value and book-value capital
 12 structures are \$10.72 and \$6.70, respectively, which matches the underlying 1.6 ratio of the
 13 market value of assets to the book value of assets.

1 **Q16. What conclusions emerge from the four versions of Table 4 presented above?**

2 A16. First, Table 4 as originally presented does not reflect our procedures, since it does not produce
3 the same ATWACC for both the market-value and book-value capital structures. Second,
4 Table 4 as originally presented grants an inadequate return on the book value of assets, because
5 the overall rate of return is far below that which the market requires for the underlying level of
6 business risk.

7 Third, my recommendations clearly do *not* aim at maintaining the market-value of the
8 assets. If investors were expecting a dollar return on rate base equal to the dollar return on
9 market value (i.e., \$10.72 on assets or \$8.89 on equity, in Version 4), they would be sorely
10 disappointed by our recommended \$6.70 on assets and \$4.57 on equity. Our procedures do not
11 focus in any way on maintaining the stock price or trying to achieve a particular dollar return
12 for investors. To the contrary, we derive the market-determined *rate* of return for the given
13 level of business risk, and then apply that rate of return to the *book*-value rate base.

14 Figure R-2 illustrates this fact. The two left-hand pairs of columns in Figure R-2 depict
15 the dollar returns on the Table 4 example's sample and the *corrected* dollar returns on the
16 example's book rate base. The two right-hand pairs of columns depict the same data for
17 Paradise Valley. Both sets of regulated company numbers (i.e., the second and fourth pairs of
18 columns) follow our procedure of setting the cost of equity to the level that produces the same
19 ATWACC. And both times the resulting dollar amounts are materially below the dollar
20 amounts associated with the samples' values (i.e., the first and third pairs of columns).

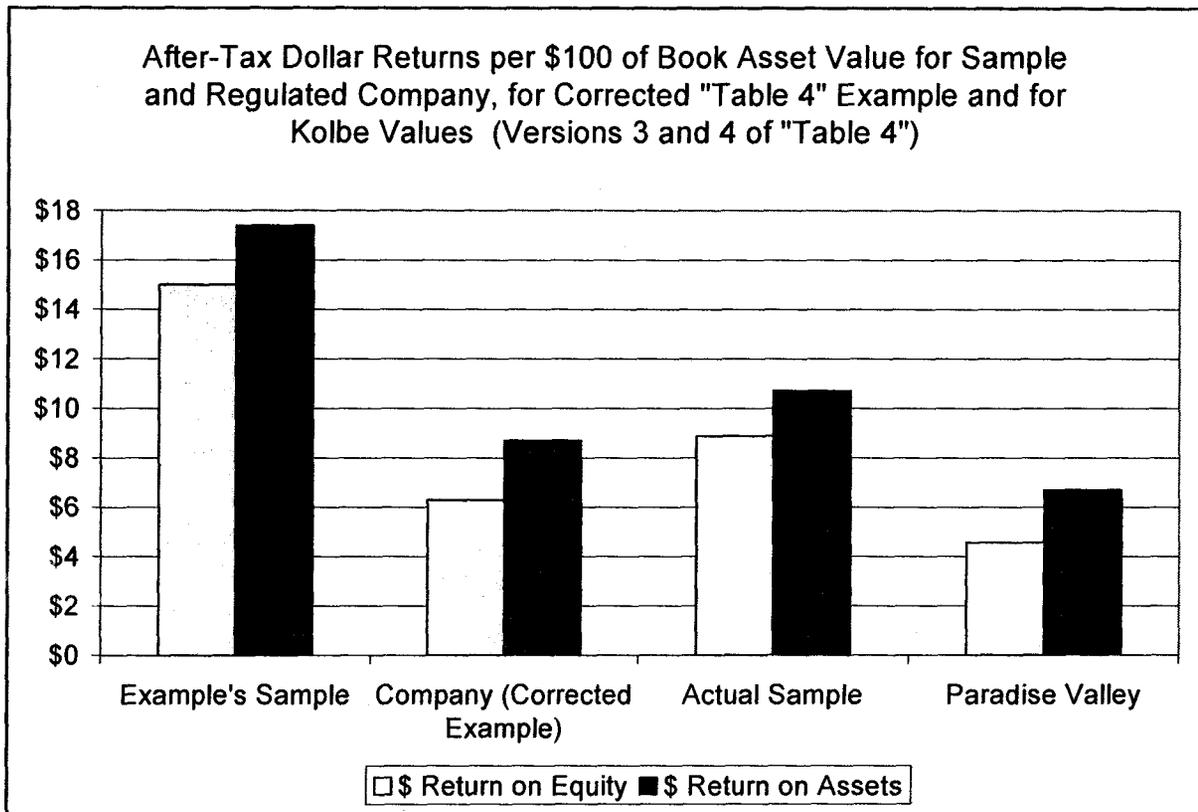


Figure R-2

1 Q17. But how can there be such a large discrepancy between the dollar return expected on
2 market value and the dollar return expected on the rate base?

3 A17. The answer to that question is the answer to the question of how market prices are set and why
4 market-to-book ratios are so high. Anyone who can definitively answer that question will soon
5 be very rich, very famous, or both. However, with one exception, I would like to defer further
6 discussion of that topic until the next section of my rebuttal, where I address the comments
7 made on my market-to-book ratio testimony.

8 Q18. What is the "one exception"?

1 A18. I would like to make clear that I strongly agree with the view expressed by Mr. Rogers that no
2 regulatory commission is obligated to maintain stock prices. Economically, the issue appears
3 to be equivalent to a statement in the *Hope* decision, “[t]he heart of the matter is that rates
4 cannot be made to depend upon ‘fair value’ when the value of the going enterprise depends on
5 earnings under whatever rates may be anticipated,”⁷ if the words “market value” are substituted
6 for “fair value.” A commission that attempted to maintain market value at any particular level
7 (*including* at book value) would enter into a circular exercise with investors, in which the
8 commission tried to determine why investors were paying a particular price and how they
9 would react to a possible decision, while part of the reason investors pay that price is their
10 current forecast of what that decision is going to be. To reach a decision, regulators would
11 have to start guessing what investors were guessing about what regulators were about to do.

12 Here I disagree not with the philosophy expressed by Mr. Rogers, but with the
13 suggestion that the procedures Dr. Vilbert and I use are in any way inconsistent with that
14 philosophy.

15 **Q19. All right. Are there any other capital-structure topics in Mr. Rogers’s testimony to**
16 **discuss before you turn to those in Mr. Rigsby’s testimony?**

17 A19. Yes, two, one related to the Mr. Rogers’s claim that the use of market-value capital structures
18 in analyzing sample risk-return data leads to a “perpetual upward cycle,” and one relating to
19 the procedure he uses to adjust for financial risk.

20 **Q20. Please discuss the first of these.**

⁷ *Federal Power Commission v. Hope Natural Gas* 320 U.S. 591 (1944) at 601.

1 A20. It simply is not correct that increasing revenues due to use of market-value capital structures in
2 the analysis “in turn, increases market values resulting a perpetual upward cycle.” The reason
3 is illustrated in Table R-5, below.

4 Table R-5 first replicates Version 4 from Table R-4, above, to facilitate comparisons
5 with two alternative cases, one with a higher sample equity market-to-book ratio and one with
6 a lower sample equity market-to-book ratio. In particular, Version 5 is the same as Version 4
7 except that the market value of the equity happens to have increased by an additional \$25, for
8 whatever reason. Version 6 is the same as Version 4, except the market value of equity is \$25
9 smaller. (The new equity values are shown in boldface italics near the upper left corners of
10 each Version; the implied new market-value capital structures are in boldface right next to the
11 new equity number.)

Table R-5

Version 4: Corrected Table 4 with Dollar Return and ATWACC Added, at Approximate Kolbe Testimony Values

	<u>Market-Value Capital Structure</u>				<u>Book-Value Capital Structure</u>			
	<u>Dollars</u>	<u>Percent</u>	<u>Cost</u>	<u>WACC</u>	<u>Dollars</u>	<u>Percent</u>	<u>Cost</u>	<u>WACC</u>
<u>Equity</u>	\$106	66%	8.4%	5.6%	\$37	36.7%	12.5%	4.6%
<u>Debt</u>	\$54	34%	5.6%	1.9%	\$63	63.3%	5.6%	3.5%
<u>Totals (\$/%)</u>	\$160			7.5%	\$100			8.1%
	<u>After-Tax</u>				<u>After-Tax</u>			
	<u>ATWACC</u>	<u>Dollar Return</u>			<u>ATWACC</u>	<u>Dollar Return</u>		
<u>Equity</u>	5.6%	\$8.89			4.6%	\$4.57		
<u>Debt</u>	1.1%	\$1.83			2.1%	\$2.13		
<u>Totals (\$/%)</u>	6.7%	\$10.72			6.7%	\$6.70		

Version 5: Version 4 with a Higher Market Value of Equity, Otherwise Approximate Kolbe Testimony Values

	<u>Market-Value Capital Structure</u>				<u>Book-Value Capital Structure</u>			
	<u>Dollars</u>	<u>Percent</u>	<u>Cost</u>	<u>WACC</u>	<u>Dollars</u>	<u>Percent</u>	<u>Cost</u>	<u>WACC</u>
<u>Equity</u>	\$131	71%	8.1%	5.7%	\$37	36.7%	12.5%	4.6%
<u>Debt</u>	\$54	29%	5.6%	1.6%	\$63	63.3%	5.6%	3.5%
<u>Totals (\$/%)</u>	\$185			7.4%	\$100			8.1%
	<u>After-Tax</u>				<u>After-Tax</u>			
	<u>ATWACC</u>	<u>Dollar Return</u>			<u>ATWACC</u>	<u>Dollar Return</u>		
<u>Equity</u>	5.7%	\$10.57			4.6%	\$4.57		
<u>Debt</u>	1.0%	\$1.83			2.1%	\$2.13		
<u>Totals (\$/%)</u>	6.7%	\$12.39			6.7%	\$6.70		

Version 6: Version 4 with a Lower Market Value of Equity, Otherwise Approximate Kolbe Testimony Values

	<u>Market-Value Capital Structure</u>				<u>Book-Value Capital Structure</u>			
	<u>Dollars</u>	<u>Percent</u>	<u>Cost</u>	<u>WACC</u>	<u>Dollars</u>	<u>Percent</u>	<u>Cost</u>	<u>WACC</u>
<u>Equity</u>	\$81	60%	9.0%	5.3%	\$37	36.7%	12.5%	4.6%
<u>Debt</u>	\$54	40%	5.6%	2.3%	\$63	63.3%	5.6%	3.5%
<u>Totals (\$/%)</u>	\$135			7.6%	\$100			8.1%
	<u>After-Tax</u>				<u>After-Tax</u>			
	<u>ATWACC</u>	<u>Dollar Return</u>			<u>ATWACC</u>	<u>Dollar Return</u>		
<u>Equity</u>	5.3%	\$7.22			4.6%	\$4.57		
<u>Debt</u>	1.4%	\$1.83			2.1%	\$2.13		
<u>Totals (\$/%)</u>	6.7%	\$9.04			6.7%	\$6.70		

1 Consider Verison 5, in which the market value of equity is \$131, not \$106, and the
2 market value of the firm as a whole is \$185, not \$160. The market-value equity ratio is up to
3 71 percent. Does this mean that the rate of return on equity for the book rate base that is
4 recommended by our procedures will go up? No!

5 **Q21. Why not?**

6 A21. Because the sample ATWACC is exactly the same, at 6.7 percent. The higher proportion of
7 equity implies the sample's shareholders will be exposed to less financial risk. Estimation
8 errors aside, the measured market cost of equity will be lower, at 8.1 percent instead of 8.4
9 percent, producing the same 6.7 percent ATWACC. When that ATWACC is applied to the
10 book-value capital structure used to make rates, the outcome is the same rate of return on
11 equity as derived at the original, Version 4 capital structure. The market automatically corrects
12 the cost of equity for the change in capital structure, and no "perpetual upward cycle" due to an
13 "ongoing rising spiral between revenues and stock prices" results. Instead, the regulated firm's
14 revenues are based on the ATWACC and so are independent of the sample's precise capital
15 structure. That is what a flat ATWACC *means*.

16 Version 6 shows that a reduction in the market value of equity similarly has no effect
17 on the ATWACC, since that quantity reflects the underlying business risk of the assets and is
18 not sensitive to the financial risk to which equity is exposed. Therefore, a decrease in the
19 proportion of equity in the sample's capital structure, estimation errors aside, also has no effect
20 on the recommended rate of return on book asset value. In Version 6 the sample's market-
21 derived cost of equity goes up to 9.0 percent from 8.4 percent, not down as in Version 5. The
22 reason is that the level of financial risk is higher when the proportion of equity is lower. But

1 the ATWACC and the cost of equity that corresponds to the regulated company's ratemaking
2 capital structure do not change at all, so the revenue requirement and the rates customers pay
3 do not change at all, either.

4 In short, the right-hand half of Table R-5, depicting the returns on rate base for the
5 regulated entity, is *exactly the same* in all three Versions.

6 **Q22. Can you illustrate this finding in a figure?**

7 A22. Yes. Figure R-3 depicts the key results from Table R-5. The four pairs of columns show the
8 cost of equity and ATWACC for, respectively, the actual sample (Version 4), the sample at a
9 higher equity-to-value ratio (Version 5), the sample at a lower equity-to-value ratio (Version
10 6), and Paradise Valley. Since the sample ATWACCs do not change as the market value
11 capital structure changes, neither does the ATWACC or cost of equity for Paradise Valley.
12 The Paradise Valley revenue requirement is the same in all three versions.

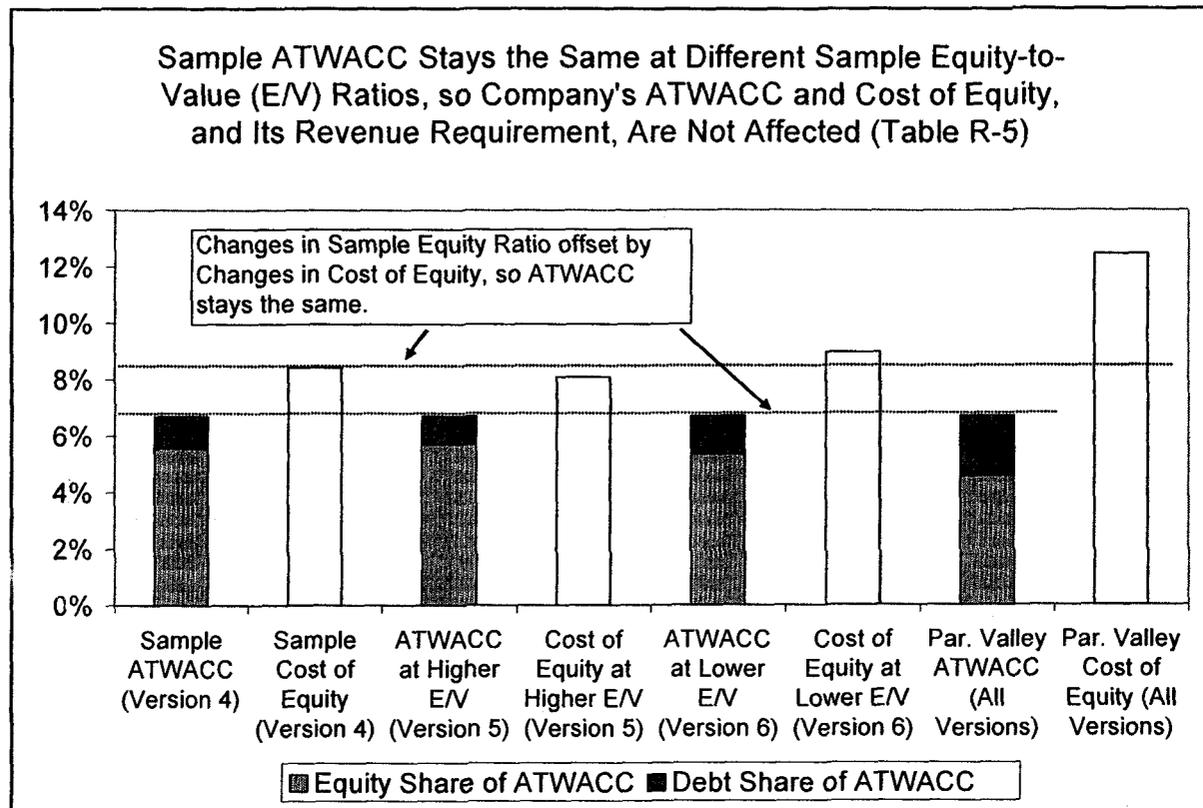


Figure R-3

1 **Q23. Above, you mentioned that you have another comment on the capital structure**
 2 **discussions in Mr. Rogers's testimony, regarding his adjustment for financial risk. What**
 3 **is that?**

4 **A23. At pp. 34-35, Mr. Rogers states that he relies on a procedure developed by Prof. Hamada to**
 5 **adjust for the difference between the book-value capital structures of its sample companies and**
 6 **Paradise Valley. As noted at the outset, I agree with the decision to make an explicit**
 7 **adjustment for capital structure differences, and I agree with the decision to base that**
 8 **adjustment explicitly on principles from the financial literature.**

1 However, I must note that the testimony does not in fact follow the Hamada procedure
2 as originally specified. As noted in footnote 27 of the Kolbe Direct, Prof. Hamada's work
3 relies on market-value capital structures, not book-value capital structures.⁸ Additionally, Prof.
4 Hamada's work came before Prof. Miller's 1977 Presidential Address to the American Finance
5 Association, which stressed the importance of personal as well as corporate taxes, and even
6 longer before the wealth of research that underlies the finding that the ATWACC is essentially
7 flat across a broad middle range of capital structures.⁹ Therefore, even use of Prof. Hamada's
8 adjustment with market-value capital structures would not reflect a fully up-to-date application
9 of the academic research.

10 **B. THE RIGSBY TESTIMONY**

11 **Q24. Please turn to the comments on market-value capital structure contained in the Rigsby**
12 **Testimony. What does Mr. Rigsby say on this issue?**

13 **A24. He says at pp. 61-2,**

14 While I believe that Dr. Kolbe's testimony is an interesting exercise in
15 academia, and may have weight in regard to business entities that operate in a
16 truly competitive environment, the higher rate of return that he advocates for
17 PV water is not warranted. While PV Water may have a higher degree of
18 financial risk, as a result of the Company's leveraged capital structure, it is still
19 a regulated entity that can apply for rate relief when the need arises. This being
20 the case, the Company is actually less risky than firms that have nothing to turn
21 to but bankruptcy court when their debt becomes excessively burdensome. The
22 fact that the ACC has allowed cost recovery for increased water-testing costs,

⁸ The Rogers Testimony does not cite the specific paper on which it relies, but the basic Hamada paper on this topic is Robert S. Hamada, "Portfolio Analysis, Market Equilibrium and Corporation Finance, *The Journal of Finance* 24:13-31 (March 1969). See pp. 21-22 of that paper.

⁹ See Appendix B of the Kolbe Direct for citations to and discussion of the relevant literature.

1 deferred Central Arizona Project costs and the costs associated with more
2 stringent levels of arsenic is proof that water utilities in Arizona operate in a
3 favorable regulatory environment which eliminates the need for the higher rates
4 of return advocated by Dr. Kolbe.

5 **Q25. Please comment on these statements.**

6 A25. As noted at the outset of my evidence, the academic literature on capital structure is no less
7 relevant to rate regulation than that on cost of equity estimation. The comments contained in
8 the Rigsby Testimony, essentially to dismiss this branch of the literature, are *non sequiturs*.
9 They address the relative risk of utilities versus unregulated companies, not whether utility
10 shareholders' financial risk depends on market capital structure.

11 To see this, suppose an unregulated company and a utility each suffer a 5 percent fall in
12 the market value of their assets as a result of a general decline in the economy. Table R-6,
13 below, shows how their stocks would fare, per \$100 of asset value, if they started with three
14 different capital structures. The rates of return on assets and equity are highlighted, in boldface
15 for the return on assets and in boldface italics for the return on equity.¹⁰ But which company in
16 the following table is the utility, A or B? It is impossible to tell, because the impact of the fall
17 in market asset value is exactly the same. Nor are the companies' book values affected in any
18 way. If these companies always had the same reaction to fluctuations in the economy, their
19 estimated betas would be exactly the same at equal market-value capital structures, and those
20 betas would increase at an ever-increasing rate as the market-value equity ratio declined.

¹⁰ The table assumes all of the loss in asset value falls on equity even at high capital structures. Letting a (realistic) proportion of the loss fall on debt would complicate the table without changing its implications.

Table R-6
Equity Rate of Return Depends on Market Value Capital Structures for Both
Unregulated Company and Utility (Which One is the Utility?)

	Company A	Company B
Case 1: Market Equity = 70% of Market Assets		
Initial Market Value of Assets	\$ 100.00	\$ 100.00
Change in Market Value of Assets	\$ (5.00)	\$ (5.00)
Percentage Change in Market Value of Assets	-5.0%	-5.0%
Initial Market Value of Debt	\$ 30.00	\$ 30.00
Initial Market Value of Equity	\$ 70.00	\$ 70.00
Change in Market Value of Equity	\$ (5.00)	\$ (5.00)
Percentage Change in Market Value of Equity	-7.1%	-7.1%
Change in Book Value of Equity	\$ -	\$ -
Percentage Change in Book Value of Equity	0.0%	0.0%
Case 2: Market Equity = 50% of Market Assets		
Initial Market Value of Assets	\$ 100.00	\$ 100.00
Change in Market Value of Assets	\$ (5.00)	\$ (5.00)
Percentage Change in Market Value of Assets	-5.0%	-5.0%
Initial Market Value of Debt	\$ 50.00	\$ 50.00
Initial Market Value of Equity	\$ 50.00	\$ 50.00
Change in Market Value of Equity	\$ (5.00)	\$ (5.00)
Percentage Change in Market Value of Equity	-10.0%	-10.0%
Change in Book Value of Equity	\$ -	\$ -
Percentage Change in Book Value of Equity	0.0%	0.0%
Case 3: Market Equity = 30% of Market Assets		
Initial Market Value of Assets	\$ 100.00	\$ 100.00
Change in Market Value of Assets	\$ (5.00)	\$ (5.00)
Percentage Change in Market Value of Assets	-5.0%	-5.0%
Initial Market Value of Debt	\$ 70.00	\$ 70.00
Initial Market Value of Equity	\$ 30.00	\$ 30.00
Change in Market Value of Equity	\$ (5.00)	\$ (5.00)
Percentage Change in Market Value of Equity	-16.7%	-16.7%
Change in Book Value of Equity	\$ -	\$ -
Percentage Change in Book Value of Equity	0.0%	0.0%

1 **Q26. But is it not likely that the utility would be less sensitive to economic fluctuations than a**
2 **competitive company, as Mr. Rigsby suggests?**

3 A26. Absolutely. But that fact says nothing about the whether market-value or book-value capital
4 structure affects the utility's cost of equity. To see this, look at Table R-7, below, in which the
5 fall in Company B's asset value in response to the change in economic conditions is half as
6 great as that of Company A. The impact on Company B's return on assets and return on equity
7 is always one-half that of Company A's. But the risk of Company B's equity increases as the
8 market-value equity ratio shrinks in exactly the same way Company A's does. The risk of
9 Company B's equity, and of any utility's equity, therefore still depends on its market-value
10 capital structure, not its book-value capital structure.

11 Thus, any suggestion that the financial literature is irrelevant because utilities are less
12 risky is flatly incorrect. Whatever the *business* risk of a utility, the level of *financial* risk that
13 its equity bears depends on the utility's market-value capital structure. That level of financial
14 risk directly drives the cost of equity, as estimated according to the models proposed in that
15 branch of the financial literature.

Table R-7
Equity Rate of Return Depends on Market Value Capital Structures for Both
Unregulated Company and Utility Even if Utility is Half as Risky

	Company A	Company B
Case 1: Market Equity = 70% of Market Assets		
Initial Market Value of Assets	\$ 100.00	\$ 100.00
Change in Market Value of Assets	\$ (5.00)	\$ (2.50)
Percentage Change in Market Value of Assets	-5.0%	-2.5%
Initial Market Value of Debt	\$ 30.00	\$ 30.00
Initial Market Value of Equity	\$ 70.00	\$ 70.00
Change in Market Value of Equity	\$ (5.00)	\$ (2.50)
Percentage Change in Market Value of Equity	-7.1%	-3.6%
Change in Book Value of Equity	\$ -	\$ -
Percentage Change in Book Value of Equity	0.0%	0.0%
Case 2: Market Equity = 50% of Market Assets		
Initial Market Value of Assets	\$ 100.00	\$ 100.00
Change in Market Value of Assets	\$ (5.00)	\$ (2.50)
Percentage Change in Market Value of Assets	-5.0%	-2.5%
Initial Market Value of Debt	\$ 50.00	\$ 50.00
Initial Market Value of Equity	\$ 50.00	\$ 50.00
Change in Market Value of Equity	\$ (5.00)	\$ (2.50)
Percentage Change in Market Value of Equity	-10.0%	-5.0%
Change in Book Value of Equity	\$ -	\$ -
Percentage Change in Book Value of Equity	0.0%	0.0%
Case 3: Market Equity = 30% of Market Assets		
Initial Market Value of Assets	\$ 100.00	\$ 100.00
Change in Market Value of Assets	\$ (5.00)	\$ (2.50)
Percentage Change in Market Value of Assets	-5.0%	-2.5%
Initial Market Value of Debt	\$ 70.00	\$ 70.00
Initial Market Value of Equity	\$ 30.00	\$ 30.00
Change in Market Value of Equity	\$ (5.00)	\$ (2.50)
Percentage Change in Market Value of Equity	-16.7%	-8.3%
Change in Book Value of Equity	\$ -	\$ -
Percentage Change in Book Value of Equity	0.0%	0.0%

1 Q27. It is hard to see the pattern that emerges from the above table. Can you provide a graph
2 of the relevant rates of return?

3 A27. Certainly. Figure R-4 does so.

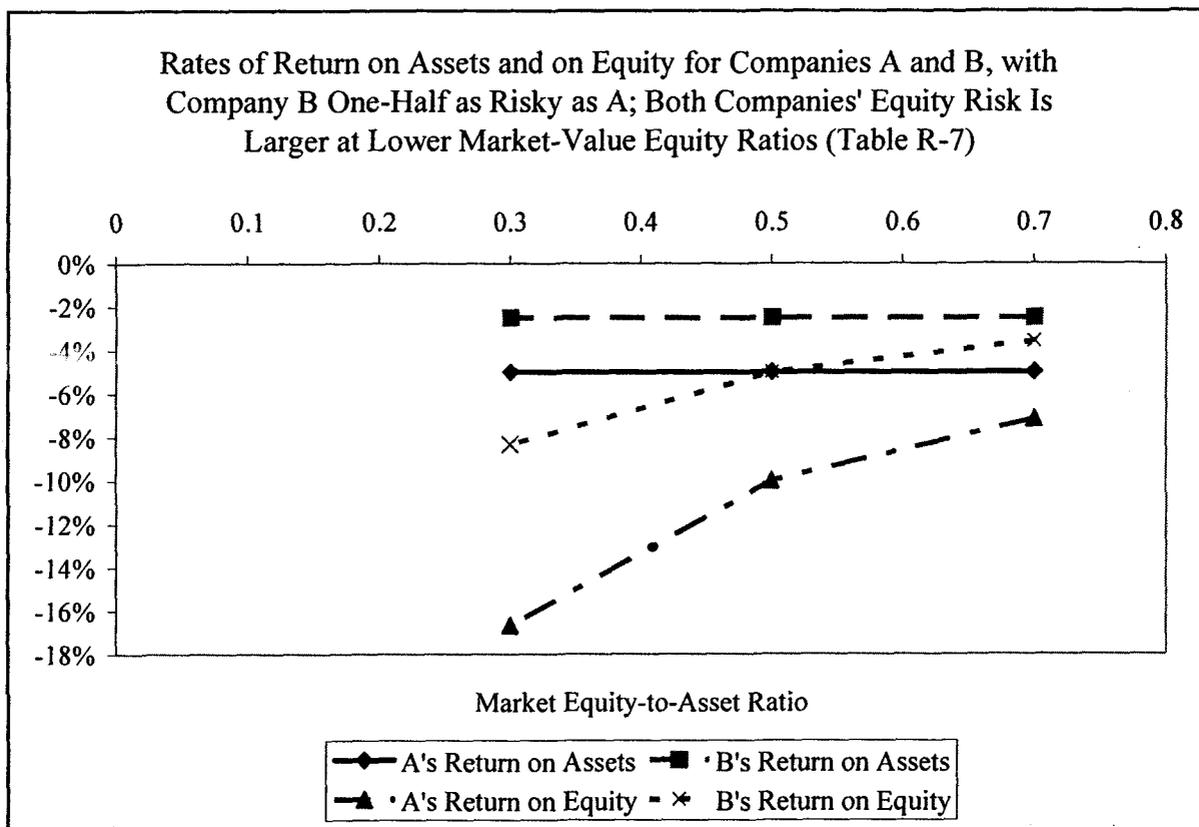


Figure R-4

4 The figure plots the negative rates of return from Table R-7 at the three alternative
5 market equity-to-assets ratios. The two straight lines are the returns on assets, with Company
6 B's being half as severe as Company A's because it is half as risky. The lines with changing
7 slopes are the negative rates of return on equity. Company B's is exactly half as bad as
8 Company A's at every equity ratio. But Company B's equity loss displays exactly the same
9 pattern as Company A's: lower market-value equity ratios mean ever-increasing losses for

1 equity due to a given loss in asset value, for utilities as for any other company. I agree with
2 Mr. Rigsby that utilities are of lower than average business risk, but that fact is simply
3 irrelevant to the question of whether the level of financial risk that utilities do bear depends on
4 their market-value capital structure.

5 **Q28. Does Mr. Rigsby make an adjustment for Paradise Valley's greater financial risk?**

6 A28. Yes, and I certainly endorse the need for an adjustment. Unfortunately, the 50-basis-point
7 adjustment made by Mr. Rigsby appears to be based on no financial model at all. The modern
8 literature on the topic supports a much greater adjustment than made in the Rigsby Testimony.

9 **Q29. Do you have any other comments on the subject of the applicability of market-value
10 capital structures to utilities?**

11 A29. Just one. There is additional evidence that, contrary to the position of the Rigsby Testimony,
12 the principles on which my direct testimony relies are relevant to rate-regulated as well as to
13 unregulated companies. The evidence comes from a source other than the economic literature,
14 however.

15 In the last 15 years or so, other nations have come to understand that the North
16 American model of privately-owned companies overseen by public regulatory bodies offers
17 advantages over public ownership. Government-owned utilities have been "privatized" in
18 countries such as Australia, the United Kingdom, and New Zealand. The regulators of these
19 newly formed companies have had the advantage of access to the modern literature on capital
20 structure, which was not available when North American rate regulation began, and these

1 regulatory bodies have adopted procedures consistent with the recommendations I make in this
2 proceeding.

3 **Q30. Do any U.S. regulatory bodies rely on market-value capital structures?**

4 A30. Yes. The Surface Transportation Board uses market-value weights to determine the required
5 rate of return in railroad "revenue adequacy" determinations.¹¹ Additionally, a recent decision
6 of the Missouri Public Service Commission does so.¹²

7 **III. MARKET-TO-BOOK TEST**

8 **Q31. Do Mr. Rogers and Mr. Rigsby make use of the market-to-book ratio?**

9 A31. Yes. Both pieces of testimony consider it in their DCF analyses.¹³ In doing so, they accept the
10 view that a market-to-book ratio of 1.0 signals that a utility expects to earn its cost of capital.

11 **Q32. Does either piece of testimony address the issues your direct testimony raised with use of
12 the market-to-book ratio to test utility rates of return?**

13 A32. Mr. Rogers comments on my testimony on the topic at p. 36, but I have not found a reference
14 to it in Mr. Rigsby's testimony.

¹¹ See, for example, Surface Transportation Board, *Decision*, STB Ex Parte No. 558 (Sub-No. 9), Railroad Cost of Capital - 2005, Decided: December 19, 2005, p. 1.

¹² See Missouri Public Service Commission, Case No. ER-2004-0570, Tariff File No. YE-2004-1324, for The Empire District Electric Company, issued March 10, 2005.

¹³ Rogers Testimony, pp. 19-23. Rigsby Testimony, p. 15.

1 **Q33. What does Mr. Rogers say?**

2 A33. The p. 36 passage, in its entirety, is,

3 The market anomalies discussed in Dr. Kolbe's testimony to support his
4 assertion do not invalidate fundamental financial concepts, but only show that
5 markets are imperfect. Fundamental to pricing of securities is that they are
6 priced to recognize the present value of expected future cash flows. The
7 relationship of securities to expected cash flows is readily observable in the
8 bond markets where bonds issued with stated interest rate greater (lower) than
9 the market rate sell at premiums (discounts). The same principle applies to
10 stocks. Accordingly, a market-to-book ratio for a stock exceeding 1.0 reflects
11 that investors expect future cash flows to exceed the cost of equity capital. The
12 cost of equity is determined by the market; it is independent of the cost of
13 equity authorized by the Commission in setting rates.

14 **Q34. Please comment on the passage.**

15 A34. With respect, it consists entirely of assertion, unsupported by an analysis of how the problems
16 identified in my direct testimony can possibly leave any room for the market-to-book test to
17 remain valid. My testimony at pp. 25-33 addressed the market-to-book test in detail. It
18 showed that if the market-to-book test is correct, the current cost of equity for utilities is
19 extraordinarily low. For example, please recall Figure 6, p. 31 of the Kolbe Direct (which I
20 reproduce below for convenience).

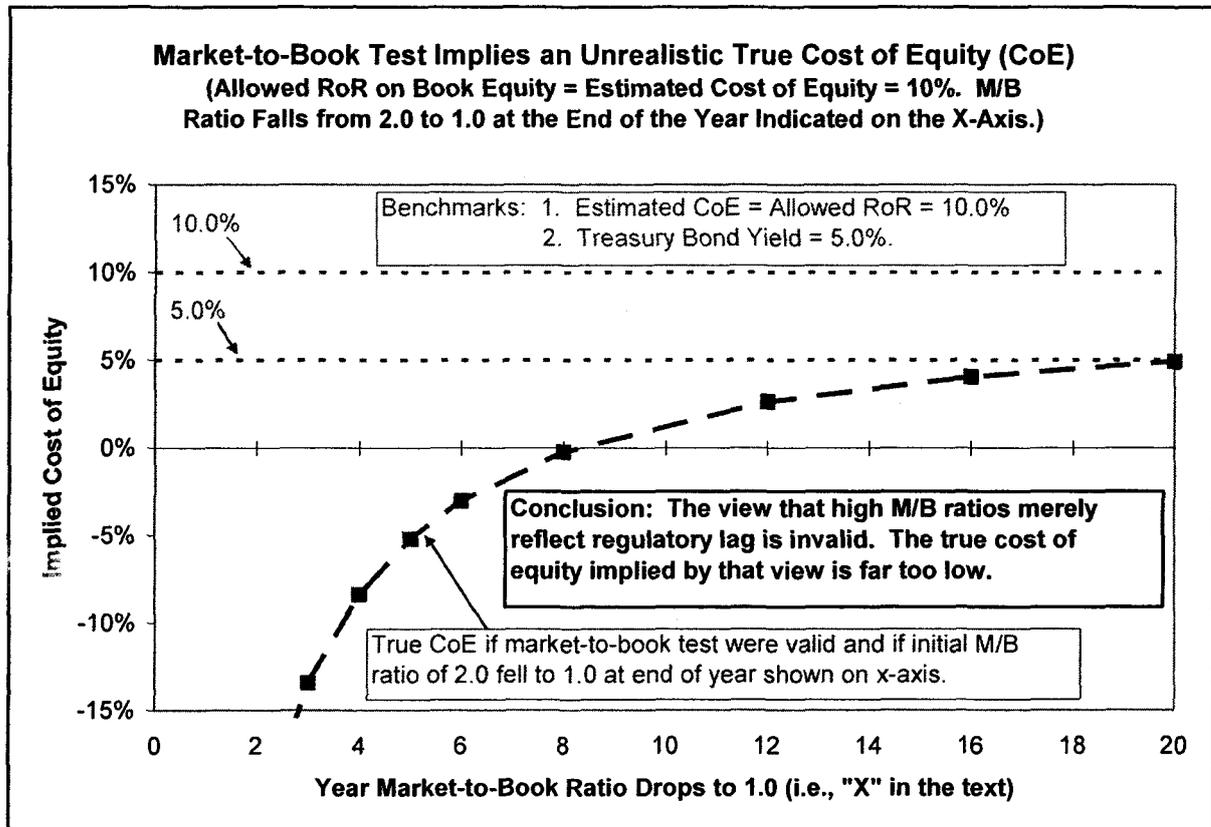


Figure 6 from Kolbe Direct

1 The only question is how low the cost of equity would be if the market-to-book test
2 were somehow valid: "merely" somewhat lower than U.S. Treasury bond yields, much lower
3 than Treasury bond yields, or negative? The calculations that underlie Figure 6 from my direct
4 rely on the standard treatment of a stock's price as the present value of future cash flows,
5 which underlies the market-to-book test. That model plainly does not explain current utility
6 market-to-book ratios. The true model(s) of stock prices is(are) unknown, but must be more
7 complicated than our current knowledge encompasses.

1 **Q35. What about the fact that the present value formulation works well for fixed-income**
2 **securities?**

3 A35. That is enough to support a *hypothesis* that the same model works as well for stocks, but it is
4 clearly not *proof* that the same model works as well for stocks. Saying that what works for
5 bonds necessarily tells us what works for stocks is like saying that if we understand how to
6 build a bicycle, we must understand how to build a car.

7 In the present case, the only way to maintain the hypothesis that the model underlying
8 the market-to-book test works well enough for regulators to rely on the test is to conclude that
9 the cost of equity for utilities is extraordinarily low, and perhaps negative. I think it more
10 reasonable to reject the hypothesis, rather than to accept that utility equity holders at the very
11 least require little or no premium for bearing risk, and possibly are willing to pay money for
12 the "privilege."

13 **Q36. Does this complete your rebuttal testimony?**

14 A36. Yes, it does.

DOCKET NO. WS-01303A-05-0405
Arizona-American Water Company
Appendix to Rebuttal Testimony of A. Lawrence Kolbe

Appendix R-A: QUALIFICATIONS OF A. LAWRENCE KOLBE

Lawrence Kolbe is a Principal of The Brattle Group ("Brattle"), an economic, environmental and management consulting firm with offices in Cambridge (Massachusetts), Washington, London, San Francisco and Brussels. Before co-founding The Brattle Group, he was a Director of Putnam, Hayes & Bartlett, and before that, he was a Vice President of Charles River Associates ("CRA"). Earlier, he was an Air Force officer assigned to the Office of the Secretary of Defense with the job title "Health Economist," and before that, he was assigned to Headquarters, USAF with the job title "Systems Analyst."

His work has included extensive research in financial economics, especially as it applies to rate regulation, project or asset valuation, and the decisions of private firms. Clients for this work include the California Public Utilities Commission, the Consumer Advocate in a Newfoundland proceeding, the Edison Electric Institute, the Electric Power Research Institute, the Interstate Natural Gas Association of America, the Newfoundland Federation of Municipalities, the Nova Scotia Board of Commissioners of Public Utilities, the Town of Labrador City, the U.S. Department of Energy, the U.S. Department of Justice, the U.S. Department of State, and a number of private firms.

He is the coauthor of three books and he has published a number of articles. He is coauthor of a report filed with the British Office of Fair Trading, in London, and he has been an expert witness in: proceedings before the U.S.-U.K. Arbitration Concerning Heathrow Airport Landing Charges (under the auspices of the International Bureau of the Permanent Court of Arbitration) in The Hague, the Iran-United States Claims Tribunal in The Hague, the U.S. Court of Federal Claims, U.S. District Courts in Arizona, Colorado, Florida, New Jersey, Oklahoma, Pennsylvania, Texas and Virginia, the Supreme Court of the State of New Mexico, Colorado District Court, a commercial arbitration tribunal in Australia, a commercial arbitration tribunal held in London concerning a dispute in Australia, the Minerals Management Service of the U.S. Department of the Interior, the Master Settlement Agreement Tobacco Arbitration Panels for the State of Louisiana and the Commonwealth of Massachusetts (which determined fee awards to private counsel assisting the state), and a commercial arbitration in Arizona; federal regulatory proceedings before the Canadian Radio-television and Telecommunications Commission, the [Canadian] National Energy Board, the [U.S.] Postal Rate Commission, the [U.S.] Surface Transportation Board, the U.S. Federal Communications Commission, the U.S. Federal Energy Regulatory Commission and the U.S. Federal Maritime Commission; and state or provincial regulatory proceedings in Alaska, Alberta, Arizona, Arkansas, California, Connecticut, Illinois, Maine, Massachusetts, Michigan, Montana, Newfoundland, New Mexico, New York, Nova Scotia, Ohio, Ontario, Virginia and West Virginia.

He holds a B.S. in International Affairs (Economics) from the U.S. Air Force Academy and a Ph.D. in Economics from the Massachusetts Institute of Technology. Additional information on his qualifications follows.

HONORS AND AWARDS

Sears Foundation National Merit Scholarship, 1963 (declined).
Fairchild Award, U.S. Air Force Academy, 1968 (for standing first in his class, academically).
National Science Foundation Graduate Fellowship in economics, MIT, 1968-1971.

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Appendix to Rebuttal Testimony of A. Lawrence Kolbe

Joint Service Commendation Medal, 1975.

PROFESSIONAL AFFILIATIONS

American Economic Association
American Finance Association
The Econometric Society
Served as Referee for *The Rand Journal of Economics*, *Land Economics*, *The Journal of Industrial Economics*

AVAILABLE PAPERS AND PUBLICATIONS

"Measuring Return on Equity Correctly: Why current estimation models set allowed ROE too low," *Public Utilities Fortnightly* (with Michael J. Vilbert and Bente Villadsen), August 2005.

"The Effect of Debt on the Cost of Equity in a Regulatory Setting," (with Michael J. Vilbert and Bente Villadsen, and with "The Brattle Group" listed as author), published by the Edison Electric Institute (dated January 2005, issued April 2005)

Capital Investment and Valuation, (with Richard A. Brealey and Stewart C. Myers, with "The Brattle Group" listed as third author), New York: McGraw-Hill/Irwin (2003).

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"Compensation for Asymmetric Risks," (with others) Brattle report prepared for GPU PowerNet, Melbourne, Australia (October 1999).

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"A Note on the Pre-tax Weighted Average Cost of Capital in a Regulatory Context with Australian Dividend Tax Credits and Alternative Debt Refinancing Policies" (with M. Alexis Maniatis), Working Paper in Progress.

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"Response to Brown," (with William B. Tye and Stewart C. Myers). *Yale Journal on Regulation*, Vol. 13 (Winter 1996), 414-417.

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"It Ain't In There: The Cost of Capital Does Not Compensate for Stranded-Cost Risk," (with William B. Tye), *Public Utilities Fortnightly*, May 15, 1995.

"Purchased Power: Hidden Costs or Benefits?" (with Sarah Johnson, Johannes P. Pfeifenberger and David W. Weinstein). *The Electricity Journal* 7, 74-83 (September 1994).

The Utility Capital Budgeting Notebook (with others), EPRI TR-104369, Palo Alto, CA: Electric Power Research Institute, September 1994.

"Rate of Return Recommendations in Cable Television Cost-of-Service Regulation" (with Lynda S. Borucki). Brattle report filed in Federal Communications Commission Docket No. 93-215, CS Docket No. 94-28, July 1994.

"Financial and Discount Rate Issues for Strategic Management of Environmental Costs" (with Stewart C. Myers). *Air and Waste Management Association*, Cincinnati, June 1994.

"Banking on NUG Reliability" (with Sarah Johnson and Johannes P. Pfeifenberger). *Public Utilities Fortnightly*, May 15, 1994.

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Arizona-American Water Company
Appendix to Rebuttal Testimony of A. Lawrence Kolbe

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Regulatory Risk: Economic Principles and Applications to Natural Gas Pipelines and Other Industries (with William B. Tye and Stewart C. Myers). Boston: Kluwer Academic Publishers (1993).

"EPA's 'BEN' Model: A Change for the Better?" (with Kenneth T. Wise and M. Alexis Maniatis), *Toxics Law Reporter* 7, 1125-1129 (February 24, 1993).

"Who Pays for Prudence Risk?" (with William B. Tye), *Public Utilities Fortnightly* (August 1, 1992)."

"Types of Risk that Utilities Face," Brattle report prepared for Niagara Mohawk Power Corporation, May 7, 1992.

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Arizona-American Water Company
Appendix to Rebuttal Testimony of A. Lawrence Kolbe

"How Far Back Should Prudence Tests Reach?" (with William W. Hogan). *Public Utilities Fortnightly* (January 15, 1991).

"Practical Implications of the Supreme Court's *Duquesne* Opinion for Regulated Industries" (with William B. Tye). *Public Utilities Fortnightly* (August 30, 1990).

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"Financial Constraints and Electric Utility Capital Requirements," (with Matthew P. O'Loughlin) *Proceedings of the 1989 EPRI Utility Strategic Issues Forum*. Palo Alto, CA: Electric Power Research Institute.

"When Choosing R&D Projects, Go with the Long Shot" (with Peter A. Morris and Elizabeth Olmstead Teisberg). *Research Technology Management* (January-February 1991).

"EPRI PRISM Interim Report: Parcel/Message Delivery Services" (with Richard W. Hodges), PHB report prepared for the Electric Power Research Institute, RP-2801-2 (June 1989), reprinted in S. Oren and S. Smith, eds., *Service Opportunities for Electric Utilities: Creating Differentiated Products*. Boston: Kluwer Academic Publishers (1993).

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"Are Regulatory Risks Excessive? A Test of the Modern Balance between Risk and Reward for Electric Utility Shareholders" (PHB report with Matthew P. O'Loughlin). Division of Coal and Electric Policy, U.S. Department of Energy (May 1986).

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Appendix to Rebuttal Testimony of A. Lawrence Kolbe

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"Regulatory Treatment of Deferred Income Taxes Resulting from Accelerated Depreciation by Motor Carriers" (with William B. Tye and Miriam Alexander Baker). *Transportation Journal* (Spring 1984).

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"A Model of Capital Market Interactions with Utility Strategic Decisionmaking." Presented at the IMACS World Conference on Systems Simulation and Scientific Computation. August 1982.

"Marginal Cost Pricing with Inflation" (with William R. Hughes). Delivered to the IAEE Conference on International Energy Issues. June 1981.

"The Economics of Revenue Need Standards in Motor Carrier General Increase Proceedings" (with William B. Tye and Miriam Alexander Baker). *Transportation Journal* (Summer 1981).

"Flow-Through Versus Normalization of Deferred Income Taxes for Motor Carriers" (with William B. Tye and Miriam Alexander Baker). *Motor Freight Controller* (December 1980).

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Appendix to Rebuttal Testimony of A. Lawrence Kolbe

CRA Reports (Often Written with Others)

"Evaluating the Effects of Time and Risk on Investment Choices: A Comparison of Finance Theory and Decision Analysis" (with Applied Decision Analysis, Inc.). Published by the Electric Power Research Institute. January 1987.

"The 'Abandonment Value' of Shorter Leadtimes" (with Applied Decision Analysis, Inc.). June 1985.

"Rate Shock and Power Plant Phase-In: Discussion Paper of Generic Issues." Published by the Edison Electric Institute. December 1984.

"Choice of Discount Rates for Utility Planning: A Critique of Conventional Betas as Risk Indicators for Electric Utilities." Published by the Electric Power Research Institute. February 1984.

"Choice of Discount Rates in Utility Planning: An Attempt to Estimate a Multi-Factor Model of the Cost of Equity Capital." December 1983.

"Southern California Edison Company Study of Conservation Potential and Goals." December 1983.

"Economic Costing Principles for Telecommunications." September 1983.

"Analysis of Risky Investments for Utilities." Published by the Electric Power Research Institute. September 1983.

"A Conceptual Model of Discount Rates for Utility Planning." July 1982.

"The Electric Utility Industry's Financial Condition: An Update." Published by the Electric Power Research Institute. June 1982.

"Choice of Discount Rates in Utility Planning: Principles and Pitfalls." Published by the Electric Power Research Institute. June 1982.

"Analysis of the Federal Residential Energy Tax Credits." April 1982.

"Methods Used to Estimate the Cost of Equity Capital in Public Utility Rate Cases: A Guide to Theory and Practice." March 1982.

"An Analysis of the Interaction of the Coal and Transportation Industries in 1990." September 1981.

"An Analysis of the Residential Energy Conservation Tax Credits: Concepts and Numerical Estimates." June 1981.

Biesemeyer

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

JEFF HATCH-MILLER, Chairman
WILLIAM A. MUNDELL
MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES

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 PARADISE
VALLEY DISTRICT

DOCKET NO. W-01303A-05-0405

**REBUTTAL TESTIMONY
OF
BRIAN K. BIESEMEYER
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
FEBRUARY 13, 2006**

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**REBUTTAL TESTIMONY
OF
BRIAN K. BIESEMEYER
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
FEBRUARY 13, 2006**

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EXECUTIVE SUMMARY

- 1
- 2
- 3 Brian K. Biesemeyer testifies that:
- 4
- 5 Arizona-American has added a new operator position in the Paradise Valley Water District.
- 6
- 7 RUCO has inappropriately proposed disallowing certain Central Division and Corporate
- 8 expenses.
- 9
- 10 The Paradise Valley Water District employs a full-time meter reader.

1 **I. INTRODUCTION AND QUALIFICATIONS**

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

4 A. My name is Brian K. Biesemeyer. My business address is, 15626 N. Del Webb Blvd,
5 Sun City, Arizona, 85351, and my telephone number is 623-815-3125.

6 **Q. ARE YOU THE SAME BRIAN K. BIESEMEYER WHO PREVIOUSLY**
7 **SUBMITTED TESTIMONY IN THIS DOCKET?**

8 A. Yes.

9 **Q. PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY.**

10 A. I have included an Executive Summary at the beginning of my rebuttal testimony.

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

12 A. I will first testify in support of a new position in the Paradise Valley Water District. I
13 will then rebut certain proposed expense disallowances made by Mr. Moore on behalf of
14 RUCO. Finally, I will discuss the full-time meter-reader position in Paradise Valley.

15 **II. NEW OPERATOR POSITION**

16 **Q. MR. WEBER HAS ADDED AN ADDITIONAL EMPLOYEE TO THE PARADISE**
17 **VALLEY OPERATING EXPENSES FOR THE ARSENIC TREATMENT PLANT**
18 **OPERATOR. CAN YOU ELABORATE ON THIS POSITION?**

19 A. Yes. An Assistant Water Treatment Plant Operator from another District was promoted
20 to this position on October 10, 2005. He attends the weekly meetings on the progress of
21 the Arsenic Plant in Paradise Valley. He is currently learning about the operations of the
22 other Arsenic Treatment Plants that are coming on line in the Central Division in

1 preparation for the start-up phase of the Paradise Valley plant. He is working with the
2 Network and Production employees in Paradise Valley to familiarize himself with the
3 entire district. He will help out in running pump stations, tanks, and wells – what we
4 refer to as the water plant. We are re-piping the system so that water will flow from the
5 Miller Road Treatment Facility into the new Arsenic Treatment Plant and then out to the
6 distribution system. Our new Arsenic Plant Operator will take part in the operational
7 testing for the new arsenic plants coming on line in the Central Division, including one
8 that comes on in May that will be similar to the Paradise Valley Plant. He will gain
9 valuable knowledge and training for the proper operations and maintenance of the plant
10 through this experience. We felt it was critical to his learning to hire this position as
11 quickly as possible to get him as much experience as possible in learning this new
12 technology. We wish to include this full time position in rates, as the position is currently
13 filled and working, rather than delaying recovery of this cost for several years.

14 **III. RESPONSE TO RUCO DISALLOWANCES**

15 **A. CENTRAL DIVISION ALLOCATED EXPENSES**

16 **Q. HAVE YOU REVIEWED THE TESTIMONY OF RUCO WITNESS MOORE**
17 **CONCERNING CENTRAL DIVISION ALLOCATED EXPENSES?**

18 **A.** Yes. Mr. Moore's Direct Testimony, on page 30, lines 4 through 9, disallowed several
19 Central Division Allocated Expenses totaling (\$1,204).

20 **Q. DO YOU AGREE WITH THESE DISALLOWANCES?**

21 **A.** No. Mr. Moore proposed disallowing three Central Division Allocated Expenses:

- 22 • Ice;
- 23 • Groundskeeping; and
- 24 • Security Services.

1 I will address each proposed disallowance in order.

2 **Q. MR. MOORE PROPOSED DISALLOWING ALMOST \$2,000 THAT THE**
3 **CENTRAL DIVISION EXPENSED ON ICE ON SCHEDULE RLM-12, PAGE 2,**
4 **LINE 19. IS THIS APPROPRIATE?**

5 A. No. This ice is used to keep water samples at the proper temperature until it can be
6 shipped to the laboratories for testing. The ice is also used to cool down the water in the
7 large igloo thermoses that the utility workers put on the end of their trucks to keep the
8 outdoor workers hydrated. Certainly, both uses of ice must be allowed as necessary
9 operating expenses. The ice is bought in a central location and the trucks and workers are
10 sent out from there. Paradise Valley's 8.12% share of this expense is \$162 and should be
11 included in rates.

12 **Q. ANOTHER CENTRAL DIVISION EXPENSE THAT MR. MOORE**
13 **DISALLOWED ON SCHEDULE RLM-12, PAGE 2 , LINE 27, IS THE GROUNDS**
14 **KEEPING EXPENSES FOR THE CENTRAL DIVISION OFFICE WHICH IS**
15 **LOCATED IN SUN CITY. IS THIS APPROPRIATE?**

16 A. No. The payments are done on a recurring vouchering system whereby the same amount
17 is paid each month to the vendor for doing the same work. We turned in one voucher that
18 was paid before it went to recurring that showed the payment to the vendor for Lawn
19 Maintenance at the Sun City office, which is the Central Division office, for \$760 for a
20 month. This office supports all the districts in the Central Division, and Paradise Valley
21 is one of those districts, so it is proper for Paradise Valley to share in this expense.
22 RUCO disallowed 12 months of lawn maintenance at the office for a total of \$9,120.
23 Paradise Valley's 8.12% share of this expense is \$741 and should be included in rates.

1 **Q. MR. MOORE DISALLOWED \$1,261 IN SECURITY SERVICE EXPENSES ON**
2 **SCHEDULE RLM-12, PAGE 2, LINE 34. WAS THIS APPROPRIATE?**

3 A. Not exactly. The vendor is Sonitrol and the explanation says Paradise Valley Security –
4 MRTF. However, despite what the explanation says, this service was for the Paradise
5 Valley office, not the Miller Road Treatment Facility. (Those costs are in a separate
6 Miller Road account.) These Paradise Valley office security costs were then charged to
7 the Central Division to be allocated. Paradise Valley's 8.12% share of these costs is
8 \$102.

9 **B. CORPORATE ALLOCATED EXPENSES**

10 **Q. HAVE YOU REVIEWED THE TESTIMONY OF RUCO WITNESS MOORE**
11 **CONCERNING CORPORATE ALLOCATED EXPENSES?**

12 A. Yes. Mr. Moore's Direct Testimony, on Page 30, Lines 11 through 16, disallowed
13 several Corporate Allocated Expenses totaling (\$18,233).

14 **Q. DO YOU AGREE WITH THESE DISALLOWANCES?**

15 A. No. Mr. Moore proposed disallowing four Corporate Allocated Expenses:

- 16 • Advertising expense;
- 17 • Plant maintenance;
- 18 • Security study; and
- 19 • Classified advertising.

1 I will address each proposed disallowance in order.

2 **Q. ON SCHEDULE RLM-12, PAGE 3 OF 18, LINE 3, MR. MOORE DISALLOWED**
3 **\$5,273 IN HUMAN RESOURCES CLASSIFIED ADVERTISING TO FILL**
4 **POSITIONS IN ARIZONA. WAS THIS APPROPRIATE?**

5 A. No. Perhaps Mr. Moore disallowed these expenses because the name of the newspaper is
6 "The Bee Advertising" and he believed that this constituted advertising expense.

7 However this a normal, recurring, operating expense of conducting employment searches
8 through newspaper classified ads. Paradise Valley's 8.12% share of this expense is \$428.

9 **Q. ALSO ON SCHEDULE RLM-12, PAGE 3 OF 18, LINE 3, MR. MOORE**
10 **DISALLOWED MR. MOORE DISALLOWED \$547 FOR MAINTENANCE OF**
11 **THE INDOOR PLANTS IN THE LOBBY OF THE CORPORATE OFFICES OF**
12 **ARIZONA AMERICAN. WAS THIS APPROPRIATE?**

13 A. No. This is a normal maintenance expense such as office cleaning, and is similarly
14 needed to make them look professional and presentable. Paradise Valley's 8.12% share
15 of these expenses is \$44 and should be included in rates.

16 **Q. MR. MOORE DISALLOWS \$1,023 ON LINE 21 OF SCHEDULE RLM-12, PAGE**
17 **3 OF 18 OF CORPORATE ALLOCATED EXPENSES. WAS THIS**
18 **APPROPRIATE?**

19 A. No. This expense was for a preliminary study for a security renovation and remodeling
20 of the Sun City Central Division office. Since this office supports all the districts in the
21 Central Division, and Paradise Valley is one of those districts, it is proper for Paradise

1 Valley to share in this expense. Paradise Valley's 8.12% share of this expense is \$83 and
2 should be included in rates.

3 **Q. MR. MOORE DISALLOWS \$7,583 ON LINE 33 OF SCHEDULE RLM-12, PAGE**
4 **3 OF 18 OF CORPORATE ALLOCATED EXPENSES. WAS THIS**
5 **APPROPRIATE?**

6 A. Of this amount, \$5,353 is for human resources classified ads for employment recruitment.
7 This is a normal, recurring, operating expense of conducting employment searches
8 through newspaper classified ads. Paradise Valley's 8.12% share of this expense is \$435
9 and should be included in rates.

10 **Q. ARE THESE THE ONLY CORPORATE ALLOCATED EXPENSES THAT MR.**
11 **MOORE WOULD DISALLOW WITH WHICH THE COMPANY DISAGREES?**

12 A. No. Mr. Broderick's rebuttal testimony addresses the appropriateness of \$172,362 of
13 Corporate Allocated expense of which Paradise Valley's 8.12% share is \$13,996.

14 **C. PARADISE VALLEY METER READER**

15 **Q. RUCO'S STAFFING ANALYSIS DOES NOT INCLUDE A FULL-TIME METER**
16 **READER. IS THIS APPROPRIATE?**

17 A. No. Arizona American employs a full-time meter reader in Paradise Valley to ensure
18 accurate and timely reads in a district with large lots and varied terrain. In addition to
19 meter reading, this employee also, when meter reading is completed, performs additional
20 customer service and system maintenance work.

21 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

22 A. Yes.

Gross

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

JEFF HATCH-MILLER, Chairman
WILLIAM A. MUNDELL
MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES

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 PARADISE
VALLEY DISTRICT

DOCKET NO. W-01303A-05-0405

**REBUTTAL TESTIMONY
OF
JOSEPH E. GROSS, P.E.
ON BEHALF OF
ARIZONA AMERICAN WATER COMPANY
FEBRUARY 13, 2006**

EXECUTIVE SUMMARY

1
2
3 Mr. Gross discusses a recently completed fire-flow project along Nauni Valley Drive in Paradise
4 Valley.

5
6 Mr. Gross discusses the arsenic concentrations in the wells providing water to the Paradise
7 Valley Arsenic Removal Facility.

8
9 Mr. Gross provides a summary of the project's construction status and the current project cost
10 estimate.

11
12 Mr. Gross discusses the bidding process for the Paradise Valley Arsenic Removal Facility, the
13 criteria for selection of the successful bidder, and the evaluation of the bidders' proposals.

14
15 Mr. Gross discusses the evaluation process of the various arsenic treatment technologies and the
16 rationale for selection of the most appropriate treatment process.

17
18 Mr. Gross next discusses the breakdown of actual costs among the three purposes of the facility.

19
20 Mr. Gross provides an analysis of the used and usefulness of the storage and pumping capacities
21 incorporated in the project.

22
23 Mr. Gross clarifies the treatment capability of this facility.

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
7 **Q. ARE YOU THE SAME JOSEPH E. GROSS THAT PREVIOUSLY SUBMITTED**
8 **TESTIMONY IN THIS DOCKET?**

9 A. Yes.

10
11 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

12 A. I have included an Executive Summary at the beginning of my testimony.

13
14 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

15 A. I first discuss a recently completed fire-flow project on Nauni Valley Drive. I then
16 respond to two statements raised in Commission Staff's testimony. I next respond to five
17 issues raised in RUCO's direct testimony.

18
19 **II. FIRE FLOW PROJECT - NAUNI VALLEY DRIVE**

20 **Q. HAS ARIZONA-AMERICAN COMPLETED ANY ADDITIONAL FIRE-FLOW**
21 **PROJECTS SINCE YOU FILED YOUR DIRECT TESTIMONY?**

22 A. Yes. We completed a fire-flow project along Nauni Valley Drive, where we replaced
23 approximately 2,400 feet of existing 4-inch main with 8-inch main from 56th Street to
24 McDonald Drive. We also added three fire hydrants, where there had previously been
25 none. The Nauni Valley Drive improvements entered service on January 3, 2006.
26

1 **Q. WHAT WAS THE COST OF THE NAUNI VALLEY DRIVE PROJECT?**

2 A. The total cost of the project will be \$420,755.13. To date \$384,399.75 has been paid and
3 the remaining balance of \$36,355.38 is to be paid shortly. Mr. Reiker is sponsoring an
4 exhibit that supports these costs.

5
6 **III. RESPONSE TO COMMISSION STAFF**

7 **A. ARSENIC CONCENTRATIONS BY WELL**

8 **Q. HAVE YOU REVIEWED MR. CHELUS' DISCUSSION CONCERNING THE**
9 **ARSENIC MEASUREMENTS IN EXISTING WELLS?**

10 A. Yes. Mr. Chelus discussion of arsenic levels for our Paradise Valley District wells is
11 based on the federal standard for delivered water of 10 ppb.

12
13 **Q. IS THIS THE ENTIRE STORY?**

14 A. No. In order to comply with the 10 ppb standard, the Company's target treatment level is
15 8 ppb, the target used by other water providers in the metropolitan area. This treatment
16 level provides a 20% safety factor to insure the arsenic level in delivered drinking water
17 does not exceed the 10 ppb Federally-mandated maximum contaminant level.

18
19 Mr. Chelus notes that the PCX-1 well's arsenic level is 9 ppb, which is one ppb below the
20 new federal arsenic standard. However, water from the PCX-1 well must be blended
21 with other wells during treatment to remove trichloroethylene at the Miller Road
22 Treatment Facility ("MRTF"). Because these other wells typically exceed the 10 ppb
23 standard, the arsenic concentration in the water exiting the MRTF may also exceed the 10
24 ppb standard. We would have to extensively modify the MRTF to keep supplies from
25 Well PCX-1 separate from the other wells currently being treated, including construction
26 of a separate clearwell and distributive pumping facility, and complex process

1 mechanical piping changes. The cost of such modifications would exceed the
2 incremental cost of treating the flow from Well PCX-1. In addition, arsenic levels will
3 vary from sample to sample, so we cannot be certain that that the arsenic level in Well
4 PCX-1 will always be below the federal standard.

5
6 **B. ARSENIC PROJECT STATUS AND COST**

7 **Q. HAVE YOU REVIEWED MR. CHELUS' DISCUSSION CONCERNING THE**
8 **ARSENIC PROJECT STATUS AND COST?**

9 A. Yes. Mr. Chelus' testimony indicated an approximate construction cost for this project of
10 \$17.44 million.

11
12 **Q. HOW DO YOU RESPOND?**

13 A. Construction of the project began in July 2005, upon receipt of all permits from the City
14 of Scottsdale. Construction is approximately fifty per cent complete, with the treatment
15 facility expected to be in service in August 2006. The customer service and
16 administrative building will be occupied by July 2006. Also, we expect to phase in the
17 new water distribution pumps, water storage tanks, and pipelines during July 2006.

18
19 Mr. Chelus' estimation of the direct costs remains valid. However, so that the record is
20 clear, the total cost to the Company of completing this project is currently estimated to be
21 \$25 million, which includes fees for design services, subconsultants, permits, legal and
22 administration, company labor, and AFUDC. These costs are presented in more detail at
23 Exhibit A.

24

1 **IV. RESPONSE TO RUCO**

2 **A. ARSENIC PROJECT TENDER LIST AND BIDDING PROCESS**

3 **Q. HAVE YOU REVIEWED MR. MOORE'S DISCUSSION OF THIS SUBJECT?**

4 A. Yes. He states the tender list and bidding process should be scrutinized, but he is not
5 more specific than that.

6
7 **Q. HOW DO YOU RESPOND?**

8 A. The company initiated an intensive effort in early 2004 to select the appropriate
9 procurement method and then to find the most qualified team to design and build this
10 project. This effort concluded with the selection of the design/build team of Damon S.
11 Williams Associates and D. L. Norton General Contracting, Inc. A detailed discussion of
12 the bidding process and evaluation of proposals is attached as Exhibit B.

13
14 **B. ARSENIC TREATMENT TECHNOLOGY EVALUATION**

15 **Q. HAVE YOU REVIEWED MR. MOORE'S DISCUSSION OF THIS SUBJECT?**

16 A. Yes. He recommends scrutiny, but otherwise is not specific.

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

19 A. In October 2003, prior to initiating the bidding process, the Company concluded a
20 detailed review of the available arsenic treatment technologies. Exhibit C contains a
21 thorough description of the evaluation of arsenic removal alternatives, and the rationale
22 for determining that coagulation – filtration is the most cost-effective arsenic removal
23 technology for the Paradise Valley site.

24
25 **C. ESTIMATED COSTS FOR MULTIPLE USE PROJECT**

26 **Q. HAVE YOU REVIEWED MR. MOORE'S DISCUSSION OF THIS SUBJECT?**

1 A. Yes. Mr. Moore states the site is oversized and has multiple uses. He is not more
2 specific than that.

3

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

5 A. Mr. Moore is correct to some extent that the project has multiple uses. Attachment A
6 depicts the detailed estimated cost breakout for the three uses of this project. Of the total
7 estimated project cost of \$25 million, \$23.2 million is for arsenic removal, \$0.7 million is
8 for consolidation of business operations staff, and \$1.1 million is for providing fire flow
9 storage for public safety. It is my understanding that ACRM only permits recovery of
10 arsenic related costs, now estimated at \$23.2 million.

11

12 **Q. IS THE SITE OVERSIZED?**

13 A. No. Process unit capacity was sized to meet demands that are likely to occur over the
14 next several years, since the minor incremental cost of doing so now is far less than
15 expansion of the facilities in the near future. In addition, the treatment site layout has
16 been kept as compact as reasonably possible to minimize the cost of the facility, which
17 would otherwise be higher if the facilities were spread further apart on the site. For
18 example, additional lengths of buried process piping and electrical conduits would be
19 needed, and the amount of asphalt paving and length of the site perimeter wall would
20 have been greater. Finally, the final site layout had to comply with the City of
21 Scottsdale's requirements.

22

23 **D. USED AND USEFULNESS OF STORAGE AND PUMPING FACILITIES**

24 **Q. HAVE YOU REVIEWED MR. MOORE'S DISCUSSION OF THIS SUBJECT?**

25 A. Yes. Mr. Moore questions whether the additional storage is used in the arsenic removal
26 process.

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Q. HOW DO YOU RESPOND?

A. A 1999 comprehensive planning study by the Company planning staff identified a serious shortfall of existing storage within the Paradise Valley Water District. The storage deficit in the Main Pressure Zone was estimated to be approximately 1.5 million gallons, based on a total estimated storage need of about 2.5 million gallons as of 1997. The estimated storage need included two primary components; equalization and fire flow. Equalization represents the volume of water needed to meet demands during peak consumption periods of the day when usage rates exceed the production capacity of the wells and/or treatment facilities. In the Main Pressure Zone, this represented approximately 75 percent of the total estimated storage need in 1997, with storage for fire flow representing the remainder of the need.

This storage capacity deficit would be further exacerbated because supplies from Well 16 will no longer be available to pump directly into the distribution system, and , an additional finished-water storage requirement of approximately 500,000 gallons is needed to backwash the filters which remove the arsenic. Thus, the 3-million gallons of onsite storage at the PVARF is necessary to ensure that the facility has adequate finished water supplies available to meet in-plant needs, as well as customer demands during periods when usage rates exceed the reliable treatment capacity of the facility. We selected the capacity of the distributive pump station based on meeting current and anticipated future peak hour demands in the Main Pressure Zone. This storage and pumping capacity is currently under construction.

E. FACILITY WATER TREATMENT CAPABILITY

Q. HAVE YOU REVIEWED MR. MOORE'S DISCUSSION OF THIS SUBJECT?

1 A. Yes. Mr. Moore appears to believe it may be possible to treat water in excess of just
2 arsenic removal, but again is not more specific.

3
4 **Q. HOW DO YOU RESPOND?**

5 A. I don't really understand what he is saying. Since the well water treated for arsenic
6 removal meets all other Federal and State water quality standards, this project provides
7 no capability for treating water other than removal of arsenic to meet Federal standards.

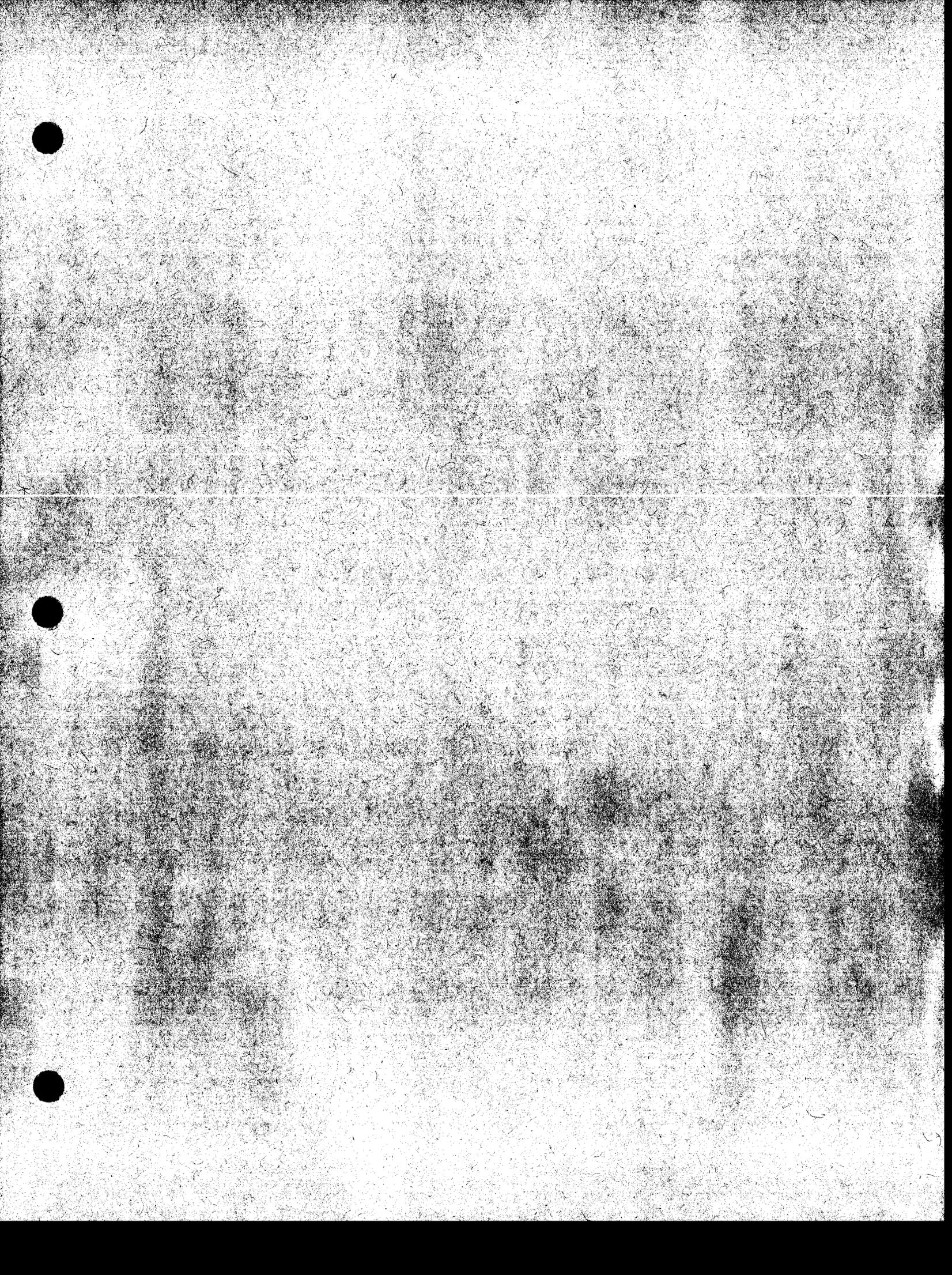
8
9 **Q. MR. MOORE BELIEVES MORE TIME WILL BE REQUIRED TO PROCESS
10 THE COMPANY'S STEP ONE APPLICATION. HOW DO YOU RESPOND?**

11 A. Mr. Moore acknowledges that the Company wishes to expedite processing of the ACRM
12 Step 1 increase and yet he resists stating more than vague and unsupported concerns. To
13 the extent that we can understand just what Mr. Moore is asking, we have addressed
14 every single one of his five concerns. We have already provided a great deal of
15 information concerning the project, and stand ready and willing to answer any specific
16 questions from anyone at RUCO between now and the expected August in-service date.
17 Mr. Chelus, the Staff's engineer has visited the site, but no one from RUCO has done so.

18
19 To comply with the new federal standard, the Company had to select its technology,
20 order materials, hire a contractor, and begin construction. We have bent over backwards
21 to provide Staff and RUCO extensive information about the decisions we were forced to
22 make. I do not believe that the Commission intended that RUCO would finally begin its
23 review of these decisions at the time of the Step 1 filing.

24
25 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

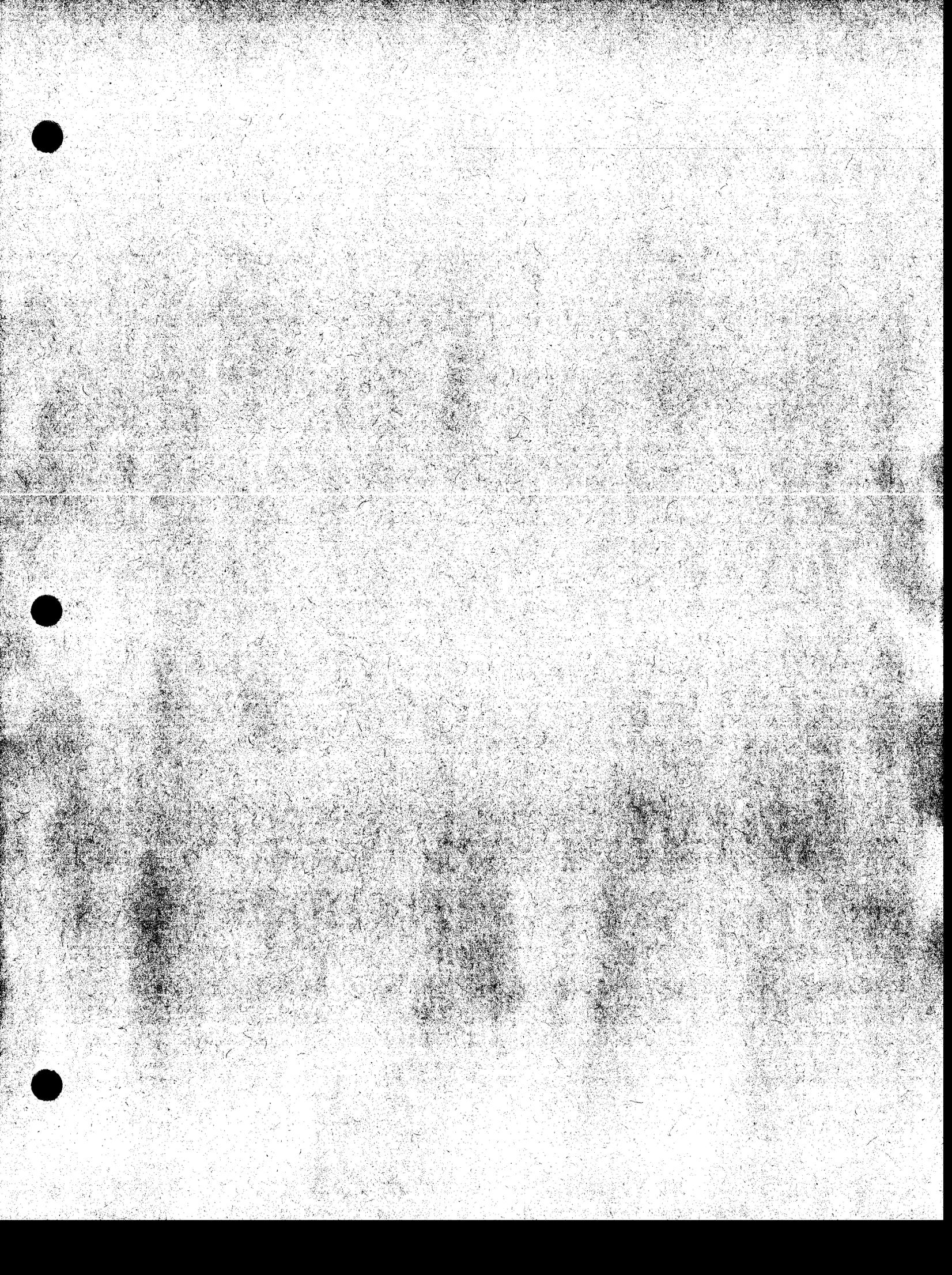
26 A. Yes it does.



PROJECT COST BY USE

Description	Target Cost	Arsenic Removal	Consolidated Business Affairs	Public Safety
Sitework				
Transmission Mains	\$1,329,850	\$1,329,850		
Treated Water yard piping	\$156,866	\$115,866		\$41,000
Raw Water yard piping	\$245,744	\$245,744		
Finished Water Distribution yard piping	\$55,055	\$55,055		
Finished Water supply yard piping	\$375,562	\$327,853		\$47,709
Sludge/Decant yard piping	\$113,048	\$113,048		
Storage reservoir Mechanical	\$80,000	\$40,000		\$40,000
Filter to Waste yard piping	\$91,118	\$91,118		
Chemical feed/ sampling yard piping	\$35,886	\$35,886		
Sanitary sewer	\$29,654	\$29,654		
Miscellaneous yard piping	\$152,394	\$152,394		
Structural excavation/backfill/Sitework	\$517,518	\$471,879	\$7,500	\$38,139
Demolition	\$23,000	\$0	\$23,000	
Miscellaneous sitework	\$50,500	\$50,500		
Driveways/Pavement	\$100,500	\$79,100	\$21,400	
Landscaping	\$140,000	\$140,000		
Storm Drainage	\$62,995	\$62,995		
Structural/ site concrete	\$1,364,103	\$1,290,103	\$34,000	\$40,000
Building				
Hazardous Abatement	\$40,000	\$0	\$40,000	
Building B and C construction	\$1,423,121	\$1,423,121		
Building A construction	\$700,000	\$420,000	\$280,000	
Site painting	\$50,000	\$50,000		
Utility Storage masonry	\$28,911	\$17,347	\$11,564	
Automatic entry gates	\$24,918	\$20,118	\$4,800	
Site fence	\$585,067	\$585,067		
Clarifier Covers	\$61,350	\$61,350		
Equipment/Mechanical				
WWS (Backwash) PS mechanical	\$232,754	\$232,754		
Blower mechanical	\$72,467	\$72,467		
Chemical feed mechanical	\$353,347	\$353,347		
Clarifier mechanical	\$93,049	\$93,049		
Flowmeter mechanical	\$69,205	\$69,205		
Filter mechanical	\$1,436,023	\$1,436,023		
Thickened sludge pump station mechanical	\$300,433	\$300,433		
Sludge storage mechanical	\$14,235	\$14,235		
Recycle/Underflow PS Mechanical	\$106,996	\$106,996		
Jet mixing/bypass mechanical	\$65,914	\$65,914		
Stormwater Pump Station	\$76,172	\$76,172		
Booster Pump Station Mechanical	\$675,709	\$675,709		
Filter Press mechanical	\$213,000	\$213,000		
Misc. mechanical	\$63,059	\$63,059		
1.5 MG Steel Reservoirs	\$1,137,000	\$593,556		\$543,444
Electrical/Instrumentation/SCADA	\$3,269,458	\$3,207,858	\$50,600	\$11,000
Subtotal	\$16,015,981	\$14,781,825	\$472,864	\$761,292
General Conditions				
Sales Tax Allowance	\$130,520	\$121,311	\$3,524	\$5,685
Insurance	\$554,533	\$519,233	\$13,500	\$21,800
Contingency	\$153,414	\$143,048	\$3,964	\$6,402
Total	\$17,407,584	\$16,076,155	\$510,097	\$821,332

Description	Target Cost	Arsenic Removal	Consolidated Business Affairs	Public Safety
Brought Forward	\$17,407,584	\$16,076,155	\$510,097	\$821,332
Supervision and General Expense	\$646,377	\$619,748	\$10,202	\$16,427
Design/Builder's Fee	\$1,140,943	\$1,074,371	\$25,505	\$41,067
Bond	\$128,468	\$120,147	\$3,188	\$5,133
Subtotal	\$19,323,372	\$17,890,421	\$548,992	\$883,959
Design Services	\$1,490,056	\$1,384,919	\$40,231	\$64,906
Design Construction Services	\$291,701	\$271,119	\$7,876	\$12,706
Total Design/Builder	\$21,105,129	\$19,546,459	\$597,099	\$961,571
Subconsultants	\$226,360	\$209,643	\$6,404	\$10,313
AW/AZ Labor	\$579,496	\$536,699	\$16,395	\$26,402
AFUDC/Legal/Contingency	\$2,948,802	\$2,731,025	\$83,426	\$134,350
MTRF Replacement Pumps	\$200,000	\$185,229	\$5,658	\$9,112
Grand Total	\$25,059,787	\$23,209,055	\$708,983	\$1,141,749





**American
Water**

Memo

To	J.J. Gallagher	From	E. J. Radwanski P. J. Keenan
Company	American Water	Company	American Water
Pages	4 attachments	Date	April 29, 2004

Arizona American Water – Paradise Valley and Sun City West Districts Arsenic Removal Facilities Project Proposal Evaluation

I. Summary and Recommendations

This proposal analysis describes the process used to select the recommended Design-Builder for the Arsenic Removal Facilities Project. It is recommended to use the Phoenix, Arizona based team of D. L. Norton General Contracting, Inc. and Damon S. Williams Associates. It is recommended that a Design-Build contract be issued by the Water Company to allow commencement of preliminary engineering, including the development of the Design Memorandum, to establish a target cost estimate by February 2005.

The proposed design/build approach is an effective project delivery system and will be suited to meet Arizona American Water's (AAW) budget and schedule requirements. The facilities are required by January 23, 2006, to comply with the EPA's Arsenic Rule to reduce arsenic below the maximum contaminant level of 10 ug/L. Early cost estimating, value engineering and design input by the project team will optimize the design and improve budget and schedule performance. Early investment will also support procurement of long lead equipment and commencement of sitework and structural concrete work concurrent with completion of final design details, which will be needed to meet the desired 2006 substantial completion date.

A comprehensive evaluation of all proposals indicates that the proposal submitted by the team of D. L. Norton General Contracting, Inc. and Damon S. Williams Associates is most favorable. The project team was pre-qualified and is capable of designing and managing the construction of the project. D. L. Norton General Contracting, Inc. and Damon S. Williams Associates both have a long history of successful projects with AAW. The relationship that Damon S. Williams Associates has established with the local permitting agencies, through other project work, will assist in obtaining the necessary permits for the project without delaying commencement of construction. D. L. Norton General Contracting, Inc. and Damon S. Williams Associates proposed costs for the design/build services are competitive and appropriate for a project of this size and complexity. Construction costs will be

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Memo



Page 2

supported through the competitive bidding of all major materials, equipment and subcontractors.

All of the bidders emphasized the difficulty of obtaining permits in the City of Scottsdale at the Paradise Valley District within the timeframe allotted. D. L. Norton proposes to work double shifts to shorten the construction period to meet the end date, and, if necessary, install the proposed treatment units at a temporary location on an interim basis to treat enough of the supply to meet the pending arsenic MCL by the deadline. One of the bidders noted that the location of the proposed facilities at the Paradise Valley site would require special zoning variance. This is because the southern end of the site is designated a Special Campus Historic Property. AW is considering the facilities be located at the north end of the site. D. L. Norton has been made aware of this potential change, and confirmed that the impact to the schedule and cost would be insignificant.

Based on the labor rates, design fees, management fees and other compensation provisions of the D. L. Norton General Contracting, Inc. and Damon S. Williams Associates proposal, the design/construction estimate for both projects is \$22,600,000. D.L. Norton and Damon S. Williams' critique of the preliminary construction cost estimates for the facilities indicates that American Water Engineering estimates for the projects are reliable.

Sufficient funds exist in the approved budget to begin design activities for the project. The project team, working with the design/build team, will develop target construction cost estimates. Upon receipt of all permits, construction is expected to begin in February 2005, with substantial completion before January 2006.

II. Background

On February 27, 2004, four (4) pre-qualified design/builders each submitted a proposal to AAWC for the design, permitting, construction and commissioning of two arsenic removal facilities, one in the Sun City West District and the other in Paradise Valley District. One bid for the two projects allowed for an economy of savings due to the commonality of the design.

The proposed Sun City West Arsenic Removal Facility (ARF) will include a new process treatment building that will house several horizontal, dual-media pressure filters, chemical storage and feed facilities, and ancillary electrical and control systems. The ARF will also include two backwash clarifiers and a sludge thickening system. The Sun City West facilities will be constructed at Sun City West Water Plant No.1. An economic analysis that included the results of pilot testing determined that a centralized treatment facility at Plant No.1 would be the most economical solution for treatment of the waters from the five wells that serve the Sun City West District.



The proposed Paradise Valley ARF will include all of the facilities identified for the Sun City West ARF. In addition, a new finished water storage and distributive pumping facility, administrative and customer service offices, and a residuals dewatering facility will be constructed at the Paradise Valley ARF. The Paradise Valley facilities will be constructed at the Miller Road Booster Station. An economic analysis determined that a centralized treatment facility at Miller Road would be the most economical solution for treatment of the waters from the seven wells that serve the Paradise Valley District District.

An evaluation was performed which considered various aspects of the bidder's proposals including: bid prices, design and construction resources, suitability of the technical submission and adequacy of the proposed schedule.

A scoring criterion was developed for various categories of the proposals. Bidders were given scores reflecting the adequacy with which they fulfilled each of these categories.

Based on the evaluation as described above, the proposal submitted by the joint venture team of D. L. Norton General Contracting, Inc. and Damon S. Williams Associates scores most favorably.

III. Bid Assessment Categories & Weighting

The following categories were used to score each proposal. The weighting of the categories was developed using the Pairwise Comparison tool shown in the Bid Assessment Criteria Table in Appendix B.

Commercial	24%
Schedule	23%
Permitting Plan	23%
Technical Submission	17%
Resources	13%

See the Definition of Terms, Appendix C for a description of the above categories.

IV. Category Scoring Criteria

A scoring system was developed to evaluate each of the categories (or sub-categories thereof) indicated above excluding the Commercial category, which was subjected to a separate numerical analysis also described below. Scores were assigned based on each bidder's compliance with the requirements of the RFP. A total of 100 could be obtained if the bidder exceeded the RFP requirements in every

category. A total of 67 could be obtained if the bidder met every RFP requirement. The scoring format is as follows:

- 3 = Exceeds RFP Requirements
- 2 = Meets RFP Requirements
- 1 = Partially Meets RFP Requirements
- 0 = Does Not Meet RFP Requirements

V. Detailed Analysis of Scoring

The results of the scores given to each bidder are as follows:

1. D. L. Norton/ Damon S. Williams (Norton): 76.1
2. Garney/Burns & McDonnell (Garney): 74.2
3. Camp, Dresser & McKee (CDM): 66.1
4. Felix/Sundt (Felix): 63.8

For a complete compilation of the above scores, see Bidder's Score Table, Appendix D.

The following is a review of each evaluation category.

A. Commercial Category

Scores out of 24: Felix: 24, Norton: 23.2, Garney: 18.4, CDM: 4

The commercial category scores were based on the bid prices found in the Bid Summary (Appendix A). The bidder with the lowest total lump sum fee received the highest score and the remaining bidders received lower scores based on the percent difference among them. In addition, the labor rates provided by all bidders for the self-perform work were reviewed and found to be equivalent.

The Felix team's total lump sum cost for engineering, construction superintendence/supervision, contractor's fixed fee, and bond premiums was the lowest at \$4,417,050. Norton's lump sum proposal was approximately 4% higher than Felix's, and Garney and CDM were 26% and 127% higher, respectively. Based on the above, the Felix and Norton lump sum prices were very comparable.

Each bidder's lump sum proposals were analyzed to determine how the percentage of fees budgeted to engineering and construction tasks

compared. Felix's engineering fees amounted to 11.9% of the estimated construction cost, whereas Norton's engineering fees amounted to 13.4%. Garney and CDM's engineering fees represented 15% and 17% of the estimated construction, respectively. These percentages are somewhat higher than the range of 9% to 11% that would have been expected based on American Water's experience. However, the database of projects that American Water uses to compare engineering costs includes mostly traditional design-bid-build projects, which may have lower engineering fees compared to design-build projects. In addition, the fairly complex permitting requirements for these projects and the current high demand for engineering services in Arizona may have caused engineering fees to be somewhat higher than average.

For the construction superintendence/supervision, contractor's fixed fee, and bond premiums, Felix's lump sum proposal amounts to 12.6% of the estimated construction cost, while Norton's proposal represents 12.1%. Both of these are competitive and are appropriate when compared to other projects completed within American Water. The supervision costs for similar previous proposals have ranged from 10.4% to 12% of the total estimated construction cost. Garney and CDM's lump sum construction superintendence/supervision and fixed fees were well above the historical range, representing 16.1% and 38.9% of the construction estimate, respectively.

B. Technical Submission

Scores out of 17: Norton: 13.1, CDM: 12.8, Garney: 11.2, Felix: 10.9

Norton's proposal defined in a fairly complete manner the detailed scope of work. The proposal exhibited a good understanding of the permitting issues and stressed the importance of getting neighbor buy-in early. Norton's projected number of drawings for the two facilities indicates their understanding of the technical aspects of the project and adequately meets expectations.

CDM and Garney also both demonstrated a fairly good understanding of the project scope, although they proposed to provide fewer drawings than would be expected for projects of this magnitude.

Felix's proposal included more process analysis and evaluation of alternatives than any of the others. The Felix team even conducted a short-term pilot test at Paradise Valley to verify the performance of the coagulation/filtration process that has been proposed. However, most of the

alternatives proposed by the Felix team would result in an unacceptable reduction in the level of redundancy or design factor of safety. Therefore, the Felix proposal received lower rankings from a technical perspective.

C. Permitting

Scores out of 23: CDM: 23, Garney: 19.2, Norton: 16.1, Felix: 7.7

CDM's proposal contained the best permitting information and they have alerted the Water Company to potential zoning problems at the Paradise Valley site that AAW is currently investigating. Garney and Norton both also demonstrated an adequate understanding of the permitting process. The Norton team proposed permitting the Paradise Valley raw water main separately, since it would likely be easier to permit and could be started before the rest of the plant construction. The Felix proposal failed to identify several critical permit requirements, in particular the Special Use permit for the Paradise Valley ARF.

D. Schedule

Scores out of 23: Norton: 17, CDM: 17, Garney: 15.9, Felix: 13.9

Both Norton and CDM had good plans for delivering the project. Norton planned on constructing the Sun City West facilities slightly in advance of the more time constrained Paradise Valley project in order to increase efficiencies. CDM had good identification of critical activities and reasonable construction periods. Garney's schedule also appeared fairly reasonable, including their plans to fast track the reservoir construction. There was concern with Felix's schedule because their schedule of activities at Sun City West appeared to be too compressed.

E. Resources

Scores out of 13: Garney: 9.5, CDM: 9.3, Felix: 7.3, Norton: 6.8,

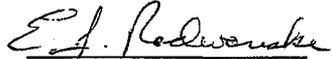
Garney's proposal included the best-qualified personnel with the most experience in construction management and water/wastewater design. CDM's proposed team also exhibited solid experience at all levels. Felix ranked low in this category because their proposed design team members have very limited experience in the design of treatment plants of this size/type. Norton also ranked low in this category because they lack experience on water projects of this size. However, AAW discussed this concern with Norton and is comfortable with the technical expertise of

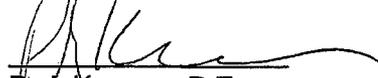
Norton's proposed team and their ability to complete the requirements of the project. In particular, D.L. Norton and Damon S. Williams Associates have both worked on projects for AAW at the Anthem Water Campus and have demonstrated their ability to complete projects successfully.

VI. Company Work History

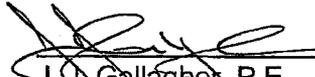
D. L. Norton General Contracting, Inc. and Damon S. Williams Associates have submitted the most favorable proposal for the construction of the two Arsenic Removal facilities projects. D. L. Norton General Contracting, Inc. and Damon S. Williams Associates have work experience together on a number of projects in the Phoenix Area and both have completed many successful projects for the Arizona American Water Company. Their experience on water projects of this size is limited. However, both have solid reputations and D. L. Norton can provide the required bonding for the project and they plan to supply the full resources of their company to perform the project.

Overall, American Water Engineering is comfortable with the technical expertise of the D. L. Norton General Contracting, Inc. and Damon S. Williams Associates proposed team and their ability to complete the requirements of the project.


E. J. Radwanski, P.E.


P. J. Keenan, P.E.

Approved:

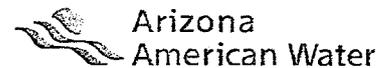

J. Q. Gallagher, P.E.

Appendices

- A. Bid Summary
- B. Bid Assessment Criteria Table
- C. Definition of Terms
- D. Bidder's Scoring Table

Appendix A

ARIZONA AMERICAN WATER
ARSENIC TREATMENT D/B PROJECT
PARADISE VALLEY AND SUN CITY WEST
SUMMARY OF BIDS



Description	Felix/Sundt & NCS/B&C	DL Norton/DSWA	Garney/Burns & McDonnell	CDM/CDM
COST OF WORK				
Engineering				
Design - Preliminary Design to Design Memo				
Sun City West	\$ 132,510	\$ 216,133	\$ 121,702	\$ 280,000
Paradise Valley	192,489	504,309	174,182	475,000
Design - Final Design				
Sun City West	465,517	383,464	496,896	512,000
Paradise Valley	853,483	894,749	846,336	904,000
Design - Construction/Operation				
Sun City West	210,427	125,014	456,448	300,000
Paradise Valley	290,925	291,701	583,808	595,000
Subtotal Engineering	\$ 2,145,351	\$ 2,415,370	\$ 2,679,372	\$ 3,066,000
Engineering Subtotal as Percent of Construction	11.9%	13.4%	14.9%	17.0%
Separate Overhead Amounts				
Construction Supervision/Superintendence				
Sun City West	364,333	200,000	529,560	1,903,793
Paradise Valley	743,667	550,000	835,580	2,643,539
Bond Premiums				
Sun City West	55,005	42,250	29,115	76,645
Paradise Valley	118,694	87,250	67,937	169,567
Design/Build Fee				
Sun City West	\$ 297,000	\$ 400,000	\$ 432,000	\$ 685,466
Paradise Valley	693,000	900,000	1,008,000	1,516,681
Subtotal Supervision/Superintendence, Bonds and D/B Fee	\$ 2,271,699	\$ 2,179,500	\$ 2,902,192	\$ 6,995,691
Subtotal as Percent of Construction	12.6%	12.1%	16.1%	38.9%
TOTAL COST OF WORK & FEES	\$ 4,417,050	\$ 4,594,870	\$ 5,581,564	\$ 10,061,691
DRAWINGS				
Paradise Valley	174	258	155	152
Sun City West	137	165	102	110
SCHEDULE				
Design Memo Completion (days)	62	73	45	68
Final Design Completion (days)				
Sun City West	188	287	165	229
Paradise Valley	188	315	214	229
Substantial Completion	12/9/2005	12/9/2005	12/9/2005	12/9/2005
Final Completion	6/23/2006	6/23/2006	6/23/2006	6/23/2006
CONSTRUCTION COSTS (ESTIMATED BY AMERICAN WATER ENGINEERING - VOORHEES)				
Sun City West	\$ 5,400,000	\$ 5,400,000	\$ 5,400,000	\$ 5,400,000
Paradise Valley	12,600,000	12,600,000	12,600,000	12,600,000
Total Estimated Construction Cost	\$ 18,000,000	\$ 18,000,000	\$ 18,000,000	\$ 18,000,000
TOTAL PROJECT COST ESTIMATE	\$ 22,417,050	\$ 22,594,870	\$ 23,581,564	\$ 28,061,691



**Arizona American Water
Arsenic Removal Facilities Proposal Evaluation
Bid Assessment Criteria Table**

Description	Commercial					Score	Calc.	Weighted Scoring (%)
	Commercial	Technical Submission	Schedule	Permits	Resources			
1 Commercial		4	3	3	4	14	23%	24%
2 Technical Submission	2		2	2	4	10	17%	17%
3 Schedule	3	4		3	4	14	23%	23%
4 Permits	3	4	3		4	14	23%	23%
5 Resources	2	2	2	2		8	13%	13%
Total						60	100%	100%

Appendix C

Definition of Terms

Commercial – This encompasses the project delivery cost. The project delivery cost includes the lump sum design fees, the percentage based management fees, the target cost formula, the bonuses, the savings for acceptable alternatives and the rate schedules.

Schedule – This includes the bidder's proposed schedule which leads to their understanding of the complexity of the contract, the sequence of work, their assessment of the critical activities and whether realistic contract and permit periods were identified.

Permits – This includes the bidder's understanding of the permits required and their plan of action to secure the permits.

Technical Submission – This includes the bidder's understanding of the design requirements described in the Request for Proposal, the adequacy of the bidder's design outline, their knowledge of the permitting requirements and the originality of their suggested cost saving alternatives.

Resources – This includes the evaluation of the bidders proposed project management, design, construction and commissioning staffs as well as their proposed arrangements with subcontractors and how much work the bidder will self perform.

Arizona American Water
 Scoring Mechanism - Arsenic Removal Facilities Bid Analysis

Item	Description	Weighting (%)
1	Commercial (Subjective 3-High to 0 Low) <i>See Sensitivity Analysis</i>	24.0%
2	Technical Submission (Subjective 3 High to 0-Low)	17.0%
2.1	Understanding of Design Requirements	7.0%
	a. Bidder understands AW design concept?	
	b. Does Bidder understand the project scope of work?	
2.2	Design Outline	5.0%
	a. Adequacy of geotechnical investigation &	
	b. Adequacy of environmental requirements?	
	c. Quality of technical information?	
	d. Adequate number of design drawings?	
	e. Adequate number of specifications?	
2.3	Alternatives	5.0%
	a. Acceptability of offered alternatives	
3	Permitting Subjective 3 High to 0 Low)	23.0%
	a. Knowledge of Permitting Requirements	
4	Schedule (Subjective 3-High to 0 - Low)	23.0%
	a. Bidder understand contract mechanisms?	
	b. Bidder understand sequence of work required?	
	c. Were critical activities identified?	
	d. Were adequate approval times included?	
	e. Were milestones for potential delay identified?	
	f. Was realistic contract period identified?	
	g. Were realistic permit periods identified?	
	h. Is overall project schedule adequate?	
5	Resources (Subjective 3 - High to 0 - Low)	13.0%
	a. Are details of arrangements with partners, subcontractors, etc. ok?	
	b. Is the bidder's staffing structure adequate?	
	c. Is the Project Management Staff adequate?	
	d. Is the Construction staff experience adequate?	
	e. Is the Design staff experience adequate?	
	f. Are the Bidder's site facilities adequate?	
	g. Will the contractor self perform much of the work?	
	h. Is the Commissioning staff experience adequate?	
	Is organization chart for reporting & responsibilities adequate?	
	Are the electronic communication capabilities adequate?	
	Total	100.0%



American Water

Appendix D

Scoring criteria & mechanism are on the previous worksheets
See scoring definitions below

Arizona American Water
Arsenic Removal Facilities Proposal Evaluation
Bidders' Score Table

Felix/Sundt
NCS/B & C

Schedule	Description	Max. Possible Weighted Score (%)	Score	Weighted Score	Comments
COMPOSITE TOTAL		100.0%	63.8		
1	Commercial (Subjective 3-High to 0 Low) <i>Evaluation & critique of costs</i>	24%	3.0	24.0	D/B L.S. Fees \$4,417,050
2	Technical Submission (Subjective 3 High to 0-Low)	17%	1.9	10.9	
2.1	Understanding of Design Requirements	7%	0.7	4.7	
	a. Bidder understands AW design concept?		2.0		Conducted pilot work but disagree with conclusion
	b. Does Bidder understand the project scope of work?		2.0		
2.2	Design Outline	5%	0.7	3.4	
	a. Adequacy of geotechnical investigation &		2.0		
	b. Adequacy of environmental requirements?		2.0		
	c. Quality of technical information?		2.2		Credit for Pilot Testing
	d. Adequate number of design drawings?		2.0		311 drawings for both stations
	e. Adequate number of specifications?		1.9		Missing filter underdrain spec.
2.3	Alternatives	5%	0.6	2.8	
	a. Acceptability of offered alternatives		1.7		Pilot test results not adeq. To justify higher design
3	Permitting Subjective 3 High to 0 Low)	23%	0.3	7.7	
	a. Knowledge of Permitting Requirements		1.0		Failed to mention Scottsdale Cond. Use Permit
4	Schedule (Subjective 3-High to 0 - Low)	23%	0.6	13.9	
	a. Bidder understand contract mechanisms?		2.0		
	b. Bidder understand sequence of work required?		2.0		
	c. Were critical activities identified?		2.0		
	d. Were adequate approval times included?		2.0		
	e. Were milestones for potential delay identified?		1.5		Equip, piping & elec time frames too short
	f. Was realistic contract period identified?		1.7		Equip, piping & elec time frames unrealistic
	g. Were realistic permit periods identified?		1.5		Conditional Use Permit not included
5	Resources (Subjective 3 - High to 0 - Low)	13%	0.6	7.3	
	a. Are details of arrangements with partners, subcontractors, etc. ok?		1.5		Many partners make for difficult coord.
	b. Is the bidder's staffing structure adequate?		2.0		
	c. Is the Project Management Staff adequate?		1.0		A. Lopez, PM lacks large proj. exp.
	d. Is the Construction staff experience adequate?		3.0		Supts. have over 50 yrs exp. water/wastewater
	e. Is the Design staff experience adequate?		1.0		Design PM has limited water exp.
	f. Are the Bidder's site facilities adequate?		2.0		
	g. Will the contractor self perform much of the work?		2.0		Earthwork, Yardpipe, Conc, Mech, Elec & Instru.
	h. Is the Commissioning staff experience adequate?		1.0		None listed

Score Definitions

- 3 = above expectation
- 2 = as expected
- 1 = below expectation
- 0 = so far below expectation as to give concern

Scoring criteria & mechanism are on the previous worksheets
See scoring definitions below

Arizona American Water
Arsenic Removal Facilities Proposal Evaluation
Bidders' Score Table

D. L. Norton

DSWA

Schedule	Description	Max. Possible Weighted Score (%)
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Score	Weighted Score	Comments
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COMPOSITE TOTAL		100.0%
1	Commercial (Subjective 3-High to 0 Low) <i>Evaluation & critique of costs</i>	24%
2	Technical Submission (Subjective 3 High to 0-Low)	17%
2.1	Understanding of Design Requirements	7%
	a. Bidder understands AW design concept?	
	b. Does Bidder understand the project scope of work?	
2.2	Design Outline	5%
	a. Adequacy of geotechnical investigation &	
	b. Adequacy of environmental requirements?	
	c. Quality of technical information?	
	d. Adequate number of design drawings?	
	e. Adequate number of specifications?	
2.3	Alternatives	5%
	a. Acceptability of offered alternatives	
3	Permitting Subjective 3 High to 0 Low)	23%
	a. Knowledge of Permitting Requirements	
4	Schedule (Subjective 3-High to 0 - Low)	23%
	a. Bidder understand contract mechanisms?	
	b. Bidder understand sequence of work required?	
	c. Were critical activities identified?	
	d. Were adequate approval times included?	
	e. Were milestones for potential delay identified?	
	f. Was realistic contract period identified?	
	g. Were realistic permit periods identified?	
5	Resources (Subjective 3 - High to 0 - Low)	13%
	a. Are details of arrangements with partners, subcontractors, etc. ok?	
	b. Is the bidder's staffing structure adequate?	
	c. Is the Project Management Staff adequate?	
	d. Is the Construction staff experience adequate?	
	e. Is the Design staff experience adequate?	
	f. Are the Bidder's site facilities adequate?	
	g. Will the contractor self perform much of the work?	
	h. Is the Commissioning staff experience adequate?	

Score Definitions
3 = above expectation
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0 = so far below expectation as to give concern

76.1		
2.9	23.2	D/B L.S. Fees \$4,594,870
2.3	13.1	
0.8	5.3	
2.0		
2.5		Proposal defines in detail scope both proj.
0.7	3.7	
3.0		Included soil borings for pipeline work
2.0		
2.0		
2.0		424 drgs between both sites
2.0		Large number of specifications
0.8	4.2	
2.5		
0.7	16.1	
2.1		Slightly more detail than Felix
0.7	17.0	
2.0		
2.5		Plan to use SCW to work out details for PV
2.5		Activities identified in detail
2.5		Plan to use SCW to work out details for PV
2.0		
2.0		
2.0		
0.5	6.8	
2.5		More experience working together
2.0		
1.0		C. Norton, PM lacks large project exp.
1.0		Supts. Lack significant water/wastewater
1.0		PM and Proj Engr exp. Is limited
2.0		
2.0		Excavation, pipe & conc.
1.0		None listed



Scoring criteria & mechanism are on the previous worksheets
See scoring definitions below

**Arizona American Water
Arsenic Removal Facilities Proposal Evaluation
Bidders' Score Table**

**Garney
Burns & Mc Donnell**

Schedule	Description	Max. Possible Weighted Score (%)	Score	Weighted Score	Comments
COMPOSITE TOTAL		100.0%	74.2		
1	Commercial (Subjective 3-High to 0 Low) <i>Evaluation & critique of costs</i>	24%	2.3	18.4	D/B L.S. Fees \$5,581, 564
2	Technical Submission (Subjective 3 High to 0-Low)	17%	2.0	11.2	
2.1	Understanding of Design Requirements	7%	0.7	4.7	
	a. Bidder understands AW design concept?		2.0		
	b. Does Bidder understand the project scope of work?		2.0		
2.2	Design Outline	5%	0.6	3.2	
	a. Adequacy of geotechnical investigation &		2.0		
	b. Adequacy of environmental requirements?		2.0		
	c. Quality of technical information?		2.0		
	d. Adequate number of design drawings?		1.7		243 for both sites - too few drgs
	e. Adequate number of specifications?		2.0		
2.3	Alternatives	5%	0.7	3.3	
	a. Acceptability of offered alternatives		2.0		
3	Permitting Subjective 3 High to 0 Low)	23%	2.5	19.2	
4	Knowledge of Permitting Requirements Schedule (Subjective 3-High to 0 - Low)	23%	0.7	15.9	Slightly better than Norton
	a. Bidder understand contract mechanisms?		2.0		
	b. Bidder understand sequence of work required?		2.0		
	c. Were critical activities identified?		2.5		PV shown finishing 1.5 mo. Late but Alt. Plan
	d. Were adequate approval times included?		2.0		
	e. Were milestones for potential delay identified?		2.0		
	f. Was realistic contract period identified?		2.0		
	g. Were realistic permit periods identified?		0.7	9.5	
5	Resources (Subjective 3 - High to 0 - Low)	13%	2.0		
	a. Are details of arrangements with partners, subcontractors, etc. ok?		2.0		
	b. Is the bidder's staffing structure adequate?		2.5		PM: Auay-Fuay, 15-yrs plants to 20MGD
	c. Is the Project Management Staff adequate?		2.5		Hoopes -15yrs, Mike Moe-31 yrs
	d. Is the Construction staff experience adequate?		2.5		PM's: Masche-10yrs, Taylor-16 yrs
	e. Is the Design staff experience adequate?		2.0		
	f. Are the Bidder's site facilities adequate?		2.0		
	g. Will the contractor self perform much of the work?		2.0		
	h. Is the Commissioning staff experience adequate?		2.0		

Score Definitions

- 3 = above expectation
- 2 = as expected
- 1 = below expectation
- 0 = so far below expectation as to give concern



American Water

Appendix D

Scoring criteria & mechanism are on the previous worksheets
See scoring definitions below

Arizona American Water
Arsenic Removal Facilities Proposal Evaluation
Bidders' Score Table

Schedule	Description	Max. Possible Weighted Score (%)
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Score	Weighted Score	Comments
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COMPOSITE TOTAL 100.0%

66.1

- 1 Commercial (Subjective 3-High to 0 Low) Evaluation & critique of costs 24%
- 2 Technical Submission (Subjective 3 High to 0-Low) 17%
- 2.1 Understanding of Design Requirements 7%
- a. Bidder understands AW design concept? 2.5
- b. Does Bidder understand the project scope of work? 2.5
- 2.2 Design Outline 5%
- a. Adequacy of geotechnical investigation & 2.0
- b. Adequacy of environmental requirements? 2.0
- c. Quality of technical information? 3.0
- d. Adequate number of design drawings? 1.8
- e. Adequate number of specifications? 2.0
- 2.3 Alternatives 5%
- a. Acceptability of offered alternatives 2.0
- 3 Permitting Subjective 3 High to 0 Low 23%
- a. Knowledge of Permitting Requirements 3.0
- 4 Schedule (Subjective 3-High to 0 - Low) 23%
- a. Bidder understand contract mechanisms? 0.7
- b. Bidder understand sequence of work required? 2.0
- c. Were critical activities identified? 2.0
- d. Were adequate approval times included? 2.0
- e. Were milestones for potential delay identified? 2.0
- f. Was realistic contract period identified? 2.5
- g. Were realistic permit periods identified? 2.5
- 5 Resources (Subjective 3 - High to 0 - Low) 13%
- a. Are details of arrangements with partners, subcontractors, etc. ok? 0.7
- b. Is the bidder's staffing structure adequate? 2.0
- c. Is the Project Management Staff adequate? 2.2
- d. Is the Construction staff experience adequate? 3.0
- e. Is the Design staff experience adequate? 2.0
- f. Are the Bidder's site facilities adequate? 2.0
- g. Will the contractor self perform much of the work? 2.0
- h. Is the Commissioning staff experience adequate? 2.0

0.5	4.0	D/B L.S. Fees \$10,061,691
2.2	12.8	
0.8	5.6	
2.5		
2.5		
0.7	3.6	
2.0		
2.0		
3.0		
1.8		260 drgs for both sites, too few drgs
2.0		
0.7	3.3	
2.0		
1.0	23.0	
3.0		Excellent review of permit req'ts.
0.7	17.0	
2.0		
2.0		
3.0		Good identification of critical activities
2.0		
2.0		
2.0		
2.5		good time periods shown
0.7	9.3	
2.0		
2.0		
2.2		13+ yrs exp. most smaller projects
3.0		25+ yrs exp on large water projects
2.0		
2.0		
2.0		

Score Definitions

3 = above expectation

2 = as expected

1 = below expectation

0 = so far below expectation as to give concern

DOCKET NO. W-01303A-05-0405
Arizona-American Water Company
Rebuttal Testimony of Joseph E. Gross, P.E.

Exhibit C

**ARIZONA AMERICAN WATER
PARADISE VALLEY DISTRICT**

EVALUATION OF ARSENIC REMOVAL ALTERNATIVES

**AMERICAN WATER WORKS SERVICE COMPANY, INC.
SYSTEM ENGINEERING
1025 Laurel Oak Road
Voorhees, New Jersey 08043
October 2003**

INTRODUCTION

Arizona-American Water's (AAW) Paradise Valley District supplies potable water to approximately 4,600 customers in portions of the Town of Paradise Valley, City of Scottsdale, and unincorporated Maricopa County. The District obtains its water supplies from a total of seven wells situated in the City of Scottsdale along the eastern edge of the service area. Arsenic is present in all of the groundwater supplies at levels approaching or exceeding the 10 microgram per liter (ug/L) maximum contaminant level (MCL) that was recently promulgated by the US Environmental Protection Agency (EPA). Arsenic removal facilities will need to be installed and in service by the Arsenic Rule's effective date of January 23, 2006 to comply with the pending MCL. The purpose of this report is to review treatment technologies available for removal of arsenic from potable water supplies, and determine which treatment alternative is most appropriate for the Paradise Valley District.

BACKGROUND

Table 1 presents summary information about each of the seven wells serving the Paradise Valley District. The table shows that the average concentration of arsenic in all but two of the wells exceeds the 10 ug/L MCL. Further, although arsenic levels in Wells 17 and PCX-1 have averaged less than 10 ug/L, maximum arsenic levels in both wells are at or close to the MCL. In addition, both wells are impacted by other water quality issues that prevent them from being pumped directly into the distribution system. Specifically, the concentration of nitrate in Well 17 exceeds the drinking water MCL, so Well 17 must be blended with other supplies at the Miller Road Booster Station (MRBS) before being pumped into the distribution system. Well PCX-1 contains elevated levels of trichlorethylene (TCE) that must be removed prior to the distribution system. Flows from Wells 14, 15, and PCX-1 combine at the Miller Road Treatment Facility (MRTF) before being pumped into the distribution system. As a result, the concentration of arsenic at all existing points of entry into the Paradise Valley Distribution system may exceed the MCL of 10 ug/L.

Table 1
Summary of Select Well Characteristics – Paradise Valley District

Well ID	Year Drilled	Depth (ft)	Motor (HP)	Capacity (gpm)	Arsenic (ug/L) ¹	
					Average	Maximum
11	1959	1,372	300	1,800	13.3	18
12	1962	1,301	300	1,800	11.4	13
14	1965	1,743	400	2,100	10.7	12
15	1969	1,430	400	2,100	10.9	14
16	1980	1,500	600	2,200	13.7	18
17	1993	1,145	600	2,500	8.7	10
PCX-1	1997	1,245	600	2,300	8.3	9
TOTAL / AVERAGE²				14,800	10.9	13.2

1. Arsenic data are based on approximately 10 water quality samples collected between 1995 and 2002.
2. The overall average and maximum concentrations were calculated based on the flow-weighted capacity of each well.

Figure 1 presents a schematic overview of how the District's existing wells and treatment facilities are configured. Well PCX-1 is owned by the Salt River Project (SRP), but its supply is used by AAW in exchange for AAW's allocation of surface water from the Central Arizona Project (CAP) canal system. Well PCX-1 is operated on an almost continuous basis in an effort to prevent migration of TCE contamination to AAW's other wells.

In 1999, a Comprehensive Planning Study (CPS) was completed for the Paradise Valley District, which included projections of average and maximum daily demands through the year 2012. According to the CPS, average and maximum day demands in the Paradise Valley District may reach 11.3 mgd and 19.3 mgd, respectively, by the year 2012. The combined capacity of the seven wells serving the Paradise Valley District totals approximately 21.3 mgd (14,800 gpm), with a reliable production capacity of about 17.7 mgd (12,300 gpm) assuming the District's largest capacity well is out of service. Although the District has adequate reliable capacity to meet current maximum day demands, it was recommended in the CPS that AAW obtain a backup supply of water from another SRP-owned well (SRP-22.6) to ensure that adequate reliable capacity would be available in the future. Well SRP-22.6 is located on the opposite side of the Arizona Canal near Well 14. The concentration of arsenic in Well SRP-22.6 is not known at the present time, but was assumed to be equal to the highest concentration measured in the District's other existing well supplies.

AAW owns several parcels of property in the vicinity of its well facilities on Miller Road in the City of Scottsdale. The MRTF site consists of approximately 6 acres, bounded by Miller Road on the west, McDonald Drive on the north, the Arizona Canal on the east, and a private parcel to the south. Only a portion of the southern half of the site is currently in use, although space is reserved to allow for future expansion of the MRTF if groundwater contamination continues to migrate and impacts the District's other wells. The northern half of the property currently contains a storm water detention basin, but is otherwise undeveloped.

The MRBS site is made up of five contiguous parcels totaling approximately 11.5 acres. The site is bounded on the west by Miller Road, the east by the Arizona Canal, and the north and south by private parcels. Booster pumping equipment and associated water storage tanks and electrical facilities are positioned near the center of the property, with Wells 11, 12, and 16 spaced out along the Arizona Canal. A 2,500-square foot storage warehouse is also present near the center of the property. The remainder of the site is currently undeveloped. The Water Company is considering sale of a portion of this property if there is land available that is not required for arsenic removal facilities.

PRELIMINARY SCREENING OF TREATMENT ALTERNATIVES

There are several treatment technologies that are capable of removing arsenic from potable water supplies. Included in the Arsenic Rule was a list of seven technologies that USEPA has identified as Best Available Technologies (BAT) for the removal of arsenic from drinking water. Following is a list of the technologies identified by EPA as BATs:

1. Activated Alumina
2. Coagulation/Filtration

ARIZONA CANAL

ARIZONA CANAL

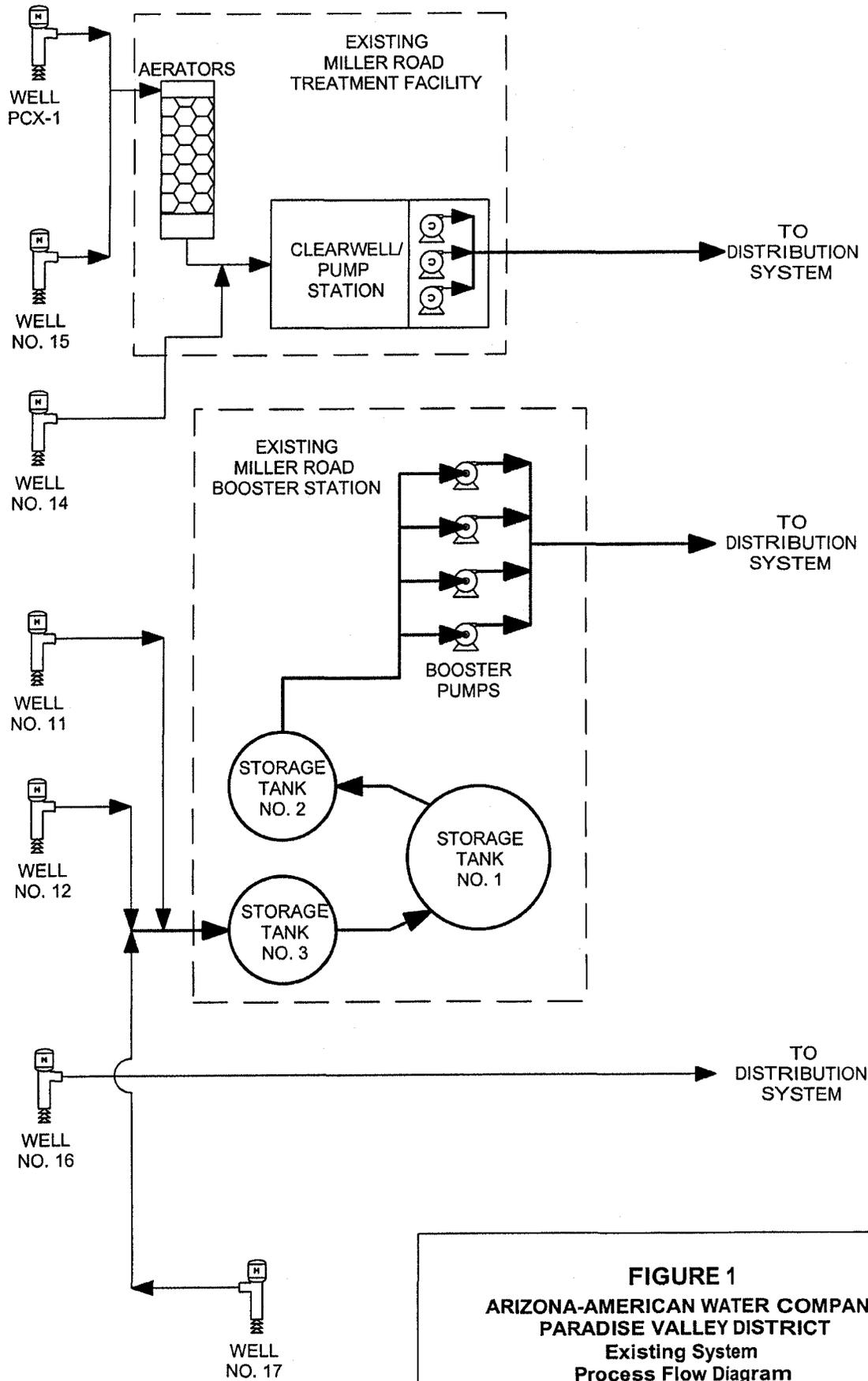


FIGURE 1
ARIZONA-AMERICAN WATER COMPANY
PARADISE VALLEY DISTRICT
Existing System
Process Flow Diagram

3. Ion Exchange
4. Lime Softening
5. Reverse Osmosis
6. Electrodialysis
7. Oxidation/Filtration.

In February 2003, Arizona Department of Environmental Quality (ADEQ) published an Arsenic Master Plan (AMP) to help identify effective, low-cost methods for complying with the newly promulgated arsenic MCL. The AMP considers the technologies on US EPA's BAT list, as well as treatment with disposable, iron-based absorbent media, which is an emerging treatment technology that has been shown to be effective in numerous pilot studies, but has not yet been designated as a BAT by the US EPA. Iron-based absorbent media is referred to in the AMP and herein as granular iron media. This section provides a summary of each of the BAT processes, as well as granular iron media, and identifies which technology alternatives are feasible and/or likely to be cost-effective for the Paradise Valley District.

Several of these BATs, such as coagulation/filtration and lime softening, may only be feasible if applied as centralized treatment at the point of entry (POE) to the distribution system, whereas others may only be cost-effective if applied in small treatment devices at the point of use (POU). Some of these technologies, such as activated alumina or granular iron media, may be applied at individual wellheads, central POEs, or even in POU devices.

Naturally-occurring arsenic may be present in either a neutrally-charged, reduced state [arsenite – As(III)], or in a negatively charged, oxidized state [arsenate – As(V)]. Other complexed forms of arsenic are also possible, but inorganic arsenite and arsenate are most prevalent in groundwaters throughout the southwest. Many of the treatment technologies require dissolved arsenic to be in the form of negatively charged arsenate [As(V)] to achieve effective removal. If arsenic is present in its reduced (arsenite – As(III)) state, a pre-oxidation step may be required utilizing an oxidant such as chlorine or potassium permanganate.

ACTIVATED ALUMINA

The activated alumina (AA) process involves passing water containing arsenic through a bed of aluminum oxide media in a pressurized column or contactor. The media is positively charged; therefore it adsorbs negatively charged species, including arsenic. Arsenic bonds to the surface of this media until it is exhausted as indicated by the appearance of increased arsenic in the contactor effluent. When the media becomes exhausted, it can either be regenerated with a concentrated caustic solution, or disposed of and replaced. The effectiveness of AA systems may be compromised by elevated pH, with the optimum pH range being 5.5-6.0. Additional interference may be caused by silica, phosphate and sulfate ions in the raw water.

According to the ADEQ AMP, regenerable AA technology results in waste streams that may be considered hazardous and present disposal issues. Therefore, this technology was eliminated as a potential arsenic treatment option for all AAW sites.

The ADEQ AMP considers disposable iron-modified AA (Fe-AA) systems to be a feasible alternative for arsenic removal for raw water sources in Arizona. However, pilot

testing at AAW's Sun City West POE No. 1 revealed that Fe-AA did not perform as well as granular iron media. Similar results have been reported from pilot testing at a number of other locations. Although Fe-AA may cost less than granular iron media, it would require more frequent replacement, which would more than offset its lower unit cost. Therefore, disposable activated alumina was eliminated from further consideration for the AAW sites.

COAGULATION/FILTRATION

According to the AZDEQ AMP and numerous other research reports and guidance documents published by the USEPA, chemical coagulation in conjunction with granular media filtration or microfiltration (MF) can be an effective means for removing arsenic from ground water sources. If As(III) is present in the source water, it must be oxidized to the As(V) state prior to the treatment process. Common drinking water coagulants such as alum, ferric chloride, or ferric sulfate may be utilized. However, the iron-based coagulants are generally found to be more effective due to the greater affinity of arsenic to adsorb onto the resulting ferric-hydroxide floc. If iron is present in the source water, it may be precipitated by oxidation, adsorbing arsenic similarly to the iron-based coagulants.

A sedimentation step is typically not required because relatively low doses of ferric chloride are necessary, unless raw water arsenic or iron concentrations are extremely high. Provisions should be made to ensure efficient and effective mixing of the coagulant in the water. After the oxidation and coagulant addition steps, a granular media filter or microfilter removes the resulting floc. Closed, pressure vessel-style filters are typically used so that a subsequent downstream pumping step can be avoided. Open gravity filters are most suitable for larger capacity facilities.

Both granular media and MF systems will experience headloss due to the accumulation of solids on the media or within the microfilter. Terminal headloss requires backwashing of the filters to remove entrapped solids. Backwash wastewater may either be treated and recycled or disposed of. Disposal options included discharging to the sanitary sewer, or discharge to surface or groundwater. Equalization of backwash wastes is typically required as part of recycle or sewer disposal alternatives. In systems where the volume of water discharged to waste is a concern, it is desirable to recover a portion of the backwash water by discharging to a settling tank and recycling the decant water to the head of the plant. Settled solids may be thickened and discharged to the sanitary sewer, if allowed, or dewatered for disposal at a landfill.

MF systems are higher in cost than granular media systems, and the AZDEQ AMP does not consider MF systems to be feasible due to their high cost and level of operational complexity. Therefore, MF systems were eliminated from consideration for the AAW sites. However, coagulation with granular media filtration is a viable option for treatment of arsenic, particularly at the larger (> 5 MGD) AAW sites. This process is currently employed to remove arsenic from water supplies at American Water's Kokomo, Indiana Water Treatment Plant.

ION EXCHANGE

Ion exchange (IX) is a physical-chemical process in which ions are exchanged between a liquid solution phase and a solid resin phase. A strong-base anion exchange in

chloride form is effective in removing As(V). If As(III) is present in the source water, it must be oxidized to the As(V) form upstream of IX.

Arsenic removal is accomplished by passing water under pressure through one or more columns packed with resin beads. As the water passes through the resin, chloride anions are swapped for other anions, including arsenate, sulfate, and nitrate. The efficiency of the arsenate removal is dependent upon the concentration of these competing anions. High levels of total dissolved solids may negatively affect the arsenic removal performance of IX.

Sulfate is removed preferentially to arsenate; therefore, the IX resin must be regenerated prior to sulfate breakthrough. Bicarbonate is also removed initially, so there may be a drop in pH and alkalinity when the column is initially placed in service. An additional concern with IX systems for arsenic removal is a phenomenon known as chromatographic peaking. This occurs when the resin is "exhausted" and begins to exchange less preferentially sorbed ions such as arsenate and nitrate for sulfate. When this occurs, the desorbed ions exiting the resin bed will be present at a higher concentration than in the influent.

Passing a brine solution through the column followed by a clean water rinse regenerates the resin. The resulting waste brine solution will likely contain arsenic concentrations that exceed the 5 mg/L threshold for classification as a hazardous waste. Therefore, the AZDEQ AMP does not recommend use of this technology. Considering the hazardous waste issue, as well as the potential for pH impacts and chromatographic peaking, IX is not considered to be a feasible alternative for any of the AAW sites.

LIME SOFTENING

Lime softening is a physical-chemical process that removes calcium and magnesium cations from solution. Lime addition increases the pH of the water, which results in the precipitation of calcium carbonate and magnesium hydroxide. Arsenic can be removed by co-precipitation of As(V) with magnesium hydroxide. According to the EPA Arsenic Treatment Design Manual for Small Systems, these particulates precipitate in the presence of excess lime when the pH is 10.5-11. The particles can then be removed by traditional clarification and filtration methods.

Lime softening is considered by the EPA to be cost-prohibitive as a primary arsenic treatment technology, and should only be considered by systems that already use lime softening to reduce hardness. None of the AAW wells of concern currently employ or require softening; therefore, it is not considered a viable option for AAW.

REVERSE OSMOSIS

Reverse osmosis (RO) is a high-pressure membrane separation process that removes contaminants by both physical and electrostatic means. RO utilizes semi-permeable membranes enclosed in a cartridge through which pure water moves while contaminants are rejected continuously from the upstream side of the membrane.

RO is typically able to remove greater than 95% of As(V) in source water. In addition, the technology also effectively removes TOC, salts, and other dissolved minerals. However, the process requires that as much as 20 to 40 percent of the total water supply

be wasted on a continuous basis to carry away the dissolved solids that cannot pass through the membrane. In addition, pressures of 100-350 psi, depending on raw water TDS concentration, must be maintained as the driving force upstream of the membranes, resulting in high energy costs.

Due to these concerns, the AZDEQ AMP does not recommend RO systems as a primary arsenic treatment technology. This technology will not be considered for use at any of the AAW arsenic treatment sites.

ELECTRODIALYSIS

Electrodialysis utilizes selectively permeable membranes and an electric current to separate cations and anions from water. The current is reversed periodically to help reduce membrane fouling. Electrodialysis can achieve high removal of total dissolved solids, although electrodialysis systems are typically more expensive than RO and have not been used extensively for drinking water treatment. In addition, only limited demonstration testing has been conducted to date, so the effectiveness for removal of arsenic is not well known. For these reasons, electrodialysis is not considered for use at any of the AAW treatment sites.

OXIDATION/FILTRATION

Oxidation/Filtration is a granular media filtration process where a greensand media facilitates oxidation and the precipitation of iron and manganese in the source water. This technology is similar to the coagulation/filtration process discussed previously in that arsenic is removed by adsorption to and filtering of iron precipitates. Chlorine or potassium permanganate are fed upstream of the filters, serving the dual purpose of oxidation and regeneration of the greensand media. Coagulant addition is typically not required, as this process relies on the native iron content in the source water. As the iron is oxidized, arsenic is removed by adsorption/co-precipitation with the resulting ferric hydroxide precipitate.

The removal efficiency varies with the initial iron concentration and iron to arsenic ratio in the source water. According to the EPA Arsenic Design Manual for Small Systems, iron should be present at 1.5 mg/L or greater, and the iron to arsenic ratio should be at least 20:1 on a mass basis. The process may be enhanced by the addition of an iron salt coagulant.

AAW's wells generally exhibit raw water iron concentrations significantly less than the above referenced 1.5 mg/L level. Therefore, supplemental ferric coagulant addition would be required to make the process work. It is recommended that traditional dual media filtration be employed as opposed to the more costly greensand media at AAW sites for which a filtration technology is feasible.

GRANULAR IRON MEDIA

Iron-based sorbents such as Severn-Trent's Bayoxide E33 (E33) and US Filter's Granular Ferric Hydroxide (GFH) media are emerging technologies for removing As(V) from source waters. Although neither of these proprietary media are currently recommended as a BAT by the USEPA, both are gaining wide acceptance due to their

ability to treat more bed volumes relative to alumina-based sorbents. The AZDEQ AMP recommends these iron-based sorbents for arsenic treatment.

Similar to AA systems, this process involves passing water containing arsenic through a bed of iron-based media in a pressurized column or contactor. Arsenic bonds to the surface of this media until it is exhausted as indicated by the appearance of increased arsenic in the column effluent. When the media becomes exhausted, it is to be disposed of and replaced. Previous studies indicate that spent media is below the Toxicity Characteristic Leaching Procedure threshold for hazardous wastes.

As evidenced by pilot testing conducted as part of a joint American Water Works Research Foundation (AWWARF)/US EPA research project at AAW's Sun City West Water Plant No. 1, iron-based sorbents tend to be more effective than AA or Fe-AA at pH levels up to 8.0. Competing constituents such as phosphate, sulfate, vanadium, and silica may compromise the arsenic removal capacity of iron-based sorbents. The impact of silica interference decreases with decreasing pH, with the optimum level being in the 5.5-6.0 range for waters with silica levels exceeding 50 mg/L. In this case, a pH adjustment step should be considered to optimize the life of the media bed.

The media bed must be backwashed prior to initial operation to remove fines, and as necessary to reduce headloss through the column during normal operation. Disposal options include equalization with discharge to nearby sanitary sewer system (if available) or a backwash storage/settling tank with decant recycle. Settled solids may be hauled, discharged to nearby sanitary sewer, or dewatered and disposed of in a sanitary landfill.

Due to the excellent arsenic removal performance for a wide range of raw water quality conditions, iron-based adsorptive media will be considered for use at the AAW sites.

EVALUATION OF SELECTED ALTERNATIVES

Based on the preceding analysis, granular iron media and ferric chloride coagulation/filtration are the preferred arsenic treatment alternatives for the Paradise Valley District. The other treatment alternatives are problematic and/or not cost-effective. An in depth analysis of each of these two process alternatives is presented in the sections that follow. Several factors were evaluated, including the following:

- Facility design configurations
- Treatment capacity requirements
- Land area requirements
- Waste handling and disposal
- Operational factors, such as reliability, flexibility, and complexity
- Construction cost
- Operating and maintenance (O&M) cost

GRANULAR IRON MEDIA

Granular iron media treatment is a fairly simple process wherein water is pumped through a fixed bed of manufactured granular media. As the water flows through the

bed, arsenic that is in the +5 (oxidized) state is adsorbed onto the granular media. Oxidation is required if the arsenic is in a reduced (+3) state. Chlorine is typically used, although other chemical oxidants such as potassium permanganate may also be effective. Periodically, the bed needs to be backwashed to remove silts or media fines that accumulate on the surface of the bed during operation. As the mass of arsenic and other competing ions, such as silica and phosphate, accumulate on the media, the adsorptive capacity of the media diminishes. Granular iron media is non-regenerable, so the media must be replaced and disposed of once its arsenic adsorption capacity has become exhausted.

Facility Design Configurations

There are several different ways that granular iron media treatment could be deployed in the Paradise Valley District, including as individual treatment systems for each well, a centralized treatment facility for all of the supplies, or a combination of individual and/or combined treatment facilities. A number of different process treatment configurations are also possible, including single-stage (parallel) or two-stage (series) treatment, and split-stream treatment with finished water blending. Deciding which configuration is best takes into consideration both construction and O&M costs, as well as other factors such as reliability (redundancy), land availability, and impact on neighboring property owners.

Individual Versus Central Treatment

Generally, it is more cost-effective to construct a single, large capacity treatment facility rather than multiple smaller capacity facilities. However, depending on the cost of transmission mains and the availability of space for a centralized facility, it may be that multiple smaller capacity treatment facilities would be more feasible or cost-effective. As was shown in Figure 1, supplies from the seven wells serving the Paradise Valley District are already consolidated into three points of entry (POEs). Further, Well 16 is located adjacent to the MRBS site and piping is already in place to allow its flow to be routed through the MRBS facility. Since adequate land is available at both central locations, it can safely be assumed that constructing centralized treatment facilities at the MRTF and/or MRBS would be substantially more cost effective than placing treatment facilities at the individual wellheads.

It may also be possible that constructing a single larger capacity facility at one of these locations would be less costly than two separate facilities, even considering the cost of transmission mains to convey the raw and finished water supplies to/from the central treatment location. Constructing a single facility would reduce the neighborhood impact. Although the level of redundancy would be reduced somewhat, a single centralized treatment facility would include a sufficient number of treatment units, redundant equipment, and backup power to ensure adequate system reliability.

Consideration should also be given to the possibility that existing TCE contamination could affect the District's other well supplies in the future. If that occurs, some of the supplies currently handled at the MRBS may need to be routed to the MRTF for treatment. If two separate arsenic treatment facilities were constructed, the increased flow to the MRTF would either need to be returned to the MRBS for subsequent arsenic treatment, or the capacity of the arsenic treatment facility at the MRTF would need to be increased. Having a single central treatment facility would likely make future expansion of the MRTF easier, and reduce the overall cost since piping would already be in place

to convey flows from the aeration facility at the MRTF to the arsenic treatment facility at the MRBS.

Single-Stage Versus Two-Stage Treatment

Single-stage granular iron media treatment systems are designed with one or more treatment units operating in parallel. With multiple units operating in parallel, the media replacement cycles can be staggered, so that the low arsenic effluent from virgin media units can be blended with the higher arsenic effluent from the spent media units to produce a finished water meeting the target arsenic concentration. Operating in this staggered mode can promote more complete use of the media's adsorptive capacity than if all of the media is replaced at the same time.

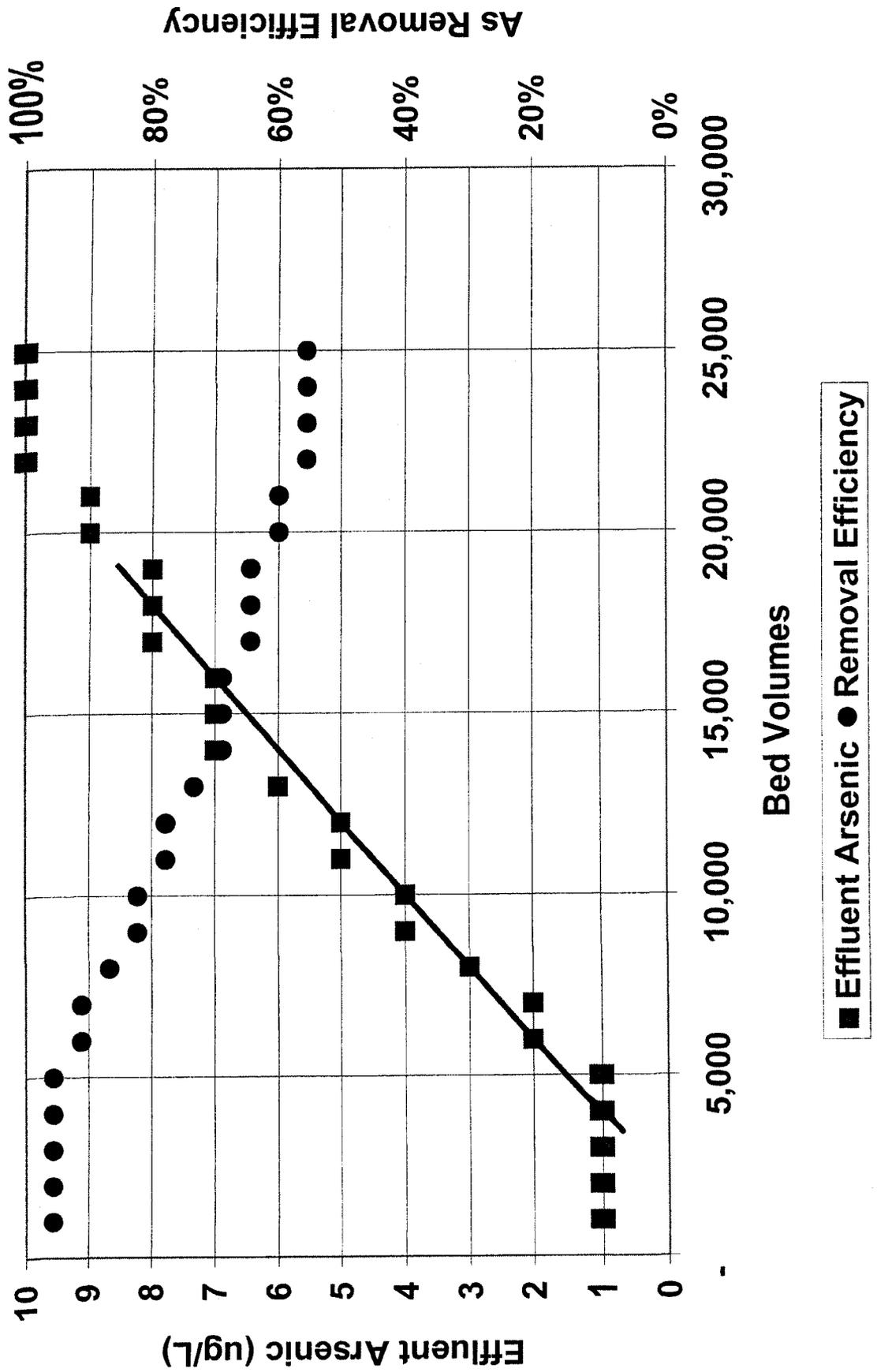
Two-stage systems are designed with two treatment vessels operating in series. Multiple two-stage units can operate in parallel to achieve the required total treatment capacity. Two-stage systems continue to operate for a period of time after the effluent arsenic from the first stage has exceeded the target final effluent concentration. Doing so allows the media in the first-stage vessel to continue to remove a fraction of the total arsenic load. The media in the first-stage vessel is then replaced, and the vessel is placed back into service as the second-stage unit.

The decision to use a single-stage system versus a two-stage system is typically based on the arsenic removal efficiency that is required, as well as capital and O&M costs. At start-up, effluent arsenic concentrations from both single-stage and two-stage systems are typically below detection. Arsenic "break through" eventually occurs as more and more of the adsorption sites becoming occupied by arsenic and/or other competing adsorbates. A two-stage system can maintain low effluent arsenic concentrations on a more consistent basis than a single-stage system because the second stage media bed removes the arsenic that is present in the effluent from the first stage unit. As a result, two stage systems are necessary where a consistently high level of arsenic removal is required, such as in systems with high raw water arsenic concentrations (typically greater than 20 ppb).

Two-stage systems also allow for more complete use of the media's arsenic removal capacity, since the first stage bed can continue to operate and remove a fraction of the arsenic load even when the concentration of arsenic exiting the first stage exceeds the target finished water value. However, two-stage units typically require a higher initial capital investment due to the greater volume of media, additional vessels, and more complex piping and controls. For waters with arsenic concentrations of less than about 15 ug/L, the payback period may be too great to justify the higher initial capital investment for a two-stage system.

Pilot testing of a single-stage granular iron media system was conducted in 2002 at AAW's Sun City West Point of Entry (POE) No. 1 as part of an Implementation Feasibility Study performed for AWWARF and the US EPA. Figure 2 shows the results from the pilot test, which was conducted using granular ferric hydroxide (GFH), a proprietary iron-based absorbent media supplied by US Filter. Initially, arsenic levels in the effluent from the granular iron media pilot unit were below detection, translating into an arsenic removal efficiency of greater than 95%. As the pilot test progressed, "break through" occurred and the arsenic level in the effluent steadily increased. Arsenic removal efficiency dropped below 95% after treating the equivalent of about 5,000 bed

Figure 2
 AZAWC - Sun City West Pilot Test
 Granular Iron Media Performance



volumes (BVs) of raw water, and effluent arsenic exceeded 8 ug/L after about 19,000 BVs. Due to the relatively high concentration of arsenic in the raw water supplies in the Sun City West system, a two-stage system may be recommended. However, for the Paradise Valley system, the number of bed volumes that could be treated prior to breakthrough is expected to be significantly greater because the concentration of arsenic and the pH of the raw water supply are substantially lower than in Sun City West. Therefore, a single-stage system is expected to be sufficient for Paradise Valley.

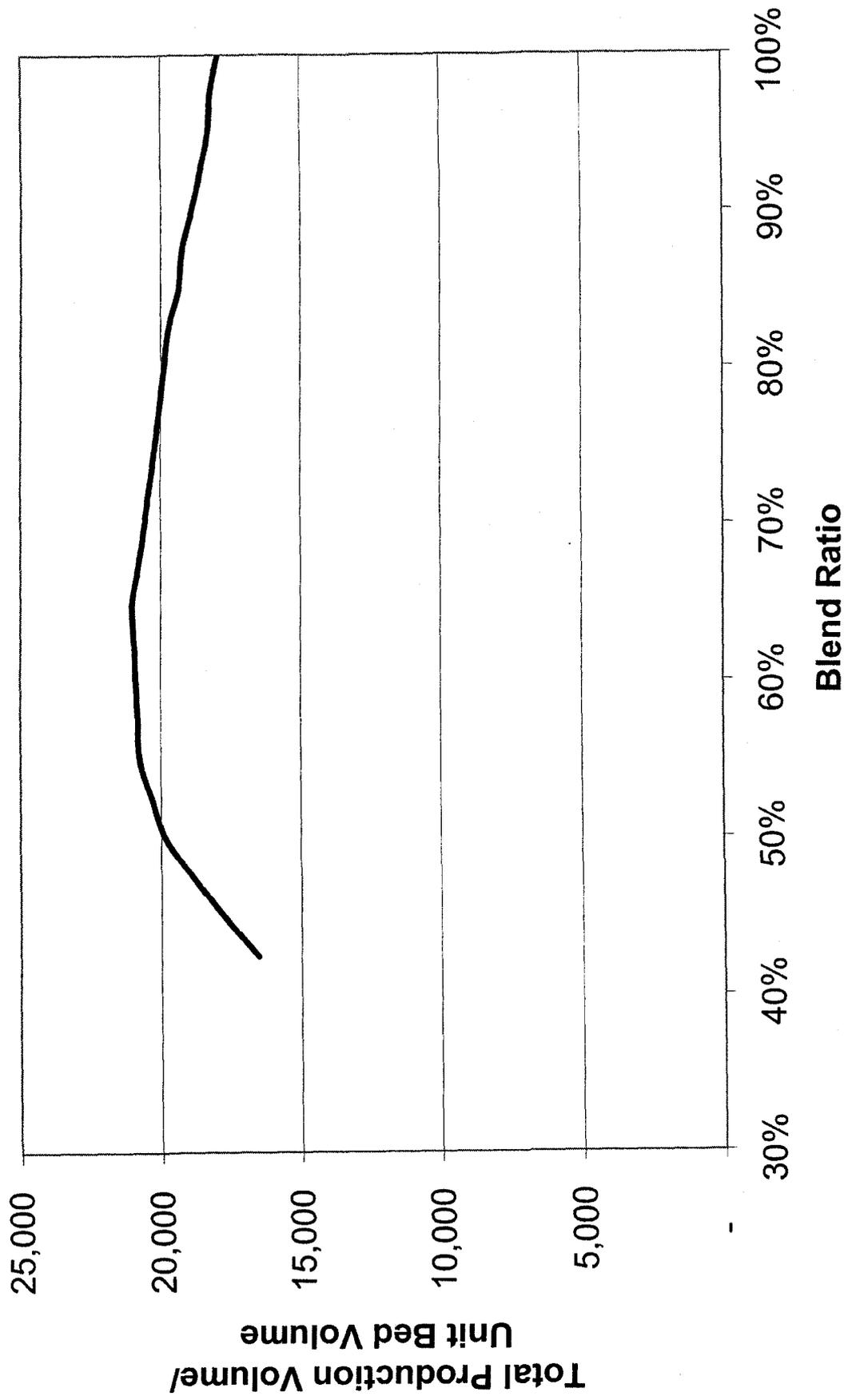
Blending

Since granular iron media systems are able to produce treated effluent that is well below the MCL, consideration can be given to treating only a portion of the total flow, and blending the treated effluent with the remainder of the raw water to meet the target finished water arsenic concentration. By blending, the size of the granular iron media treatment system can be reduced. However, blending is most applicable to two-stage systems, because the concentration of arsenic in the effluent from the treatment units can be maintained at a consistently low enough level that blending with raw water will still allow compliance with the MCL. For single-stage systems, staggering media replacement cycles can similarly help stabilize effluent arsenic concentrations, but the concentration of arsenic will still vary over a wider range than in a two-stage system. Therefore, blending with a single-stage treatment system is generally only practical when the raw water arsenic is fairly low (less than about 12 ug/L). In addition, blending requires that the media be replaced sooner after breakthrough than in a system designed to treat 100 percent of the flow. For example, if a water supply contained 12 ug/L of arsenic (similar to the average concentration in the Paradise Valley District supplies) and the target finished water concentration were 8 ug/L, a granular iron media system sized to treat 67 percent of the flow would require media replacement when the treated arsenic level reached 6 ug/L. If the system were designed to treat 100 percent of the flow, the media would not have to be replaced until the treated effluent arsenic reached 8 ug/L.

Although the data presented in Figure 2 are from the Sun City West pilot study, the shape of the performance curve is typical of most granular iron media systems, and the values can be used to illustrate how blending can be effective when raw water arsenic concentrations are low. Figure 2 shows that effluent arsenic levels did not exceed 6 ug/L until after approximately 13,500 BVs of flow had been treated. Thus, if the system were designed to treat two-thirds of the flow, the total volume of finished water that could be produced per unit volume of media would be in the range of 20,100 BVs. By comparison, the media in a system designed to treat 100 percent of the flow may only produce a total of only 19,000 BVs, since that is the point when effluent arsenic exceeded 8 ug/L.

Figure 3 was developed based on the data shown in Figure 2 by dividing the total volume of finished water produced by the volume of media required to treat the percentage of the total flow shown. As indicated in the preceding example, the maximum finished water production volume per unit volume of granular iron media would be achieved if the facility were designed to treat only about 65% of the total flow. Thus, the initial capital expenditure could be significantly reduced without increasing the total amount of media consumed per unit volume of finished water. Costs for media handling would be somewhat greater because media replacement would be required more

Figure 3
AZAWC-Sun Ciy West Granular Iron Media Pilot Test
Theoretical Production Capacity versus Blend Ratio



frequently, but the increased handling costs would be more than offset by the reduced capital cost and the more efficient media usage.

With the concentration of arsenic in Paradise Valley's well supplies being substantially lower than in the Sun City West supply, it is expected that a greater unit rate of finished water production could be achieved with a single-stage system by treating only a portion of the raw water supply. If granular iron media was the selected option, it would be recommended that pilot testing be conducted to verify the most optimum process configuration.

Treatment Capacity Requirements

Based on the preceding analysis, it appears that one or two central treatment facilities would be most appropriate for the Paradise Valley District. It is recommended that the target concentration for arsenic in the finished water entering the distribution system be set at 80 percent of the MCL or 8 ug/L. The treatment system(s) should be sized to reliably meet the target finished water arsenic concentration on the maximum day (demand) at raw water arsenic concentrations up to 20 percent greater than the maximum historic measurement. Although there is already a factor of safety built into the design by targeting a finished water arsenic concentration that is 20% below the MCL, it is intended to minimize the possibility of an MCL violation due to inaccuracies in blending and/or unanticipated drops in arsenic removal efficiency. Applying the additional factor of safety to the raw water arsenic data is proposed since the number of sample results that were available for calculating the historic average and maximum concentrations was limited. Also, there is the possibility that raw water arsenic levels may increase over time as water levels in the aquifers serving the Phoenix area continue to subside.

Table 2 presents a summary of the projected design capacity for the centralized treatment facility alternatives. For the two-separate central facilities option, each facility was assumed to be sized to handle the full capacity of all of the wells directed to the respective facility. For the single central facility option, treatment capacity is based on meeting the future maximum day demand that was projected in the most recent Comprehensive Planning Study (CPS) for the Paradise Valley District.

According to design information available from manufacturers of granular iron media systems, single-stage systems should be designed for nominal surface loading rates of 5 gpm/sf to 7 gpm/sf. Assuming a maximum available vessel diameter of 12 feet, the maximum rated capacity for an individual vessel would be in the range of 565 to 800 gpm. American Water's standard is to design treatment systems to allow for at least one train/unit to be out of service at nominal plant capacity. Thus, a total of 8 to 12 treatment units would be required for each of the separate MRTF and MRBS facilities, depending on the design surface loading rate selected. A single central facility would require between 12 and 18 individual treatment units depending on the design surface loading rate.

**Table 2
Centralized Treatment Facility Capacity Requirements**

Well/ Facility	Total Well Capacity (gpm)	Proposed Treatment Capacity		Projected Average Use (mgd)	Arsenic (ug/L)	
		(gpm)	(mgd)		Average	Max/ Design
11	1,800	-	-	2.0	14	22
12	1,800	-	-	2.0	11	15
16	2,200	-	-	1.0	13	21
17	2,500	-	-	0.5	9	12
MRBS	8,300	5,600	8.1	5.5	12	17
14	2,100	-	-	1.2	11	15
15	2,100	-	-	1.5	11	17
PCX-1	2,300	-	-	3.0	9	11
SRP-22.6 ¹	2,100	-	-	0.1	14	22
MRTF	8,600	5,800	8.4	5.8	10	16
Central	13,400	9,000	13.0	11.3	11	17

1. Assumes SRP-22.6 capacity equals 2,100 gpm with average and maximum arsenic concentration equal to the maximum values for the other wells.

Land Area Requirements

Figures 4A and 4B present a schematic of the two alternative centralized treatment facility configurations. Both the MRTF and MRBS have adequate space available to accommodate a separate central treatment facility sized to treat well supplies handled by the respective facilities.

Currently, AAW maintains administrative facilities that are separate from its supply and production facilities at the MRTF and MRBS. AAW is planning to consolidate its operations by including space for administrative activities in the layout of the arsenic treatment facilities. The existing conditional use permit (CUP) for the MRTF site limits the number of workers that are allowed to work on the site on a regular basis. Based on their experience obtaining the original CUP for the MRTF site, AAW anticipates that there will be significant public resistance to modifying the CUP for the MRTF. Therefore, administrative facilities would need to be located at the MRBS if two separate treatment facilities were constructed.

If a single central treatment facility was selected, it would likely only be feasible to locate it at the MRBS site because of the anticipated difficulties associated with modifying the existing CUP at the MRTF.

Waste Handling and Disposal

A major advantage of granular iron media systems is that waste production is minor relative to many other arsenic treatment technologies. The process requires only periodic backwashing to remove media fines and suspended solids that accumulate during the treatment process. Backwash frequencies typically vary between 30 and 90 days, depending on the amount of particulate matter present in the raw water. As a result, the volume of wastewater produced as a percentage of the process throughput is

ARIZONA CANAL

ARIZONA CANAL

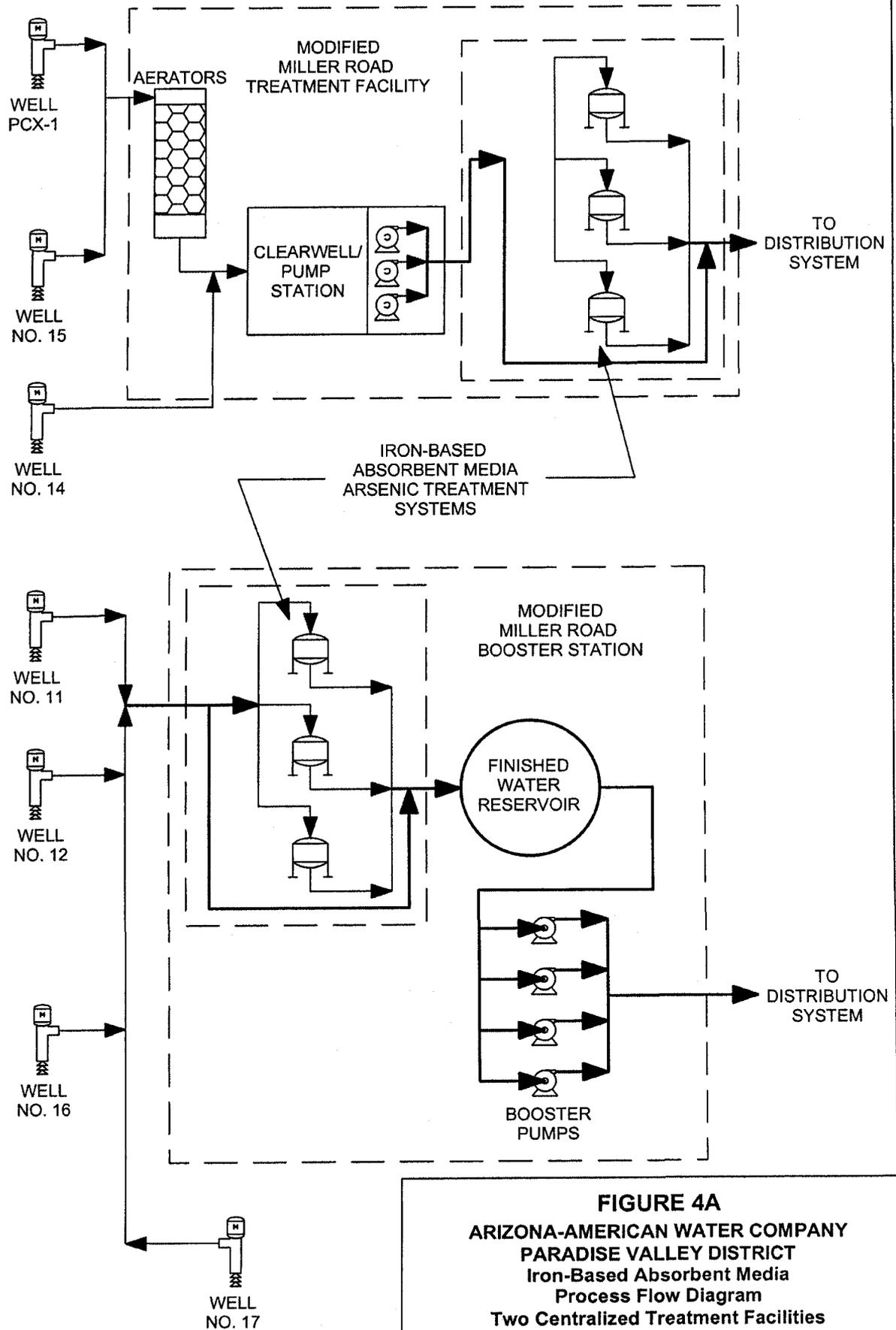


FIGURE 4A
ARIZONA-AMERICAN WATER COMPANY
PARADISE VALLEY DISTRICT
Iron-Based Absorbent Media
Process Flow Diagram
Two Centralized Treatment Facilities

ARIZONA CANAL

ARIZONA CANAL

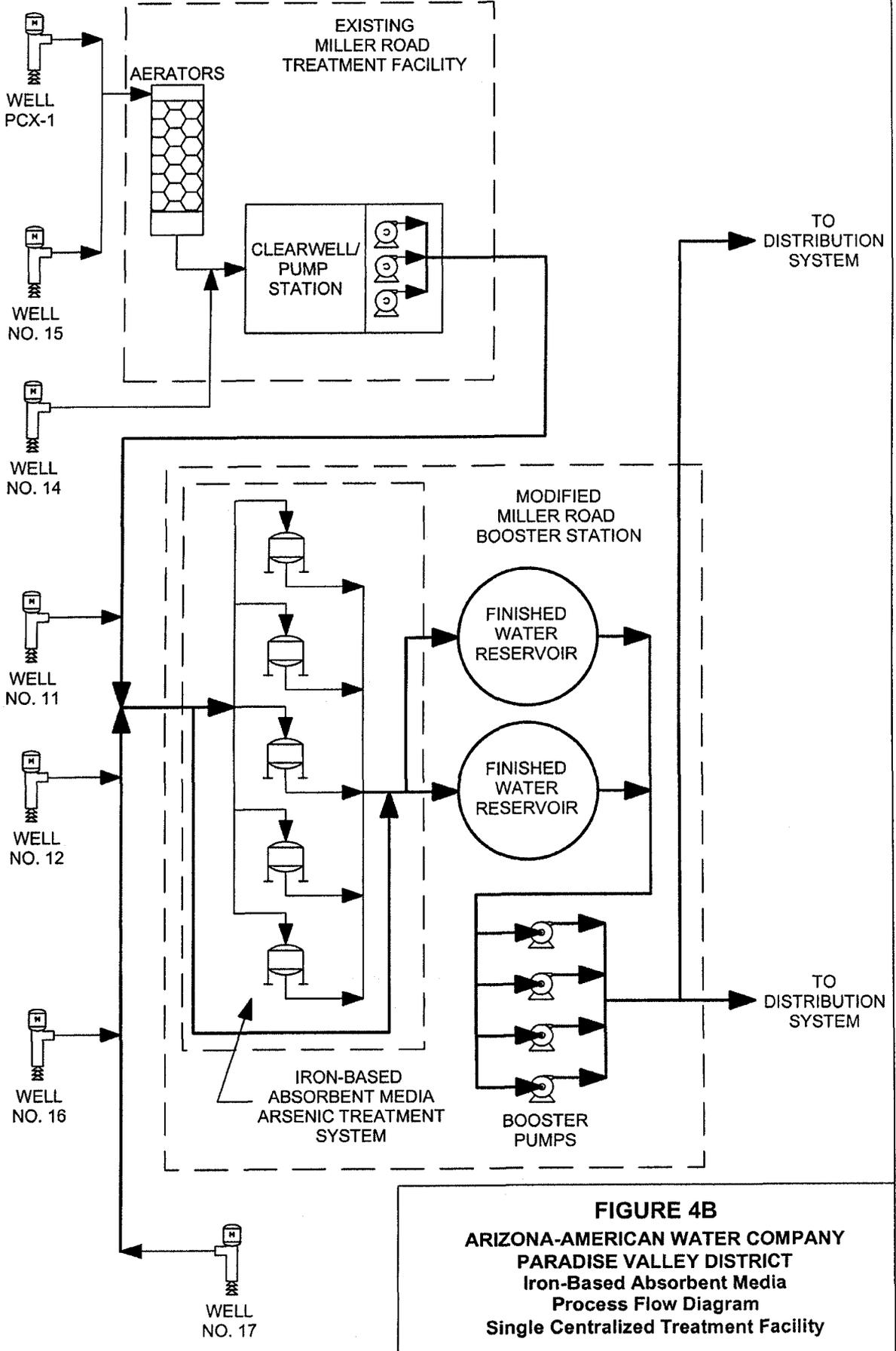


FIGURE 4B
ARIZONA-AMERICAN WATER COMPANY
PARADISE VALLEY DISTRICT
Iron-Based Absorbent Media
Process Flow Diagram
Single Centralized Treatment Facility

very small. The concentration of arsenic in backwash waste is also typically low because the arsenic that is adsorbed on the media is not washed off to any appreciable extent. As was discussed in the preceding section, possible disposal options for backwash wastes include discharge to the sanitary sewer and recycle back to the process.

The City of Scottsdale owns and operates the sanitary sewer system that serves the MRBS and MRTF facilities. It is not known at this time if the City of Scottsdale would permit the discharge of backwash waste to the sanitary sewer system. If granular iron media treatment appears to be a cost-effective alternative, the City should be contacted to determine if sewer disposal would be acceptable.

Regardless of whether sewer disposal is acceptable or not, consideration should be given to recycling settled backwash wastewater to further minimize the volume of waste that would be produced. At the present time, a formal decision has not been published by AZDEQ as to whether recycle of backwash from granular iron media systems is acceptable. However, it is expected that AZDEQ will approve of backwash recycle, particularly in cases where sewer disposal is not feasible. It is expected that precautions will need to be taken to prevent bacteriological contamination of the recycle stream by providing covers for equalization/storage tanks.

The only other waste produced through the process is the granular iron media itself. In small facilities, media is typically withdrawn from the vessels directly into tank trucks for offsite disposal. For larger installations, facilities can be provided to stockpile virgin and spent media onsite to facilitate media replacement scheduling. Spent media is classified as non-hazardous due to its relatively low concentration of arsenic on a dry unit weight basis and the fact that arsenic does not leach out of the media. As a result, spent media can be disposed of at a non-hazardous landfill.

Operational Factors

Reliability

Although granular iron media is a relatively new technology, several full-scale facilities are in service in Europe. In addition, numerous pilot studies have been conducted in Arizona and elsewhere in the US, including at several American Water sites, which have shown process performance to be consistent and predictable. Both GFH and E33 have been certified by the National Sanitary Foundation as acceptable for use in potable water treatment. In addition, granular iron media is identified in the AMP as a suitable technology for removing arsenic from groundwater supplies in Arizona, and the other hardware components, such as pressure vessels, underdrain systems, and automated valves, are commonly used in the water treatment industry. Therefore, granular iron media treatment is expected to offer a high degree of reliability.

Flexibility

Granular iron media systems are able to accommodate a wide range of influent arsenic concentrations. In addition, due to the modular nature of the pressure vessels, systems can be easily designed to accommodate future expansions.

Complexity

Granular iron media systems are fairly simple to understand and operate. Two-stage systems require somewhat more complex piping arrangements, however, the process generally does not require intensive operator attention.

Construction Cost

Preliminary cost estimates were developed to assess how the cost of a single large capacity granular iron media treatment facility would compare to the cost of separate treatment facilities at the MRTF and MRBS. The analysis considered whether the cost of the raw and finished water transmission mains required under the single central facility option would offset the added cost associated with two separate facilities. The MRBS and MRTF are located approximately 2000 feet apart on Miller Road. It was assumed that two parallel 2,500-foot-long, 24-inch diameter transmission mains would be required to convey supplies to/from the MRTF to a central arsenic treatment at the MRBS. At an installed cost of approximately \$150 per liner foot, the transmission mains would cost a total of approximately \$750,000.

Based on the information presented in the preceding section on facility capacity requirements, a total of 16 treatment units would be required under the two-facility option, as compared to just 12 units in a single central facility. According to budgetary cost information furnished by Severn Trent, the furnishing of 4 additional adsorptive media vessels plus two sets of control systems would cost in the range of \$1.3 million. There would also be other added costs associated with constructing two separate treatment facilities that would further increase this cost differential. Thus, constructing a single central treatment facility at the MRBS would be far less costly than constructing two separate central treatment facilities.

Table 3 presents a summary estimate of probable construction cost for a single central granular iron media treatment facility to serve the entire Paradise Valley District. The cost includes the following major facility components:

- Single masonry building to house treatment units, distributive pumping equipment, electrical distribution equipment, chemical feed facilities, and administrative functions
- Seventeen 12-foot diameter granular iron media units
- Two 1-million gallon steel finished water storage reservoirs
- Distributive pump station with can-type vertical turbine pumps
- Bulk hypochlorite storage and feed facility
- New electrical service, power distribution switchgear, MCC, and standby generator
- Backwash waste holding and recycle facilities
- Miscellaneous site improvements, including perimeter wall, paving, etc.

O&M Cost

Table 4 presents an estimate of the annual O&M cost for a granular iron media system. The cost was based on the following major operating expenses:

Table 3
Arizona-American Water Company - Paradise Valley District
Granular Iron Media Treatment Facility
Estimate of Probable Construction Costs

	Division/Item	Unit of Measure	Unit Cost	Extended Total
1	Mobilization/Bonds/Insurance	2% of subtotal	\$12,920,770	\$269,230
2	Sitework			
	24" RW and FW transmission piping	5,000 LF	\$150 /LF	\$750,000
	Perimeter wall	2,100 LF	\$95 /LF	\$199,500
	Driveways/pavement	1,389 SY	\$72.00 /SY	\$100,000
	Bldg excavation	2,042 CY	\$12.73 /CY	\$25,996
	B/W holding tank excavation	509 CY	\$12.73 /CY	\$6,480
	B/W holding tank backfill	140 CY	\$25.00 /SY	\$3,500
	Miscellaneous site improvements	2.5% of sitework	\$1,085,476	\$27,137
3	Concrete			
	Building slab	1021 CY	\$500 /CY	\$510,507
	B/W holding tanks	120 CY	\$500 /CY	\$60,050
5-9	Building, Misc. Metals, Etc.			
	Building	19,200 SF	\$150 /SF	\$2,880,000
	Paint	1 allowance	\$300,000 allowance	\$300,000
11	Equipment			
	Granular iron media and vessels	17 Vessels	\$175,000 /EA	\$2,975,000
	Onsite hypochlorite generator	1 LS	\$172,000 /EA	\$172,000
	Washwater pumps	2 EA	\$12,500 /EA	\$25,000
	B/W recycle canned LS	2 LS	\$60,000 /EA	\$120,000
	Distributive pumps (4 mgd)	3 EA	\$26,000 /EA	\$78,000
	Distributive pumps (8 mgd)	2 EA	\$43,000 /EA	\$86,000
13	Special Construction			
	Twin 1-MG Ground Reservoirs	2 EA	\$600,000 /EA	\$1,200,000
	B/W Holding Tanks	2 EA	\$90,000 /EA	\$180,000
15	Mechanical			
	MOVs	7 MOVs	\$5,000 /EA	\$35,000
	Large Manual Valves	48 valves	\$4,000 /EA	\$192,000
	Exposed Plant Piping (CLDIP)	720 LF	\$100 /LF	\$72,000
	Plant Process Pipe Fittings (CLDIP)	260 fittings	\$1,000 /fitting	\$260,000
	Hydropneumatic Tanks and Yardpiping	1 LS	\$160,000 /EA	\$160,000
	Misc Piping and Equipment Installation	20% of eqpt sub	\$3,456,000 sub	\$691,200
16	Electrical			
	MCC	6 sections	\$20,000 /section	\$120,000
	Washwater pump VFDs	2 total	\$8,000 /VFD	\$16,000
	Distributive pump VFDs	5 total	\$35,000 /VFD	\$175,000
	Emergency Generator	1 LS	\$200,000 /EA	\$200,000
	SCADA system	1 LS	\$500,000 /EA	\$500,000
	Installation & conduits/conductors	20% of eqpt & N	\$4,002,000	\$800,400
CONSTRUCTION SUBTOTAL				\$13,190,000
	Engineering	8% of construction subtotal		\$1,030,000
	Contingency	20% of construction subtotal		\$2,640,000
	AFUDC	7% of construction subtotal		\$940,000
PROJECT TOTAL				\$17,800,000

Table 4
Arizona-American Water Company - Paradise Valley District
Granular Iron Media Treatment Facility
Estimate of Annual Operation and Maintenance Costs

Item	Unit of Measure	Unit Cost	Extended Total
Power			
Pumping	258,405 kW-hr/yr	\$0.08 /kW-hr	\$20,672
Onsite hypochlorite generation	268,943 kW-hr/yr	\$0.08 /kW-hr	\$21,515
Misc. low voltage	131,837 kW-hr/yr	\$0.08 /kW-hr	\$10,547
Chemicals			
Salt	181 ton/yr	\$80 /ton	\$14,482
Labor			
Sampling, inspection, monitoring	1 hr/day	\$50 /hr	\$18,250
Equipment maintenance	4 hr/wk	\$50 /hr	\$10,400
Media			
Granular Iron Media	138,403 lb/yr	\$2 /lb	\$276,806
Media Handling Service	1 LS	\$40,000 /yr	\$40,000
Disposal			
Landfill	69 dry ton/yr	\$120 /dry ton	\$8,304
ANNUAL O&M			\$420,976

- Power – pumping and other plant needs
- Chemicals – Sodium hypochlorite (bulk liquid)
- Labor for operation and equipment maintenance
- Spent media replacement
- Spent media disposal.

As can be seen in Table 4, spent media replacement accounts for more than 65 percent of the estimated annual operating cost of a granular iron media system. A unit cost for media replacement of \$2/lb was used. Although media costs may decline in the future as manufacturers increase production capacity in the US, the cost to replace the media is likely to remain a significant percentage of the annual cost to operate a granular iron media treatment facility.

FERRIC CHLORIDE COAGULATION/FILTRATION

Ferric chloride coagulation/filtration entails the adsorption of arsenic to ferric hydroxide precipitates, with subsequent removal of arsenic bearing iron particulates through a granular media or membrane filtration process. Chemical (chlorine) oxidation may be required to convert the arsenic to the +5 (oxidized) state. As was discussed earlier, membrane filtration systems have higher capital and operating costs than granular media filtration systems designed at the same capacity. Therefore, consideration is only given to granular media filtration in this evaluation.

Ferric chloride is added upstream of the filters through a static mixer or other suitable mixing system. Granular media filters can be of either the open gravity or closed pressure vessel type. The pressure vessel type is more commonly used in groundwater applications because they allow water to be pumped directly through the vessels into the distribution system or into onsite storage reservoirs. Filter media typically consists of dual beds of anthracite and sand on top of support gravel. Pressure vessels can be either horizontal or vertical. Horizontal pressure vessels are often used because a greater amount of surface area can be provided per vessel.

As ferric hydroxide precipitates accumulate in the filter bed, pressure loss across the filter increases. Periodic backwashing is required to remove the accumulated solids to maintain treatment capacity and prevent breakthrough of arsenic bearing floc particles into the treated effluent. Facilities are required for handling and/or disposal of the backwash wastewater.

Facility Design Configurations

Pilot testing of ferric chloride coagulation/filtration was conducted at the Sun City West POE No. 1. Test results showed that greater than 80% removal of arsenic could be achieved at a ferric chloride dose of approximately 5 mg/L. Laboratory-scale testing was conducted to evaluate arsenic removal as a function of ferric chloride dosage on samples of water from Paradise Valley's Well 11. The laboratory test results were similar to the pilot test results, with greater than 80% removal of arsenic being achieved at a ferric chloride dosage of 5 mg/L.

The ferric chloride coagulation/filtration process can consistently achieve a high percentage removal of arsenic. Since the concentration of arsenic in the raw water supplies in the Paradise Valley District is relatively low, consideration can be given to treating only a portion of the total flow, and blending the treated effluent with the remainder of the raw water to meet the target finished water arsenic concentration. Providing a split treatment system will allow the size/capacity of the treatment equipment to be minimized, while at the same time reducing the amount of chemicals used and sludge that is produced.

Due to the number of ancillary facilities required to handle backwash wastewater and chemicals, it would not be practical to construct a separate ferric chloride coagulation/filtration system for each wellhead. Also, as was demonstrated in the preceding discussion on granular iron media, a single central treatment facility to serve the entire Paradise Valley District would be more cost-effective than separate facilities at the MRTF and MRBS sites.

Treatment Capacity Requirements

As was proposed for granular iron media, it is recommended that the target concentration for arsenic in the finished water entering the distribution system be set at 80 percent of the MCL. The treatment system should be sized to reliably meet the target finished water arsenic concentration on the maximum day at raw water arsenic concentrations up to 20 percent greater than the maximum historic measurement. Based on the data presented in Table 2, a single central treatment facility should be able to handle maximum raw water arsenic concentrations of up to 17 ug/L. Based on these criteria, the coagulation/filtration facilities would need to be sized to treat a maximum flow of 12.5 mgd, which equates to approximately 65 percent of the projected future maximum daily demand of 19.3 mgd.

Based on the results from the Sun City West pilot study, as well as design information available from manufacturers of pressure filtration equipment, it is recommended that the filters be designed for a maximum surface loading rate of 5 gpm/sf. A standard 10-foot diameter horizontal pressure vessel provides 10 square feet of filter surface area per lineal foot of shell length. Assuming a maximum shell length of 35 feet, the rated capacity for an individual vessel would be in the range of 2.5 mgd. Allowing for at least one train/unit to be out of service, a minimum of 6 horizontal pressure filters would be required for the Paradise Valley District.

Land Area Requirements

Based on the analysis of centralized granular iron treatment facility alternatives, it is expected that a single ferric chloride coagulation/filtration facility located at the MRBS would be more feasible and cost-effective than constructing separate treatment facilities at the MRTF and MRBS. A preliminary layout of a ferric chloride coagulation/filtration facility was developed that confirmed that adequate space is available on the MRBS site to accommodate the treatment, storage, and waste handling structures that would be required at a single central treatment facility. Figures 5A and 5B present two alternatives site plan layouts, based on residuals handling alternatives discussed in the section that follows.

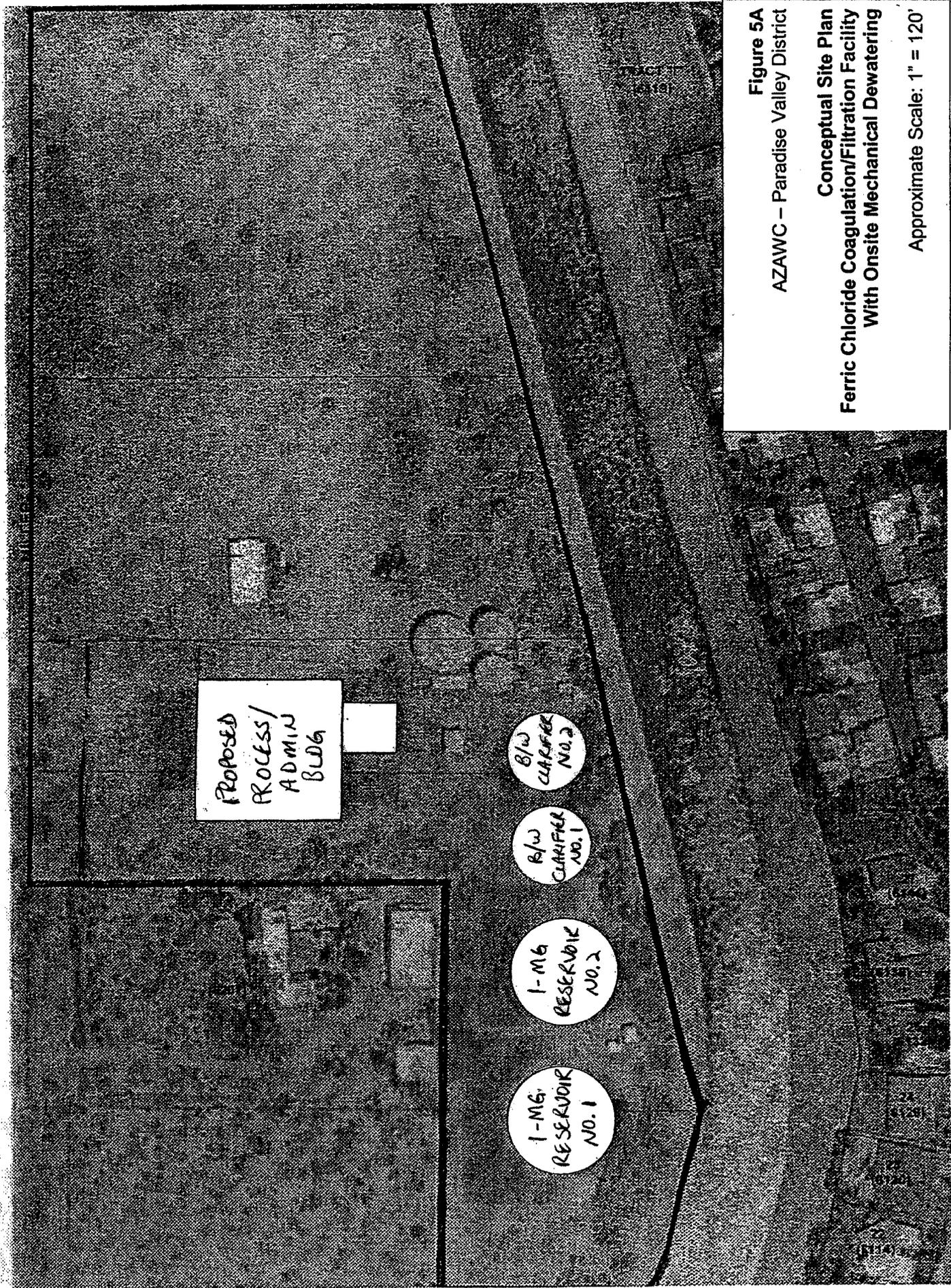


Figure 5A
AZAWC - Paradise Valley District

Conceptual Site Plan
Ferric Chloride Coagulation/Filtration Facility
With Onsite Mechanical Dewatering

Approximate Scale: 1" = 120'

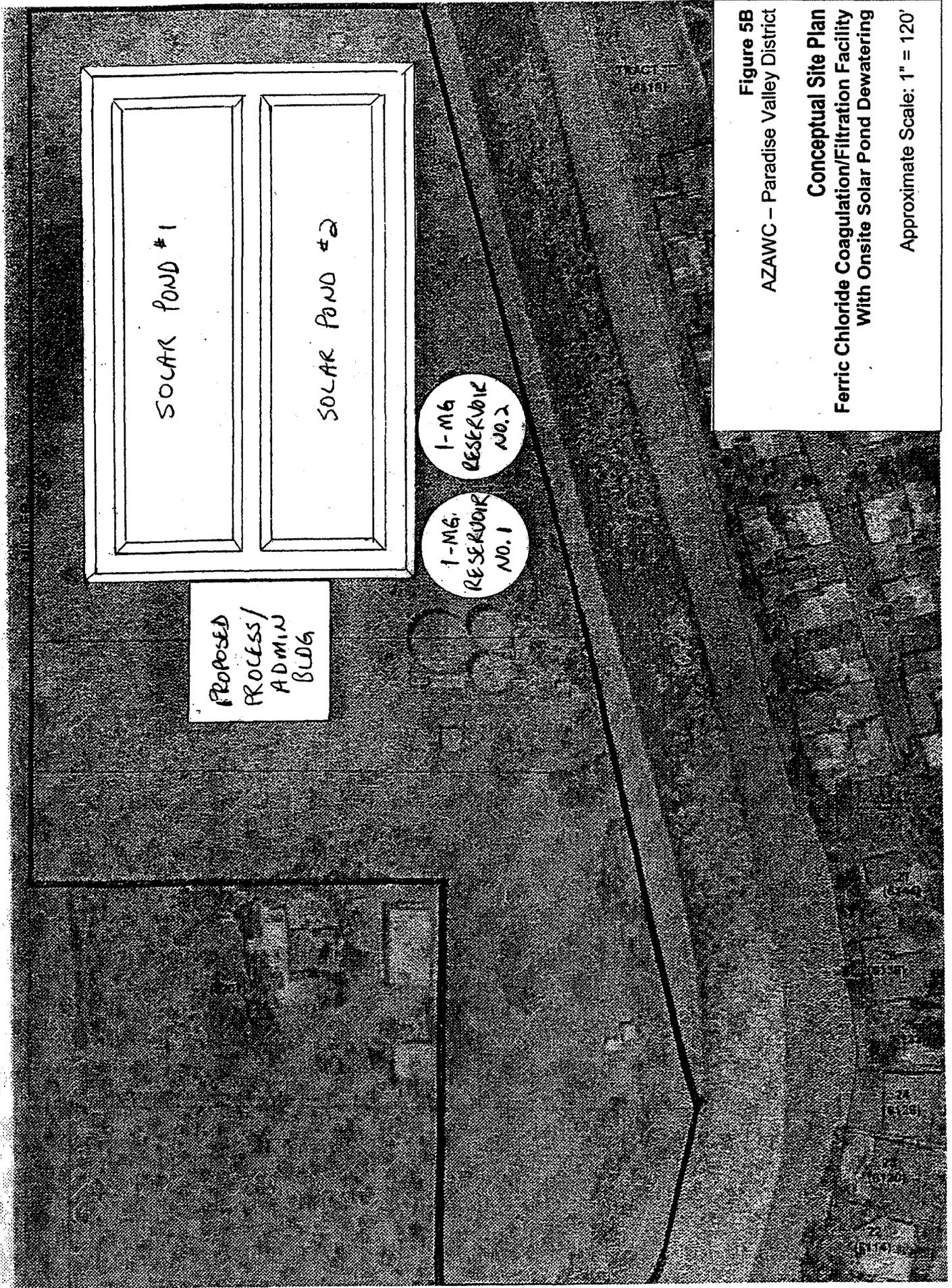


Figure 5B
AZAWC - Paradise Valley District

Conceptual Site Plan
Ferric Chloride Coagulation/Filtration Facility
With Onsite Solar Pond Dewatering

Approximate Scale: 1" = 120'

Waste Handling and Disposal

As was described above, granular media filters require periodic backwashing to remove arsenic bearing iron precipitates that are separated from the water during treatment. For a typical granular media filtration system, backwash volumes amount to 1 to 5 percent of the treated supply. Peak backwash rates can be in the range of 15 to 20 gpm/sf. Based on the size of the proposed filters, maximum backwash rates of 7,000 gpm may be required. It is possible to compartmentalize the filter vessels to reduce the instantaneous backwash rate that is required. However doing so increases the cost of the filters and has no impact on the total volume of backwash waste that is produced. Compartmentalizing filter vessels is most useful when dedicated wash water supply pumps or separate wash water storage is not provided. It is anticipated that up to two million gallons of finished water storage capacity will be provided as part of the proposed facility for the Paradise Valley system. Thus, a significant volume of water will be available on site for filter backwashing, and the cost to furnish dedicated wash water supply pumps would more than offset by the lower cost and maintenance requirements associated with compartmentalized filters.

There are several approaches to handling backwash wastewater, including the following:

1. Direct disposal to sanitary sewer (no treatment)
2. Onsite clarification/dechlorination with supernatant discharge to surface water
3. Onsite clarification with supernatant discharge to groundwater discharge
4. Onsite clarification with supernatant recycle

Alternatives 1 through 3 all result in wasting/disposal of the entire volume of backwash water. Due to the scarcity of water resources in the region, it is assumed that recycling of backwash water would be preferred. Therefore, only Alternative 4 is assumed to be a feasible approach to backwash handling in Arizona. However, there are also a number of methods that can be considered for treating/recycling backwash wastewater, including the following:

1. Clarifier/thickener with sewer disposal of thickened sludge
2. Clarifier/thickener with hauling of thickened sludge and disposal at a WWTP
3. Clarifier/thickener with onsite mechanical dewatering and landfill disposal
4. Solar pond clarification/dewatering and landfill disposal.

AAW met with representatives from the City of Scottsdale to inquire about the feasibility of disposing of thickened ferric sludge to the sanitary sewer. The City concluded that sewer disposal would not be acceptable because the concentration of arsenic in the waste would exceed the City's allowable discharge limits. The City of Phoenix reportedly has similar restrictions, so hauling and disposal of thickened sludge to the City of Phoenix WWTP was also presumed to not be feasible. AAW owns and operates a WWTP in its Sun City West District, which may be capable of receiving thickened treatment residuals for dewatering and disposal. However, the cost of trucking waste from Paradise Valley to Sun City West would be considerable, so the feasibility and cost-effectiveness of this alternative should only be evaluated if other feasible options appear to be costly.

Based on the above, onsite clarification and dewatering may be the only feasible residuals handling alternative if ferric chloride coagulation/filtration were the selected

treatment alternative. A preliminary cost estimate was developed to compare the cost of constructing and operating clarifiers, thickeners, and a mechanical dewatering facility (Alternative 3), to the cost of solar ponds (Alternative 4). Table 5 presents a summary of the projected costs.

Based on Table 5, constructing solar ponds would require a much lower capital investment, as well as less annual cost to operate and maintain. There is sufficient space on the northern half of the MRBS property to accommodate solar ponds. However, if mechanical dewatering were employed, it is possible that the northern half of the MRBS could be subdivided and sold for residential development. According to AAW, the market value of the property appears to be sufficient to offset the higher capital cost of a mechanical dewatering facility. In that case, a mechanical dewatering facility would require only a relatively small amount of additional revenue on an annual basis to cover the higher projected operating costs.

**Table 5
Comparison of Backwash Handling Costs**

Cost	Solar Ponds	Mechanical Dewatering
Capital Cost ¹	\$1,225,000	\$3,755,000
Annual O&M	\$27,000	\$50,000
Total Annual Revenue Requirement ²	\$202,000	\$586,000

1. Estimated cost for design and construction of backwash waste handling facilities only.
2. Estimated annual revenue requirement based on total capital cost divided by seven plus annual O&M expense.

AAW will need to obtain a conditional use permit (CUP) from the City of Scottsdale for construction and operation of an arsenic treatment facility at its MRBS site. Based on their experience obtaining a CUP for the MRTF, AAW anticipates that the neighboring public may be resistant to the use of solar ponds for backwash waste treatment because of aesthetic and/or safety concerns. Thus, it is possible that solar ponds may not be permitted under the CUP. Even if solar ponds were ultimately acceptable, AAW expects that proposing their use would prolong the time required to obtain a CUP, which in turn could jeopardize their ability to complete construction in time to comply with the January 23, 2006 MCL deadline. Assuming that the northern portion of the MRBS property can be sold to offset the cost difference between solar ponds and mechanical dewatering facilities, it is recommended that backwash recycle and onsite mechanical dewatering be used to handle wastes produced by the ferric chloride coagulation/filtration process. Figure 6 presents a schematic for the proposed treatment process configuration. An evaluation should also be performed to assess whether disposal of residuals at the Sun City West WWTP would be a feasible and cost effective alternative.

Operational Factors

Reliability

Pressure filtration is used extensively in the water treatment industry to remove iron and manganese from groundwater supplies. The process of adding ferric chloride to the water to create ferric hydroxide precipitates results in essentially the same water chemistry as occurs in conventional iron filtration. Therefore, the ferric chloride coagulation/filtration process is expected to be very reliable. As was discussed earlier,

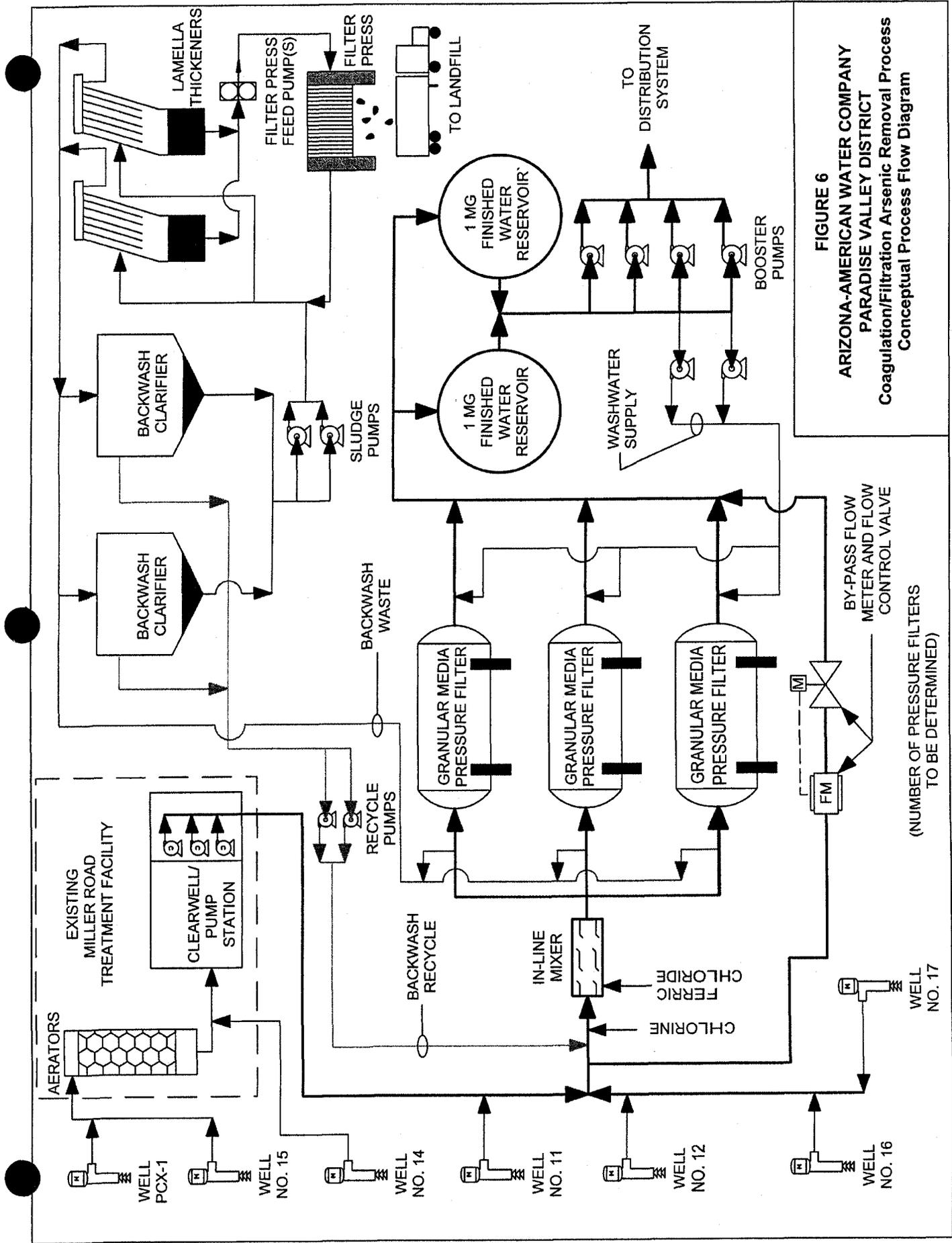


FIGURE 6
ARIZONA-AMERICAN WATER COMPANY
PARADISE VALLEY DISTRICT
Coagulation/Filtration Arsenic Removal Process
Conceptual Process Flow Diagram

(NUMBER OF PRESSURE FILTERS
 TO BE DETERMINED)

the system should be designed to meet the maximum day demand with at least one train/filter out of service.

Flexibility

Based on the laboratory and pilot-scale test results, the degree of arsenic removal through the ferric chloride coagulation/filtration process is fairly independent of influent arsenic concentration. Thus, the process is able to handle fluctuations in raw water arsenic concentration without a major impact on treated water arsenic levels. Treatment capacity can also be readily expanded by the addition of additional filter units. In addition, the process could be located either upstream or downstream of the existing aeration facility at the MRTF, and can be configured to allow direct pumping from the wells into the distribution system or into a finished water storage reservoir.

Complexity

Compared to the granular iron media process, ferric chloride coagulation/filtration systems are more complicated to operate. Chemical feed systems and rates need to be maintained and regular filter backwashing is required. However, treatment systems can be fully automated, thereby reducing the amount of operator monitoring and adjustments that are required.

Construction Cost

Table 6 presents a summary of estimate of probable construction cost for a single central ferric chloride coagulation/filtration treatment facility to serve the entire Paradise Valley District. The cost includes the following major facility components:

- Single masonry building to house pressure filters, distributive pumping equipment, backwash clarifiers, lamella thickeners, mechanical dewatering equipment, chemical feed facilities, electrical distribution equipment, and administrative functions
- Six 35-foot-long by 10-foot-diameter dual media pressure filters
- Two 1-million gallon steel finished water storage reservoirs
- Distributive pump station with can-type vertical turbine pumps
- Ferric chloride storage and feed facility
- Bulk hypochlorite storage and feed facility
- Two backwash clarifiers
- Two lamella thickeners
- New electrical service, power distribution switchgear, MCC, and standby generator
- Miscellaneous site improvements, including perimeter wall, paving, etc.

Operating Cost

An estimate of the annual operating cost for a ferric chloride coagulation/filtration system is presented in Table 7. The cost was based on the following major operating expenses:

- Power – pumping, dewatering, and other plant needs

Table 6
Arizona-American Water Company - Paradise Valley District
Ferric Chloride Coagulation/Filtration Treatment Facility
Estimate of Probable Construction Costs

	Division/Item	Unit of Measure	Unit Cost	Extended Total
1	Mobilization/Bonds/Insurance	2% of subtotal	\$12,315,398	\$254,602
2	Sitework			
	24" RW and FW transmission piping	5,000 LF	\$150 /LF	\$750,000
	Perimeter wall	2,100 LF	\$95 /LF	\$199,500
	Driveways/pavement	2,222 SY	\$72.00 /SY	\$160,000
	Bldg excavation	2,402 CY	\$12.73 /CY	\$30,584
	B/W clarifier excavation	5,907 CY	\$12.73 /CY	\$75,196
	B/W clarifier backfill	660 CY	\$25.00 /SY	\$16,500
	Miscellaneous site improvements	2.5% of sitework	\$1,231,780	\$30,795
3	Concrete			
	Building slab	1201 CY	\$500 /CY	\$600,620
	Clarifiers	897 CY	\$700 /CY	\$627,721
5-9	Building, Misc. Metals, Etc.			
	Building	22,400 SF	\$150 /SF	\$3,360,000
	Clarifier walkways/stairs	792 SF	\$102 /SF	\$80,982
	Paint	1 allowance	\$250,000 allowance	\$250,000
11	Equipment			
	Pressure filters	6 Filters	\$100,000 /EA	\$600,000
	Ferric bulk tanks (3,600 gal)	2 Tanks	\$8,000 /EA	\$16,000
	Transfer pumps	2 pumps	\$1,500 /EA	\$3,000
	Ferric day tanks (300 gal)	1 Tank	\$1,000 /EA	\$1,000
	Metering pumps	4 pumps	\$2,000 /EA	\$8,000
	Onsite hypochlorite generator	1 LS	\$172,000 /EA	\$172,000
	Washwater pumps	2 EA	\$12,500 /EA	\$25,000
	Backwash clarifier drives/Eqpt	2 EA	\$92,000 /EA	\$184,000
	B/W recycle canned LS	2 LS	\$60,000 /EA	\$120,000
	Distributive pumps (4 mgd)	3 EA	\$26,000 /EA	\$78,000
	Distributive pumps (8 mgd)	2 EA	\$43,000 /EA	\$86,000
	Sludge Pump Station	1 LS	\$60,000 /EA	\$60,000
	Lamella Thickeners	2 EA	\$100,000 /EA	\$200,000
	Plate & Frame Filter Press	1 EA	\$500,000 /EA	\$500,000
13	Special Construction			
	Twin 1-MG Ground Reservoirs	2 EA	\$600,000 /EA	\$1,200,000
15	Mechanical			
	MOVs (4 per filter + 1 per HSP + 1 per re	29 MOVs	\$5,000 /EA	\$145,000
	Large Manual Valves	26 valves	\$4,000 /EA	\$104,000
	Exposed Plant Piping (CLDIP)	500 LF	\$100 /LF	\$50,000
	Plant Process Pipe Fittings (CLDIP)	170 fittings	\$1,000 /fitting	\$170,000
	Hydropneumatic Tanks and Yardpiping	1 LS	\$160,000 /EA	\$160,000
	Misc Piping and Equipment Installation	25% of eqpt sub	\$2,053,000 sub	\$513,250

Table 6
Arizona-American Water Company - Paradise Valley District
Ferric Chloride Coagulation/Filtration Treatment Facility
Estimate of Probable Construction Costs

Division/Item	Unit of Measure	Unit Cost	Extended Total
16 Electrical			
MCC	6 sections	\$20,000 /section	\$120,000
Washwater pump VFDs	2 total	\$8,000 /VFD	\$16,000
Distributive pump VFDs	5 total	\$35,000 /VFD	\$175,000
Emergency Generator	1 LS	\$200,000 /EA	\$200,000
SCADA system	1 LS	\$550,000 /EA	\$550,000
Installation & conduits/conductors	25% of eqpt & M	\$2,709,000	\$677,250
CONSTRUCTION SUBTOTAL			\$12,570,000
Engineering	10% of construction subtotal		\$1,260,000
Contingency	20% of construction subtotal		\$2,520,000
AFUDC	7% of construction subtotal		\$880,000
PROJECT TOTAL			\$17,230,000

Table 7
Arizona-American Water Company - Paradise Valley District
Ferric Chloride Coagulation/Filtration Treatment Facility
Estimate of Annual Operation and Maintenance Costs

Item	Unit of Measure	Unit Cost	Extended Total
Power			
Pumping	258,405 kW-hr/yr	\$0.08 /kW-hr	\$20,672
Onsite hypochlorite generation	268,943 kW-hr/yr	\$0.08 /kW-hr	\$21,515
Mechanical dewatering	20,800 kW-hr/yr	\$0.08 /kW-hr	\$1,664
Misc. low voltage	137,037 kW-hr/yr	\$0.08 /kW-hr	\$10,963
Chemicals			
Ferric chloride	112 ton/yr	\$380 /ton	\$42,650
Salt	181 ton/yr	\$80 /ton	\$14,482
Polymer	1,122 lb/yr	\$1.00 /lb	\$1,122
Labor			
Sampling, inspection, monitoring	4 hr/day	\$50 /hr	\$73,000
Equipment maintenance	4 hr/wk	\$50 /hr	\$10,400
Mechanical dewatering	520 hr/yr	\$50 /hr	\$26,000
Disposal			
Roll-off container rental	1 roll-of	\$100 /wk	\$5,200
Hauling and landfill tipping fee	374 wet ton/yr	\$40 /wet ton	\$14,965
ANNUAL O&M			\$242,634

- Chemicals – ferric chloride for arsenic coagulation, sodium hypochlorite for oxidation/disinfection, and polymer for dewatering
- Labor for operation, equipment maintenance, and sludge dewatering
- Hauling and landfill tipping fees for dewatered sludge cake disposal.

RECOMMENDED TREATMENT ALTERNATIVE

Granular iron media and ferric chloride coagulation/filtration are both arsenic removal technologies that would be suitable for use in the Paradise Valley District. Table 8 presents a summary comparison of some of the advantages and disadvantages of each technology.

Table 8
Summary of Advantages and Disadvantages

Process	Advantages	Disadvantages
Granular Iron Media	<ul style="list-style-type: none"> • Low complexity • Small footprint • Able to handle varying influent As concentrations • Minimal waste volumes • Non-hazardous waste 	<ul style="list-style-type: none"> • Impacted by high pH • Competing ion interferences • Limited media life span • High replacement media cost • High capital cost
Ferric Chloride Coagulation/Filtration	<ul style="list-style-type: none"> • Small footprint¹ • Able to handle varying influent As concentrations • Consistent removal efficiency • Proven technology • Low operating cost • Non-hazardous waste 	<ul style="list-style-type: none"> • Higher complexity • Significant backwash waste volumes • Sludge handling/dewatering requirements

1. Assuming onsite mechanical dewatering rather than solar pond dewatering.

Due to the relatively low concentration of arsenic in the raw water supplies and the technologies' ability to achieve high levels of arsenic removal, it will be possible to treat only a portion of the total supply and blend with the remaining water to achieve the target finished water concentration. However, granular iron media is expensive as compared to conventional anthracite and sand filter media. As a result, it is projected that a granular iron media facility would cost more to construct than a ferric chloride coagulation/filtration facility, even though the latter requires a far more significant investment in waste handling facilities. The adsorptive capacity of granular iron media is also limited, so the media will need to be disposed of and replaced on a periodic basis. Therefore, the annual expenses associated with operation of a granular iron media system are projected to be more than double those of a ferric chloride coagulation/filtration facility. Table 9 presents a comparison of the estimated capital and operating costs for the two alternatives. In either case, efforts will be made during the design phase to value engineer facilities to minimize the cost of construction and operation.

**Table 9
Comparison of Estimated Costs¹**

Cost Component	Granular Iron Media	Ferric Chloride Coagulation/Filtration
Total Project Cost ²	\$17.8	\$17.0
Annual O&M Cost	\$0.4	\$0.2
Total Annual Revenue Requirement ³	\$2.9	\$2.6

1. Dollar values in millions.
2. Estimated cost includes design, construction, AFUDC, and contingency.
3. Estimated annual revenue requirement based on total capital cost divided by seven plus annual O&M expense.

Based on the preceding analysis, ferric chloride coagulation/filtration is a reliable process that has been identified by the US EPA as BAT technology for arsenic removal. In addition, it is estimated that the total revenue required to install and operate a ferric chloride coagulation/filtration would be substantially less than granular iron media. Therefore, it is recommended that AAW proceed with design, permitting, and construction of a ferric chloride coagulation/filtration treatment facility at the MRBS site.

Kozoman

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

JEFF HATCH-MILLER, Chairman
WILLIAM A. MUNDELL
MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES

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 PARADISE
VALLEY DISTRICT

DOCKET NO. W-01303A-05-0405

**REBUTTAL TESTIMONY
OF
RONALD L. KOZOMAN
ON BEHALF OF
ARIZONA AMERICAN WATER COMPANY
FEBRUARY 13, 2006**

EXECUTIVE SUMMARY

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Ronald L. Kozoman rebuts Staff's and RUCO's rate-design proposals. He testifies that any differences in rates under the Staff and Company rate designs are due to different overall revenue requirements. By contrast, RUCO's proposed across-the-board rate reduction was not supported by any cost-of-service study. RUCO also ignored the Company's existing losses in serving present low-volume customers.

Mr. Kozoman also presents Arizona-American's rebuttal rate-design and rates. He sponsors Rebuttal Schedules H-1, H-2, H-3, AND H-4.

1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Ronald L. Kozoman and my business address is 1605 W. Mulberry Drive,
4 Phoenix, AZ 85015.

5 **Q. ARE YOU THE SAME RONALD L. KOZOMAN WHO PREVIOUSLY**
6 **SUBMITTED TESTIMONY IN THIS DOCKET?**

7 A. Yes.

8 **Q. PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY.**

9 A. I have included an Executive Summary at the beginning of my rebuttal testimony.

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

11 A. I will provide rebuttal testimony in response to the direct filings by Arizona-American's
12 Paradise Valley Water District by Staff and by RUCO. More specifically, my rebuttal
13 testimony relates to rate design and the proposed new rates for water utility service by the
14 Company in its Paradise Valley Water District.

15 **II. RATE DESIGN**

16 **A. STAFF'S AND RUCO'S RATE DESIGN PROPOSALS**

17 **Q. PLEASE SUMMARIZE YOUR IMPRESSION OF THE COMPANY'S**
18 **PROPOSED RATE DESIGN FROM THE ACC STAFF?**

19 A. The differences between Staff's proposed rates the Company's are due to different
20 revenue requirements.

1 A. Staff has adopted the Company's proposed surcharge for conservation, in a somewhat
2 different fashion. The Company accepts Staff's proposed conservation surcharge, and
3 proposes to extend the surcharge to turf customers' usage in the highest block. Please
4 refer to Mr. Broderick's testimony on the high block usage surcharge for conservation for
5 turf customers.

6 The Company also agrees with the Staff's proposed meter and service line installations
7 tariff. Staff does not offer any testimony on the taxability of the proposed meter and
8 service line installation charges. I am assuming the Staff accepts the Company's
9 proposal to collect income tax.

10 **Q. WHAT ABOUT RUCO'S PROPOSED RATE DESIGN?**

11 A. RUCO's rate design attempts to deliver a conservation rate design, but because of the rate
12 reduction, it fails.

13 **Q. THE RATE REDUCTION WOULD HAVE TO RESULT IN LOWER RATES
14 WON'T IT? HOW SHOULD RUCO'S PROPOSED RATES HAVE BEEN SET?**

15 A. Yes, that is true. And, lower rates would signal the customers to use more water, not less.
16 RUCO's reduction of rates across the board could not be supported by any cost of service
17 study. In my cost-of-service study that was filed in the direct case, it was quite obvious
18 that the present and proposed monthly minimums were under priced. Additionally that
19 cost-of-service study showed that the Company lost money on residential customers until
20 about 40,000 gallons of water were sold, and this computation was at the Company's
21 proposed rates. RUCO is assuming that its alleged over-earnings" come ratably from all
22 customers. However, that would not be the case. At present rates, higher-volume users

1 effectively subsidize lower-volume customers, assuming that additional capacity is not
2 required.

3 **Q. WHAT ABOUT RUCO'S PROPOSAL ON THE SURCHARGE FOR THE**
4 **HIGHEST BLOCK FOR USERS?**

5 A. Through the high-block surcharge, Arizona-American is attempting to promote
6 conservation and partially fund its fire-flow improvement project. RUCO just says "no"
7 to these two laudable goals.

8 **B. ARIZONA-AMERICAN'S RATE DESIGN PROPOSAL**

9 **Q. WHAT IS THE COMPANY REQUESTING IN RATES IN THE REBUTTAL**
10 **PHASE?**

11 A. In its rebuttal case, the Company is asking that rates be set to recover a total revenue
12 requirement of approximately \$5,608,000.

13 **Q. WHAT ARE PARADISE VALLEY'S AND MUMMY MOUNTAIN'S MONTHLY**
14 **MINIMUM PRESENT RATES AND PROPOSED REBUTTAL RATES FOR**
15 **WATER SERVICE?**

16 A. The present and proposed monthly minimum charges for water service are shown in the
17 following table:

1

<u>Rebuttal Rate Design</u>	<u>Present</u>	<u>Rebuttal</u>
<i>Meter Size</i>	<i>Monthly Minimums</i>	<i>Monthly Minimums</i>
5/8 x 3/4 Inch	\$ 8.41	\$ 9.26
3/4-Inch	8.74	9.62
1 Inch	14.01	15.42
1 1/2-Inch	28.02	30.83
2-Inch	44.83	49.32
3-Inch	84.06	92.47
4-Inch	140.10	154.11
6-Inch	280.20	308.22

2 The above monthly minimums do not include any commodity charge. Fire hydrants are
3 \$5.00.

4 The existing Mummy Mountain monthly minimums are \$9.00 for 5/8 x 3/4-inch meters
5 and 3/4-inch meters, \$9.75 for 1-inch meters, \$14.00 for 1 1/2-meters, and \$25.75 for 2-
6 inch meters. Mummy Mountain monthly minimums include 1,000 gallons. Under the
7 proposed rates, Mummy Mountain monthly minimums will not include any water and
8 will be the same as proposed for Paradise Valley.

9 **Q. WHAT ARE THE COMPANY'S PRESENT COMMODITY RATES?**

10 A. The present commodity rates are \$0.73 for the first tier, \$1.75 for the second tier and
11 \$2.25 for the third tier. The Mummy Mountains commodity rates are \$1.74 for all usage.
12 The \$1.74 includes a purchased water adjuster of \$0.32.

13 **Q. WHAT ARE THE COMPANY'S PROPOSED REBUTTAL COMMODITY**
14 **RATES?**

1 A. The rebuttal proposed commodity rates are \$0.78 for the first tier, \$1.80 for the second
2 tier and \$2.50 for the third tier. The Mummy Mountain customer's commodity rates
3 would be the same as the Paradise Valley system.

4 **Q. ARE THESE RATES, AND THEIR IMPACT SHOWN ON REBUTTAL**
5 **SCHEDULES H-1, H-2, H-3, AND H-4?**

6 A. Yes.

7 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

8 A. Yes.

Arizona-American Water Company /Paradise Valley Water District
Test Year 12 Months Ended December 2004
Analysis of Revenue by Detailed Class

Exhibit
 Rebuttal Schedule H-2
 Page 1
 Witness: Kozoman

Line No.	Meter Size, Class, Rate Code			(a)	Revenues			Proposed Increase	
				Average Number of Customers at 12/31/2004	Average Consumption	Present Rates	Proposed Rates	Dollar Amount	Percent Amount
1	5/8 Inch	Residential	P1M1A	2,319	22,193	\$ 24.61	\$ 26.57	1.96	7.96%
2	5/8 Inch	Residential	P1M1B/Mummy Mt.	2	48,250	\$ 91.22	\$ 70.61	(20.60)	-22.59%
3	3/4 Inch	Residential	P1M1A	17	3,473	\$ 11.28	\$ 12.33	1.05	9.34%
4	3/4 Inch	Residential	P1M1B/Mummy Mt.						
5	1 Inch	Residential	P1M1A	1,895	59,845	\$ 90.80	\$ 97.64	6.84	7.53%
6	1 Inch	Residential	P1M1B/Mummy Mt.	32	98,970	\$ 180.22	\$ 181.35	1.13	0.63%
7	1.5 Inch	Residential	P1M1A	10	181,715	\$ 359.39	\$ 403.62	44.23	12.31%
8	1.5 Inch	Residential	P1M1B/Mummy Mt.	19	87,555	\$ 164.61	\$ 168.22	3.61	2.19%
9	2 Inch	Residential	P1M1A	118	133,501	\$ 271.58	\$ 301.57	30.00	11.04%
10	2 Inch	Residential	P1M1B/Mummy Mt.						
11									
12		Subtotal		4,411					
13									
14	5/8 Inch	Commercial	P2M1A	37	5,971	\$ 15.40	\$ 16.78	1.39	9.01%
15	3/4 Inch	Commercial	P2M1A						
16	1 Inch	Commercial	P2M1A	41	70,880	\$ 96.94	\$ 104.73	7.79	8.04%
17	1.5 Inch	Commercial	P2M1A	22	99,279	\$ 144.18	\$ 155.92	11.75	8.15%
18	2 Inch	Commercial	P2M1A	116	317,689	\$ 416.53	\$ 449.61	33.08	7.94%
19	3 Inch	Commercial	P2M1A	12	415,461	\$ 574.63	\$ 621.21	46.57	8.11%
20	4 Inch	Commercial	P2M1A	1	-	\$ 140.10	\$ 154.11	14.01	10.00%
21	6 Inch	Commercial	P2M1A	4	1,561,292	\$ 2,443.69	\$ 2,670.29	226.60	9.27%
22									
23		Subtotal		233					
24									
25	3 Inch	Turf	P2M1T	1	6,726,800	\$ 6,138.18	\$ 7,491.95	1,353.77	22.05%
26	3 Inch	Turf	P4MIT	1	812,955	\$ 815.72	\$ 986.72	171.00	20.96%
27									
28		Subtotal		-					
29									
30	6 Inch	Paradise Valley CC	P2PVC	1	16,921,917	\$ 12,817.00	\$ 15,665.22	2,848.22	22.22%
31									
32									
33	5/8 Inch	Other Metered	P5M1A OWU/OPA	4	887	\$ 9.58	\$ 10.56	0.97	10.17%
34	1 Inch	Other Metered	P5M1A OWU/OPA	9	45,542	\$ 74.12	\$ 81.91	7.79	10.50%
35	2 Inch	Other Metered	P5M1A OWU/OPA	4	21,000	\$ 72.55	\$ 79.98	7.43	10.24%
36									
37		Subtotal		17					
38									
39	5/8 Inch	Fire Hydrant Meter	P6M1A Fire	61	136	\$ 5.00	\$ 5.00	-	0.00%
40	3/4 Inch	Fire Hydrant Meter	P6M1A Fire	1	-	\$ 5.00	\$ 5.00	-	0.00%
41	1 Inch	Fire Hydrant Meter	P6M1A Fire	2	-	\$ 5.00	\$ 5.00	-	0.00%
42	2 Inch	Fire Hydrant Meter	P6M1A Fire	9	14	\$ 5.00	\$ 5.00	-	0.00%
43									
44		Subtotal		73					

Arizona-American Water Company /Paradise Valley Water District
 Test Year 12 Months Ended December 2004
 Present and Proposed Rates

Exhibit
 Rebuttal Schedule H-3
 Page 1
 Witness: Kozoman

Line No.		Present Rates	Proposed Rates	Percent Change	Dollar Change
1	Monthly Usage Charge for:				
2	<u>Residential, Commercial, Turf, Other</u>				
3	5/8 x 3/4 Inch	\$ 8.41	\$ 9.26	10.11%	\$ 0.85
4	3/4 Inch	8.74	9.62	10.07%	0.88
5	1 Inch	14.01	15.42	10.06%	1.41
6	1 1/2 Inch	28.02	30.83	10.03%	2.81
7	2 Inch	44.83	49.32	10.02%	4.49
8	3 Inch	84.06	92.47	10.00%	8.41
9	4 Inch	140.10	154.11	10.00%	14.01
10	6 Inch	280.20	308.22	10.00%	28.02
11	Paradise Valley Country Club (Contract Rate)	12,817.00	15,665.22	22.22%	2,848.22
12					
13	<u>Fire Protection</u>				
14	All*	\$ 5.00	\$ 5.00		
15	(Greater of 1% of minimum charge of \$5.00)				
16					
17	<u>Mummy Mountain System</u>				
18	<u>Standpipe</u>				
19	5/8 x 3/4 Inch	\$ 9.00	9.26	2.89%	\$ 0.26
20	3/4 Inch	9.00	9.62	6.89%	0.62
21	1 Inch	9.75	15.42	58.15%	5.67
22	1 1/2 Inch	14.00	30.83	120.21%	16.83
23	2 Inch	25.75	49.32	91.53%	23.57
24					
25	<u>Gallons In Minimum</u>				
26	Residential, Commercial	-	-		
27	Residential - <u>Mummy Mountain</u>	1,000	-		
28	Turf	-	-		
29	Standpipe (Fire Hydrant Meter)	-	-		
30	Fire Sprinkler	-	-		
31					
32	<u>Residential</u>				
33	<u>Gallons for Rate Tiers</u>				
34	<u>Tier 1: (Gallon upper limit.)</u>				
35	All		25,000	25,000	
36	<u>Tier 2: (Gallons upper limit)</u>				
37	All		80,000	80,000	
38	<u>Tier 3: (Gallon over)</u>				
39	All		999,999,999	999,999,999	
40	N/T = No Tariff. N/C = Not computed due to lack of denominator.				
41					
42	<u>Residential - Mummy Mountain</u>				
43	<u>Gallons for Rate Tiers</u>				
44	<u>Tier 1: (Gallon upper limit.)</u>				
45	All		999,999,999	25,000	
46	<u>Tier 2: (Gallons upper limit)</u>				
47	All		999,999,999	80,000	
48	<u>Tier 3: (Gallon over)</u>				
49	All		999,999,999	999,999,999	
50	N/T = No Tariff. N/C = Not computed due to lack of denominator.				
51					

Arizona-American Water Company /Paradise Valley Water District
 Test Year 12 Months Ended December 2004
 Present and Proposed Rates

Exhibit
 Rebuttal Schedule H-3
 Page 2
 Witness: Kozoman

Line No.		Present Rates	Proposed Rates	Percent Change
1				
2				
3	Commercial			
4	<u>Gallons for Rate Tiers</u>			
5	<u>Tier 1: (Gallon upper limit.)</u>			
6	All	400,000	400,000	
7	<u>Tier 2: (Gallons upper limit)</u>			
8	All	999,999,999	999,999,999	
9	<u>Tier 3: (Gallon over)</u>			
10	All	999,999,999	999,999,999	
11	N/T = No Tariff. N/C = Not computed due to lack of denominator.			
12				
13	Turf			
14	<u>Gallons for Rate Tiers</u>			
15	<u>Tier 1: (Gallon upper limit.)</u>			
16	All	999,999,999	25,000,000	
17	<u>Tier 2: (Gallons upper limit)</u>			
18	All	999,999,999	25,000,001	
19	<u>Tier 3: (Gallon over)</u>			
20	All	999,999,999	25,000,001	
21	N/T = No Tariff. N/C = Not computed due to lack of denominator.			
22				
23	Other Metered			
24	<u>Gallons for Rate Tiers</u>			
25	<u>Tier 1: (Gallon upper limit.)</u>			
26	All	999,999,999	999,999,999	
27	<u>Tier 2: (Gallons upper limit)</u>			
28	All	999,999,999	999,999,999	
29	<u>Tier 3: (Gallon over)</u>			
30	All	999,999,999	999,999,999	
31	N/T = No Tariff. N/C = Not computed due to lack of denominator.			
32				
33				
34				
35	Residential			
36	<u>Commodity Rates</u>			
37	<u>First Tier</u>	<u>Present Rates</u>	<u>Proposed Rates</u>	<u>Percent Change</u>
38	All	0.73	0.78	6.85%
39				
40	<u>Second Tier</u>			
41	All	1.68	1.80	7.14%
42				
43	<u>Third Tier</u>			
44	All	2.17	2.50	15.21%
45				
46	<u>Fourth Tier</u>			
47	All	2.17	2.50	15.21%
48				

Arizona-American Water Company /Paradise Valley Water District
 Test Year 12 Months Ended December 2004
 Present and Proposed Rates

Exhibit
 Rebuttal Schedule H-3
 Page 3
 Witness: Kozoman

Line No.	<u>Present Rates</u>	<u>Proposed Rates</u>	<u>Percent Change</u>
1			
2			
3			
4			
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Arizona-American Water Company /Paradise Valley Water District
 Test Year 12 Months Ended December 2004
 Present and Proposed Rates

Exhibit
 Schedule H-3
 Page 4
 Witness: Kozoman

Line
 No.

1	Other General Metered			
2	<u>Commodity Rates</u>	Present	Proposed	Percent
3	<u>First Tier</u>	<u>Rates</u>	<u>Rates</u>	<u>Change</u>
4	All	1.32	1.46	10.61%
5				
6	<u>Second Tier</u>			
7	All	1.32	1.46	10.61%
8				
9	<u>Third Tier</u>			
10	All	1.32	1.46	10.61%
11				
12	<u>Fourth Tier</u>			
13	All	1.32	1.46	10.61%
14				
15	Other Water Utility			
16	<u>Commodity Rates</u>	Present	Proposed	Percent
17	<u>First Tier</u>	<u>Rates</u>	<u>Rates</u>	<u>Change</u>
18	All	1.18	1.46	23.73%
19				
20	<u>Second Tier</u>			
21	All	1.18	1.46	23.73%
22				
23	<u>Third Tier</u>			
24	All	1.18	1.46	23.73%
25				
26	<u>Fourth Tier</u>			
27	All	1.18	1.46	23.73%
28				
29				
30	<u>High Block Usage Surcharges Treated as Contribution in Aid of Construction:</u>			
31	<u>Surcharge: To be Accounted for as Contributions in Aid of Construction</u>			
32	<u>All Customers</u>			
33	Residential: All Usage in Third Tier	N/T	\$ 2.15	N/C
34	Commerical: All Usage in Second Block	N/T	\$ 2.15	N/C
35	Turf : All usage in Second Block	N/T	\$ 2.15	N/C
36				
37	CAP Surcharge			
38	All Residitil usage in Excess of 45, 000 Gallons		\$ 0.0769	Per 1,000 Gallons
39	All Non-Residential Customers Except Sales of Resale		\$ 0.0769	Per 1,000 Gallons
40	CAP Expense Recovery Surcharge			
41	All Customers		\$ 1.01	Per Year

Line No.	Other Service Charges	Present Rates	Proposed Rates
1	Establishment	\$ 20.00	\$ 20.00
2	Establishment (After Hours)	\$ 40.00	\$ 40.00
3	Reconnection (Deliquent)	\$ 30.00	\$ 30.00
4	Reconnection (Deliquent and After Hours)	\$ 60.00	\$ 60.00
5	Meter Test, if meter is correct	\$ 15.00	\$ 15.00
6	Deposit	*	*
7	Deposit Interest	*	*
8	Re-Establishment (Within 12 Months)	**	**
9	NSF Check	\$ 12.00	\$ 12.00
10	Deferred Payment	1.5%	1.5%
11	Meter Re-Read (If Correct)	\$ 10.00	\$ 10.00
12	Late Payment Penalty	1.5%	1.5%
13			
14	Service Line and Meter Installation Charges:		
15			
16			
17			
18			
19	* PER COMMISSION RULES A.A.C. (R14-2-403.B)		
20	** Months off system times the monthly minimum per Commission Rule A.A.C. R14-2-403(D)		
21	IN ADDITION TO THE COLLECTION OF REGULAR RATES, THE UTILITY WILL COLLECT FROM		
22	ITS CUSTOMERS A PROPORTIONATE SHARE OF ANY PRIVILEGE, SALES, USE, AND FRANCHISE		
23	TAX. PER COMMISSION RULE (14-2-409.D 5).		
24	ALL ADVANCES AND/OR CONTRIBUTIONS ARE TO INCLUDE LABOR, MATERIALS, OVERHEADS,		
25	AND ALL APPLICABLE TAXES, INCLUDING ALL GROSS-UP TAXES FOR INCOME TAXES, IF APPLICABLE.		
26	(a) From Memorandum from Marlin Scott, dated June 30, 2004		
27	(b) As meters and service lines are now taxable income for income purposes, The Company shall collect income		
28	taxes on the meter and service line charges. Any tax collected will be refunded as the meter & service line		
29	is refunded.		
30			
31			
32			
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34			
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Arizona-American Water Company /Paradise Valley Water District
 Changes in Representative Rate Schedules
 Test Year 12 Months Ended December 2004

Exhibit
 Rebuttal Schedule H-3
 Page 6
 Witness: Kozoman

Line Service Charges

No. Meter and Service Line Charges

1			
2		Present	Proposed
3		Meter &	Meter &
4		Service	Service
5		Line	Line
6		Installation	Installation
7		<u>Charges</u>	<u>Charges</u>
8	5/8 x 3/4 Inch Meter	\$ 330.00	\$ 480.00
9	3/4 Inch Meter	\$ 360.00	\$ 560.00
10	1 Inch Meter	\$ 411.00	\$ 650.00
11	1 1/2 Inch Meter	\$ 550.00	\$ 895.00
12	2 Inch Meter	\$ 604.00	\$ 1,555.00
13	3 Inch Meter	\$ 1,062.00	\$ 2,235.00
14	4 Inch Meter	\$ 1,806.00	\$ 3,440.00
15	6 Inch Meter	\$ 3,872.00	\$ 6,195.00

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As meters and service lines are now taxable income for income purposes, The Company shall collect income taxes on the meter and service line charges. Any tax cikkected will refunded as meter and service is refunded.

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 5/8 Inch Residential (P1M1A)

Exhibit

Rebuttal Schedule H-4

Page 1

Witness: Kozoman

Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
-	\$ 8.41	\$ 9.26	\$ 0.85	10.11%
1,000	9.14	10.04	\$ 0.90	9.85%
2,000	9.87	10.82	\$ 0.95	9.63%
3,000	10.60	11.60	\$ 1.00	9.43%
4,000	11.33	12.38	\$ 1.05	9.27%
5,000	12.06	13.16	\$ 1.10	9.12%
6,000	12.79	13.94	\$ 1.15	8.99%
7,000	13.52	14.72	\$ 1.20	8.88%
8,000	14.25	15.50	\$ 1.25	8.77%
9,000	14.98	16.28	\$ 1.30	8.68%
10,000	15.71	17.06	\$ 1.35	8.59%
11,000	16.44	17.84	\$ 1.40	8.52%
12,000	17.17	18.62	\$ 1.45	8.44%
13,000	17.90	19.40	\$ 1.50	8.38%
14,000	18.63	20.18	\$ 1.55	8.32%
15,000	19.36	20.96	\$ 1.60	8.26%
16,000	20.09	21.74	\$ 1.65	8.21%
17,000	20.82	22.52	\$ 1.70	8.17%
18,000	21.55	23.30	\$ 1.75	8.12%
19,000	22.28	24.08	\$ 1.80	8.08%
20,000	23.01	24.86	\$ 1.85	8.04%
40,000	51.86	55.76	\$ 3.90	7.52%
80,000	119.06	127.76	\$ 8.70	7.31%
160,000	292.66	327.76	\$ 35.10	11.99%
321,000	642.03	730.26	\$ 88.23	13.74%
332,000	665.90	757.76	\$ 91.86	13.79%
337,000	676.75	770.26	\$ 93.51	13.82%
398,000	809.12	922.76	\$ 113.64	14.04%
Average Usage				
22,193	\$ 24.61	\$ 26.57	\$ 1.96	7.96%
Median Usage				
11,500	\$ 16.81	\$ 18.23	\$ 1.43	8.48%

Gallons in Minimum		\$ 8.41
Charge Per 1,000 Gallons		-
Up to	25,000	\$ 0.73
Up to	80,000	\$ 1.68
Up to	999,999,999	\$ 2.17
Over	1,000,000,000	\$ 2.17

Proposed Rates:

Monthly Minimum:		\$ 9.26
Gallons in Minimum		-
Charge Per 1,000 Gallons		
Up to	25,000	\$ 0.78
Up to	80,000	\$ 1.80
Up to	999,999,999	\$ 2.50
Over	1,000,000,000	\$ 2.50

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 3/4 Inch Residential (P1M1A)

Exhibit

Rebuttal Schedule H-4

Page 2

Witness: Kozoman

<u>Usage</u>	<u>Present Bill</u>	<u>Proposed Bill</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
-	\$ 8.74	\$ 9.62	\$ 0.88	10.07%
1,000	9.47	10.40	\$ 0.93	9.82%
2,000	10.20	11.18	\$ 0.98	9.61%
3,000	10.93	11.96	\$ 1.03	9.42%
4,000	11.66	12.74	\$ 1.08	9.26%
5,000	12.39	13.52	\$ 1.13	9.12%
6,000	13.12	14.30	\$ 1.18	8.99%
7,000	13.85	15.08	\$ 1.23	8.88%
8,000	14.58	15.86	\$ 1.28	8.78%
9,000	15.31	16.64	\$ 1.33	8.69%
10,000	16.04	17.42	\$ 1.38	8.60%
11,000	16.77	18.20	\$ 1.43	8.53%
12,000	17.50	18.98	\$ 1.48	8.46%
13,000	18.23	19.76	\$ 1.53	8.39%
14,000	18.96	20.54	\$ 1.58	8.33%
15,000	19.69	21.32	\$ 1.63	8.28%
16,000	20.42	22.10	\$ 1.68	8.23%
17,000	21.15	22.88	\$ 1.73	8.18%
18,000	21.88	23.66	\$ 1.78	8.14%
19,000	22.61	24.44	\$ 1.83	8.09%
20,000	23.34	25.22	\$ 1.88	8.05%
40,000	52.19	56.12	\$ 3.93	7.53%
80,000	119.39	128.12	\$ 8.73	7.31%
81,000	121.56	130.62	\$ 9.06	7.45%
134,000	236.57	263.12	\$ 26.55	11.22%

Present Rates:

Monthly Minimum:	\$ 8.74
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 25,000	\$ 0.73
Up to 80,000	\$ 1.68
Up to 999,999,999	\$ 2.17
Over 1,000,000,000	\$ 2.17

Proposed Rates:

Monthly Minimum:	\$ 9.62
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 25,000	\$ 0.78
Up to 80,000	\$ 1.80
Up to 999,999,999	\$ 2.50
Over 1,000,000,000	\$ 2.50

Average Usage

3,473 \$ 11.28 \$ 12.33 \$ 1.05 9.34%

Median Usage

1,000 \$ 9.47 \$ 10.40 \$ 0.93 9.82%

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 1 Inch Residential (P1M1A)

Exhibit
Rebuttal Schedule H-4
Page 3
Witness: Kozoman

Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
-	\$ 14.01	\$ 15.42	\$ 1.41	10.06%
1,000	14.74	16.20	\$ 1.46	9.91%
2,000	15.47	16.98	\$ 1.51	9.76%
3,000	16.20	17.76	\$ 1.56	9.63%
4,000	16.93	18.54	\$ 1.61	9.51%
5,000	17.66	19.32	\$ 1.66	9.40%
6,000	18.39	20.10	\$ 1.71	9.30%
7,000	19.12	20.88	\$ 1.76	9.21%
8,000	19.85	21.66	\$ 1.81	9.12%
9,000	20.58	22.44	\$ 1.86	9.04%
10,000	21.31	23.22	\$ 1.91	8.96%
11,000	22.04	24.00	\$ 1.96	8.89%
12,000	22.77	24.78	\$ 2.01	8.83%
13,000	23.50	25.56	\$ 2.06	8.77%
14,000	24.23	26.34	\$ 2.11	8.71%
15,000	24.96	27.12	\$ 2.16	8.65%
16,000	25.69	27.90	\$ 2.21	8.60%
17,000	26.42	28.68	\$ 2.26	8.55%
18,000	27.15	29.46	\$ 2.31	8.51%
19,000	27.88	30.24	\$ 2.36	8.46%
20,000	28.61	31.02	\$ 2.41	8.42%
40,000	57.46	61.92	\$ 4.46	7.76%
80,000	124.66	133.92	\$ 9.26	7.43%
167,000	313.45	351.42	\$ 37.97	12.11%
362,000	736.60	838.92	\$ 102.32	13.89%
365,000	743.11	846.42	\$ 103.31	13.90%
367,000	747.45	851.42	\$ 103.97	13.91%
368,000	749.62	853.92	\$ 104.30	13.91%
369,000	751.79	856.42	\$ 104.63	13.92%
1,853,000	3,972.07	4,566.42	\$ 594.35	14.96%
1,877,000	4,024.15	4,626.42	\$ 602.27	14.97%
2,058,000	4,416.92	5,078.92	\$ 662.00	14.99%
2,099,000	4,505.89	5,181.42	\$ 675.53	14.99%
2,258,000	4,850.92	5,578.92	\$ 728.00	15.01%

Present Rates:

Monthly Minimum:	\$ 14.01
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 25,000	\$ 0.73
Up to 80,000	\$ 1.68
Up to 999,999,999	\$ 2.17
Over 1,000,000,000	\$ 2.17

Proposed Rates:

Monthly Minimum:	\$ 15.42
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 25,000	\$ 0.78
Up to 80,000	\$ 1.80
Up to 999,999,999	\$ 2.50
Over 1,000,000,000	\$ 2.50

Average Usage				
59,845	\$ 90.80	\$ 97.64	\$ 6.84	7.53%
Median Usage				
40,501	\$ 58.30	\$ 62.82	\$ 4.52	7.75%

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 1 1/2 Inch Residential (P1M1A)

Exhibit

Rebuttal Schedule H-4

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Witness: Kozoman

Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
-	\$ 28.02	\$ 30.83	\$ 2.81	10.03%
1,000	28.75	31.61	\$ 2.86	9.95%
2,000	29.48	32.39	\$ 2.91	9.87%
3,000	30.21	33.17	\$ 2.96	9.80%
4,000	30.94	33.95	\$ 3.01	9.73%
5,000	31.67	34.73	\$ 3.06	9.66%
6,000	32.40	35.51	\$ 3.11	9.60%
7,000	33.13	36.29	\$ 3.16	9.54%
8,000	33.86	37.07	\$ 3.21	9.48%
9,000	34.59	37.85	\$ 3.26	9.42%
10,000	35.32	38.63	\$ 3.31	9.37%
11,000	36.05	39.41	\$ 3.36	9.32%
12,000	36.78	40.19	\$ 3.41	9.27%
13,000	37.51	40.97	\$ 3.46	9.22%
14,000	38.24	41.75	\$ 3.51	9.18%
15,000	38.97	42.53	\$ 3.56	9.14%
16,000	39.70	43.31	\$ 3.61	9.09%
17,000	40.43	44.09	\$ 3.66	9.05%
18,000	41.16	44.87	\$ 3.71	9.01%
19,000	41.89	45.65	\$ 3.76	8.98%
20,000	42.62	46.43	\$ 3.81	8.94%
40,000	71.47	77.33	\$ 5.86	8.20%
80,000	138.67	149.33	\$ 10.66	7.69%
161,000	314.44	351.83	\$ 37.39	11.89%
321,000	661.64	751.83	\$ 90.19	13.63%
656,000	1,388.59	1,589.33	\$ 200.74	14.46%
666,000	1,410.29	1,614.33	\$ 204.04	14.47%

Present Rates:

Monthly Minimum:	\$ 28.02
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 25,000	\$ 0.73
Up to 80,000	\$ 1.68
Up to 999,999,999	\$ 2.17
Over 1,000,000,000	\$ 2.17

Proposed Rates:

Monthly Minimum:	\$ 30.83
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 25,000	\$ 0.78
Up to 80,000	\$ 1.80
Up to 999,999,999	\$ 2.50
Over 1,000,000,000	\$ 2.50

Average Usage				
181,715	\$ 359.39	\$ 403.62	\$ 44.23	12.31%
Median Usage				
103,000	\$ 188.58	\$ 206.83	\$ 18.25	9.68%

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 2 Inch Residential (P1M1A)

Exhibit

Rebuttal Schedule H-4

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Witness: Kozoman

<u>Usage</u>	<u>Present Bill</u>	<u>Proposed Bill</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
-	\$ 44.83	\$ 49.32	\$ 4.49	10.02%
1,000	45.56	50.10	\$ 4.54	9.96%
2,000	46.29	50.88	\$ 4.59	9.92%
3,000	47.02	51.66	\$ 4.64	9.87%
4,000	47.75	52.44	\$ 4.69	9.82%
5,000	48.48	53.22	\$ 4.74	9.78%
6,000	49.21	54.00	\$ 4.79	9.73%
7,000	49.94	54.78	\$ 4.84	9.69%
8,000	50.67	55.56	\$ 4.89	9.65%
9,000	51.40	56.34	\$ 4.94	9.61%
10,000	52.13	57.12	\$ 4.99	9.57%
11,000	52.86	57.90	\$ 5.04	9.53%
12,000	53.59	58.68	\$ 5.09	9.50%
13,000	54.32	59.46	\$ 5.14	9.46%
14,000	55.05	60.24	\$ 5.19	9.43%
15,000	55.78	61.02	\$ 5.24	9.39%
16,000	56.51	61.80	\$ 5.29	9.36%
17,000	57.24	62.58	\$ 5.34	9.33%
18,000	57.97	63.36	\$ 5.39	9.30%
19,000	58.70	64.14	\$ 5.44	9.27%
20,000	59.43	64.92	\$ 5.49	9.24%
40,000	88.28	95.82	\$ 7.54	8.54%
80,000	155.48	167.82	\$ 12.34	7.94%
160,000	329.08	367.82	\$ 38.74	11.77%
322,000	680.62	772.82	\$ 92.20	13.55%
656,000	1,405.40	1,607.82	\$ 202.42	14.40%

Present Rates:

Monthly Minimum:	\$ 44.83
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 25,000	\$ 0.73
Up to 80,000	\$ 1.68
Up to 999,999,999	\$ 2.17
Over 1,000,000,000	\$ 2.17

Proposed Rates:

Monthly Minimum:	\$ 49.32
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 25,000	\$ 0.78
Up to 80,000	\$ 1.80
Up to 999,999,999	\$ 2.50
Over 1,000,000,000	\$ 2.50

Average Usage

133,501 \$ 271.58 \$ 301.57 \$ 30.00 11.04%

Median Usage

74,501 \$ 146.24 \$ 157.92 \$ 11.68 7.99%

Arizona-American Water Company /Paradise Valley Water District
Bill Comparison Present and Proposed Rates

Exhibit
 Rebuttal Schedule H-4
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 Witness: Kozoman

Meter Size and Code 5/8 Inch Residential (P1M1B) Mummy Mountain

<u>Usage</u>	<u>Present Bill</u>	<u>Proposed Bill</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
-	\$ 9.00	\$ 9.26	\$ 0.26	2.89%
1,000	9.00	10.04	\$ 1.04	11.56%
2,000	10.74	10.82	\$ 0.08	0.74%
3,000	12.48	11.60	\$ (0.88)	-7.05%
4,000	14.22	12.38	\$ (1.84)	-12.94%
5,000	15.96	13.16	\$ (2.80)	-17.54%
6,000	17.70	13.94	\$ (3.76)	-21.24%
7,000	19.44	14.72	\$ (4.72)	-24.28%
8,000	21.18	15.50	\$ (5.68)	-26.82%
9,000	22.92	16.28	\$ (6.64)	-28.97%
10,000	24.66	17.06	\$ (7.60)	-30.82%
11,000	26.40	17.84	\$ (8.56)	-32.42%
12,000	28.14	18.62	\$ (9.52)	-33.83%
13,000	29.88	19.40	\$ (10.48)	-35.07%
14,000	31.62	20.18	\$ (11.44)	-36.18%
15,000	33.36	20.96	\$ (12.40)	-37.17%
16,000	35.10	21.74	\$ (13.36)	-38.06%
17,000	36.84	22.52	\$ (14.32)	-38.87%
18,000	38.58	23.30	\$ (15.28)	-39.61%
19,000	40.32	24.08	\$ (16.24)	-40.28%
20,000	42.06	24.86	\$ (17.20)	-40.89%
40,000	76.86	55.76	\$ (21.10)	-27.45%
80,000	146.46	127.76	\$ (18.70)	-12.77%
191,000	339.60	405.26	\$ 65.66	19.33%

Present Rates:

Monthly Minimum:	\$ 9.00
Gallons in Minimum	1,000
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ 1.74
Up to 999,999,999	\$ 1.74
Up to 999,999,999	\$ 1.74
Over 1,000,000,000	\$ 1.74

Proposed Rates:

Monthly Minimum:	\$ 9.26
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 25,000	\$ 0.78
Up to 80,000	\$ 1.80
Up to 999,999,999	\$ 2.50
Over 1,000,000,000	\$ 2.50

Average Usage				
48,250	\$ 91.22	\$ 70.61	\$ (20.60)	-22.59%
Median Usage				
11,001	\$ 26.40	\$ 17.84	\$ (8.56)	-32.42%

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 1 Inch Residential (P1M1B) Mummy Mountain

Exhibit

Rebuttal Schedule H-4

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Witness: Kozoman

<u>Usage</u>	<u>Present Bill</u>	<u>Proposed Bill</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
-	\$ 9.75	\$ 15.42	\$ 5.67	58.15%
1,000	9.75	16.20	\$ 6.45	66.15%
2,000	11.49	16.98	\$ 5.49	47.78%
3,000	13.23	17.76	\$ 4.53	34.24%
4,000	14.97	18.54	\$ 3.57	23.85%
5,000	16.71	19.32	\$ 2.61	15.62%
6,000	18.45	20.10	\$ 1.65	8.94%
7,000	20.19	20.88	\$ 0.69	3.42%
8,000	21.93	21.66	\$ (0.27)	-1.23%
9,000	23.67	22.44	\$ (1.23)	-5.20%
10,000	25.41	23.22	\$ (2.19)	-8.62%
11,000	27.15	24.00	\$ (3.15)	-11.60%
12,000	28.89	24.78	\$ (4.11)	-14.23%
13,000	30.63	25.56	\$ (5.07)	-16.55%
14,000	32.37	26.34	\$ (6.03)	-18.63%
15,000	34.11	27.12	\$ (6.99)	-20.49%
16,000	35.85	27.90	\$ (7.95)	-22.18%
17,000	37.59	28.68	\$ (8.91)	-23.70%
18,000	39.33	29.46	\$ (9.87)	-25.10%
19,000	41.07	30.24	\$ (10.83)	-26.37%
20,000	42.81	31.02	\$ (11.79)	-27.54%
80,000	147.21	133.92	\$ (13.29)	-9.03%
160,000	286.41	333.92	\$ 47.51	16.59%
324,000	571.77	743.92	\$ 172.15	30.11%
601,000	1,053.75	1,436.42	\$ 382.67	36.32%

Present Rates:

Monthly Minimum:	\$ 9.75
Gallons in Minimum	1,000
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ 1.74
Up to 999,999,999	\$ 1.74
Up to 999,999,999	\$ 1.74
Over 1,000,000,000	\$ 1.74

Proposed Rates:

Monthly Minimum:	\$ 15.42
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 25,000	\$ 0.78
Up to 80,000	\$ 1.80
Up to 999,999,999	\$ 2.50
Over 1,000,000,000	\$ 2.50

Average Usage				
98,970	\$ 180.22	\$ 181.35	\$ 1.13	0.63%
Median Usage				
73,501	\$ 135.90	\$ 122.22	\$ (13.68)	-10.07%

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 1 1/2 Inch Residential (P1M1B) Mummy Mountain

Exhibit

Rebuttal Schedule H-4

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Witness: Kozoman

Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
-	\$ 14.00	\$ 30.83	\$ 16.83	120.21%
1,000	14.00	31.61	\$ 17.61	125.79%
2,000	15.74	32.39	\$ 16.65	105.78%
3,000	17.48	33.17	\$ 15.69	89.76%
4,000	19.22	33.95	\$ 14.73	76.64%
5,000	20.96	34.73	\$ 13.77	65.70%
6,000	22.70	35.51	\$ 12.81	56.43%
7,000	24.44	36.29	\$ 11.85	48.49%
8,000	26.18	37.07	\$ 10.89	41.60%
9,000	27.92	37.85	\$ 9.93	35.57%
10,000	29.66	38.63	\$ 8.97	30.24%
11,000	31.40	39.41	\$ 8.01	25.51%
12,000	33.14	40.19	\$ 7.05	21.27%
13,000	34.88	40.97	\$ 6.09	17.46%
14,000	36.62	41.75	\$ 5.13	14.01%
15,000	38.36	42.53	\$ 4.17	10.87%
16,000	40.10	43.31	\$ 3.21	8.00%
17,000	41.84	44.09	\$ 2.25	5.38%
18,000	43.58	44.87	\$ 1.29	2.96%
19,000	45.32	45.65	\$ 0.33	0.73%
20,000	47.06	46.43	\$ (0.63)	-1.34%
40,000	81.86	77.33	\$ (4.53)	-5.53%
80,000	151.46	149.33	\$ (2.13)	-1.41%
165,000	299.36	361.83	\$ 62.47	20.87%
315,000	560.36	736.83	\$ 176.47	31.49%

Present Rates:

Monthly Minimum:	\$ 14.00
Gallons in Minimum	1,000
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ 1.74
Up to 999,999,999	\$ 1.74
Up to 999,999,999	\$ 1.74
Over 1,000,000,000	\$ 1.74

Proposed Rates:

Monthly Minimum:	\$ 30.83
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 25,000	\$ 0.78
Up to 80,000	\$ 1.80
Up to 999,999,999	\$ 2.50
Over 1,000,000,000	\$ 2.50

Average Usage

87,555 \$ 164.61 \$ 168.22 \$ 3.61 2.19%

Median Usage

64,501 \$ 124.49 \$ 121.43 \$ (3.06) -2.46%

Arizona-American Water Company /Paradise Valley Water District
Bill Comparison Present and Proposed Rates

Meter Size and Code 2 Inch Residential (P1M1B) Mummy Mountain

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 Rebuttal Schedule H-4
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 Witness: Kozoman

<u>Usage</u>	<u>Present Bill</u>	<u>Proposed Bill</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
-	\$ 25.75	\$ 49.32	\$ 23.57	91.53%
1,000	25.75	50.10	\$ 24.35	94.56%
2,000	27.49	50.88	\$ 23.39	85.09%
3,000	29.23	51.66	\$ 22.43	76.74%
4,000	30.97	52.44	\$ 21.47	69.33%
5,000	32.71	53.22	\$ 20.51	62.70%
6,000	34.45	54.00	\$ 19.55	56.75%
7,000	36.19	54.78	\$ 18.59	51.37%
8,000	37.93	55.56	\$ 17.63	46.48%
9,000	39.67	56.34	\$ 16.67	42.02%
10,000	41.41	57.12	\$ 15.71	37.94%
11,000	43.15	57.90	\$ 14.75	34.18%
12,000	44.89	58.68	\$ 13.79	30.72%
13,000	46.63	59.46	\$ 12.83	27.51%
14,000	48.37	60.24	\$ 11.87	24.54%
15,000	50.11	61.02	\$ 10.91	21.77%
16,000	51.85	61.80	\$ 9.95	19.19%
17,000	53.59	62.58	\$ 8.99	16.78%
18,000	55.33	63.36	\$ 8.03	14.51%
19,000	57.07	64.14	\$ 7.07	12.39%
20,000	58.81	64.92	\$ 6.11	10.39%
40,000	93.61	95.82	\$ 2.21	2.36%
81,000	164.95	170.32	\$ 5.37	3.26%
162,000	305.89	372.82	\$ 66.93	21.88%
332,000	601.69	797.82	\$ 196.13	32.60%

Present Rates:

Monthly Minimum:	\$ 25.75
Gallons in Minimum	1,000
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ 1.74
Up to 999,999,999	\$ 1.74
Up to 999,999,999	\$ 1.74
Over 1,000,000,000	\$ 1.74

Proposed Rates:

Monthly Minimum:	\$ 49.32
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 25,000	\$ 0.78
Up to 80,000	\$ 1.80
Up to 999,999,999	\$ 2.50
Over 1,000,000,000	\$ 2.50

Average Usage				
111,949	\$ 218.80	\$ 247.69	\$ 28.89	13.20%
Median Usage				
84,501	\$ 171.04	\$ 179.07	\$ 8.03	4.70%

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 5/8 Inch Commercial (P2M1A)

Exhibit

Rebuttal Schedule H-4

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Witness: Kozoman

Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
-	\$ 8.41	\$ 9.26	\$ 0.85	10.11%
1,000	9.58	10.52	\$ 0.94	9.81%
2,000	10.75	11.78	\$ 1.03	9.58%
3,000	11.92	13.04	\$ 1.12	9.40%
4,000	13.09	14.30	\$ 1.21	9.24%
5,000	14.26	15.56	\$ 1.30	9.12%
6,000	15.43	16.82	\$ 1.39	9.01%
7,000	16.60	18.08	\$ 1.48	8.92%
8,000	17.77	19.34	\$ 1.57	8.84%
9,000	18.94	20.60	\$ 1.66	8.76%
10,000	20.11	21.86	\$ 1.75	8.70%
11,000	21.28	23.12	\$ 1.84	8.65%
12,000	22.45	24.38	\$ 1.93	8.60%
13,000	23.62	25.64	\$ 2.02	8.55%
14,000	24.79	26.90	\$ 2.11	8.51%
15,000	25.96	28.16	\$ 2.20	8.47%
16,000	27.13	29.42	\$ 2.29	8.44%
17,000	28.30	30.68	\$ 2.38	8.41%
18,000	29.47	31.94	\$ 2.47	8.38%
19,000	30.64	33.20	\$ 2.56	8.36%
20,000	31.81	34.46	\$ 2.65	8.33%
40,000	55.21	59.66	\$ 4.45	8.06%
80,000	102.01	110.06	\$ 8.05	7.89%
204,000	247.09	266.30	\$ 19.21	7.77%

Present Rates:

Monthly Minimum:	\$ 8.41
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 400,000	\$ 1.17
Up to 999,999,999	\$ 1.46
Up to 999,999,999	\$ 1.46
Over 1,000,000,000	\$ 1.46

Proposed Rates:

Monthly Minimum:	\$ 9.26
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 400,000	\$ 1.26
Up to 999,999,999	\$ 1.60
Up to 999,999,999	\$ 1.60
Over 1,000,000,000	\$ 1.60

Average Usage

5,971 \$ 15.40 \$ 16.78 \$ 1.39 9.01%

Median Usage

- \$ 8.41 \$ 9.26 \$ 0.85 10.11%

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 1 Inch Commercial (P2M1A)

Exhibit

Rebuttal Schedule H-4

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Witness: Kozoman

Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
-	\$ 14.01	\$ 15.42	\$ 1.41	10.06%
1,000	15.18	16.68	\$ 1.50	9.88%
2,000	16.35	17.94	\$ 1.59	9.72%
3,000	17.52	19.20	\$ 1.68	9.59%
4,000	18.69	20.46	\$ 1.77	9.47%
5,000	19.86	21.72	\$ 1.86	9.37%
6,000	21.03	22.98	\$ 1.95	9.27%
7,000	22.20	24.24	\$ 2.04	9.19%
8,000	23.37	25.50	\$ 2.13	9.11%
9,000	24.54	26.76	\$ 2.22	9.05%
10,000	25.71	28.02	\$ 2.31	8.98%
11,000	26.88	29.28	\$ 2.40	8.93%
12,000	28.05	30.54	\$ 2.49	8.88%
13,000	29.22	31.80	\$ 2.58	8.83%
14,000	30.39	33.06	\$ 2.67	8.79%
15,000	31.56	34.32	\$ 2.76	8.75%
16,000	32.73	35.58	\$ 2.85	8.71%
17,000	33.90	36.84	\$ 2.94	8.67%
18,000	35.07	38.10	\$ 3.03	8.64%
19,000	36.24	39.36	\$ 3.12	8.61%
20,000	37.41	40.62	\$ 3.21	8.58%
40,000	60.81	65.82	\$ 5.01	8.24%
80,000	107.61	116.22	\$ 8.61	8.00%
160,000	201.21	217.02	\$ 15.81	7.86%
361,000	436.38	470.28	\$ 33.90	7.77%
664,000	867.45	941.82	\$ 74.37	8.57%

Present Rates:

Monthly Minimum:	\$ 14.01
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 400,000	\$ 1.17
Up to 999,999,999	\$ 1.46
Up to 999,999,999	\$ 1.46
Over 1,000,000,000	\$ 1.46

Proposed Rates:

Monthly Minimum:	\$ 15.42
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 400,000	\$ 1.26
Up to 999,999,999	\$ 1.60
Up to 999,999,999	\$ 1.60
Over 1,000,000,000	\$ 1.60

Average Usage

70,880 \$ 96.94 \$ 104.73 \$ 7.79 8.04%

Median Usage

29,501 \$ 48.53 \$ 52.59 \$ 4.07 8.38%

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 1 1/2 Inch Commercial (P2M1A)

Exhibit

Rebuttal Schedule H-4

Page 12

Witness: Kozoman

Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
-	\$ 28.02	\$ 30.83	\$ 2.81	10.03%
1,000	29.19	32.09	\$ 2.90	9.93%
2,000	30.36	33.35	\$ 2.99	9.85%
3,000	31.53	34.61	\$ 3.08	9.77%
4,000	32.70	35.87	\$ 3.17	9.69%
5,000	33.87	37.13	\$ 3.26	9.63%
6,000	35.04	38.39	\$ 3.35	9.56%
7,000	36.21	39.65	\$ 3.44	9.50%
8,000	37.38	40.91	\$ 3.53	9.44%
9,000	38.55	42.17	\$ 3.62	9.39%
10,000	39.72	43.43	\$ 3.71	9.34%
11,000	40.89	44.69	\$ 3.80	9.29%
12,000	42.06	45.95	\$ 3.89	9.25%
13,000	43.23	47.21	\$ 3.98	9.21%
14,000	44.40	48.47	\$ 4.07	9.17%
15,000	45.57	49.73	\$ 4.16	9.13%
16,000	46.74	50.99	\$ 4.25	9.09%
17,000	47.91	52.25	\$ 4.34	9.06%
18,000	49.08	53.51	\$ 4.43	9.03%
19,000	50.25	54.77	\$ 4.52	9.00%
20,000	51.42	56.03	\$ 4.61	8.97%
40,000	74.82	81.23	\$ 6.41	8.57%
80,000	121.62	131.63	\$ 10.01	8.23%
160,000	215.22	232.43	\$ 17.21	8.00%
341,000	426.99	460.49	\$ 33.50	7.85%
682,000	907.74	986.03	\$ 78.29	8.62%

Present Rates:

Monthly Minimum:	\$ 28.02
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 400,000	\$ 1.17
Up to 999,999,999	\$ 1.46
Up to 999,999,999	\$ 1.46
Over 1,000,000,000	\$ 1.46

Proposed Rates:

Monthly Minimum:	\$ 30.83
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 400,000	\$ 1.26
Up to 999,999,999	\$ 1.60
Up to 999,999,999	\$ 1.60
Over 999,999,999	\$ 1.60

Average Usage

99,279 \$ 144.18 \$ 155.92 \$ 11.75 8.15%

Median Usage

61,501 \$ 99.98 \$ 108.32 \$ 8.35 8.35%

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 2 Inch Commercial (P2M1A)

Exhibit

Rebuttal Schedule H-4

Page 13

Witness: Kozoman

Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
-	\$ 44.83	\$ 49.32	\$ 4.49	10.02%
1,000	46.00	50.58	\$ 4.58	9.96%
2,000	47.17	51.84	\$ 4.67	9.90%
3,000	48.34	53.10	\$ 4.76	9.85%
4,000	49.51	54.36	\$ 4.85	9.80%
5,000	50.68	55.62	\$ 4.94	9.75%
6,000	51.85	56.88	\$ 5.03	9.70%
7,000	53.02	58.14	\$ 5.12	9.66%
8,000	54.19	59.40	\$ 5.21	9.61%
9,000	55.36	60.66	\$ 5.30	9.57%
10,000	56.53	61.92	\$ 5.39	9.53%
11,000	57.70	63.18	\$ 5.48	9.50%
12,000	58.87	64.44	\$ 5.57	9.46%
13,000	60.04	65.70	\$ 5.66	9.43%
14,000	61.21	66.96	\$ 5.75	9.39%
15,000	62.38	68.22	\$ 5.84	9.36%
16,000	63.55	69.48	\$ 5.93	9.33%
17,000	64.72	70.74	\$ 6.02	9.30%
18,000	65.89	72.00	\$ 6.11	9.27%
20,000	68.23	74.52	\$ 6.29	9.22%
40,000	91.63	99.72	\$ 8.09	8.83%
160,000	232.03	250.92	\$ 18.89	8.14%
641,000	864.69	938.92	\$ 74.23	8.58%
1,220,000	1,710.03	1,865.32	\$ 155.29	9.08%
1,826,000	2,594.79	2,834.92	\$ 240.13	9.25%

Present Rates:

Monthly Minimum:	\$ 44.83
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 400,000	\$ 1.17
Up to 999,999,999	\$ 1.46
Up to 999,999,999	\$ 1.46
Over 1,000,000,000	\$ 1.46

Proposed Rates:

Monthly Minimum:	\$ 49.32
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 400,000	\$ 1.26
Up to 999,999,999	\$ 1.60
Up to 999,999,999	\$ 1.60
Over 1,000,000,000	\$ 1.60

Average Usage				
317,689	\$ 416.53	\$ 449.61	\$ 33.08	7.94%
Median Usage				
194,000	\$ 271.81	\$ 293.76	\$ 21.95	8.08%

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 3 Inch Commercial (P2M1A)

Exhibit

Rebuttal Schedule H-4

Page 14

Witness: Kozoman

Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
-	\$ 84.06	\$ 92.47	\$ 8.41	10.00%
1,000	85.23	93.73	\$ 8.50	9.97%
2,000	86.40	94.99	\$ 8.59	9.94%
3,000	87.57	96.25	\$ 8.68	9.91%
4,000	88.74	97.51	\$ 8.77	9.88%
5,000	89.91	98.77	\$ 8.86	9.85%
6,000	91.08	100.03	\$ 8.95	9.83%
7,000	92.25	101.29	\$ 9.04	9.80%
8,000	93.42	102.55	\$ 9.13	9.77%
9,000	94.59	103.81	\$ 9.22	9.75%
10,000	95.76	105.07	\$ 9.31	9.72%
11,000	96.93	106.33	\$ 9.40	9.70%
12,000	98.10	107.59	\$ 9.49	9.67%
13,000	99.27	108.85	\$ 9.58	9.65%
14,000	100.44	110.11	\$ 9.67	9.63%
15,000	101.61	111.37	\$ 9.76	9.61%
16,000	102.78	112.63	\$ 9.85	9.58%
17,000	103.95	113.89	\$ 9.94	9.56%
18,000	105.12	115.15	\$ 10.03	9.54%
19,000	106.29	116.41	\$ 10.12	9.52%
20,000	107.46	117.67	\$ 10.21	9.50%
40,000	130.86	142.87	\$ 12.01	9.18%
80,000	177.66	193.27	\$ 15.61	8.79%
190,000	306.36	331.87	\$ 25.51	8.33%
289,000	422.19	456.61	\$ 34.42	8.15%
290,000	423.36	457.87	\$ 34.51	8.15%
774,000	1,098.10	1,194.87	\$ 96.77	8.81%
5,114,000	7,434.50	8,138.87	\$ 704.37	9.47%

Present Rates:

Monthly Minimum:	\$ 84.06
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 400,000	\$ 1.17
Up to 999,999,999	\$ 1.46
Up to 999,999,999	\$ 1.46
Over 1,000,000,000	\$ 1.46

Proposed Rates:

Monthly Minimum:	\$ 92.47
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 400,000	\$ 1.26
Up to 999,999,999	\$ 1.60
Up to 999,999,999	\$ 1.60
Over 1,000,000,000	\$ 1.60

Average Usage				
415,461	\$ 574.63	\$ 621.21	\$ 46.57	8.11%
Median Usage				
12,501	\$ 98.69	\$ 108.22	\$ 9.54	9.66%

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 4 Inch Commercial (P2M1A)

Exhibit

Rebuttal Schedule H-4

Page 15

Witness: Kozoman

<u>Usage</u>	<u>Present Bill</u>	<u>Proposed Bill</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
-	\$ 140.10	\$ 154.11	\$ 14.01	10.00%
1,000	141.27	155.37	\$ 14.10	9.98%
2,000	142.44	156.63	\$ 14.19	9.96%
3,000	143.61	157.89	\$ 14.28	9.94%
4,000	144.78	159.15	\$ 14.37	9.93%
5,000	145.95	160.41	\$ 14.46	9.91%
6,000	147.12	161.67	\$ 14.55	9.89%
7,000	148.29	162.93	\$ 14.64	9.87%
8,000	149.46	164.19	\$ 14.73	9.86%
9,000	150.63	165.45	\$ 14.82	9.84%
10,000	151.80	166.71	\$ 14.91	9.82%
11,000	152.97	167.97	\$ 15.00	9.81%
12,000	154.14	169.23	\$ 15.09	9.79%
13,000	155.31	170.49	\$ 15.18	9.77%
14,000	156.48	171.75	\$ 15.27	9.76%
15,000	157.65	173.01	\$ 15.36	9.74%
16,000	158.82	174.27	\$ 15.45	9.73%
17,000	159.99	175.53	\$ 15.54	9.71%
18,000	161.16	176.79	\$ 15.63	9.70%
19,000	162.33	178.05	\$ 15.72	9.68%
20,000	163.50	179.31	\$ 15.81	9.67%
40,000	186.90	204.51	\$ 17.61	9.42%
80,000	233.70	254.91	\$ 21.21	9.08%
100,000	257.10	280.11	\$ 23.01	8.95%

Present Rates:

Monthly Minimum:	\$ 140.10
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 400,000	\$ 1.17
Up to 999,999,999	\$ 1.46
Up to 999,999,999	\$ 1.46
Over 1,000,000,000	\$ 1.46

Proposed Rates:

Monthly Minimum:	\$ 154.11
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 400,000	\$ 1.26
Up to 999,999,999	\$ 1.60
Up to 999,999,999	\$ 1.60
Over 1,000,000,000	\$ 1.60

Average Usage

- \$ 140.10 \$ 154.11 \$ 14.01 10.00%

Median Usage

- \$ 140.10 \$ 154.11 \$ 14.01 10.00%

Arizona-American Water Company /Paradise Valley Water District
Bill Comparison Present and Proposed Rates

Meter Size and Code 6 Inch Commercial (P2M1A)

Exhibit
 Rebuttal Schedule H-4
 Page 16
 Witness: Kozoman

<u>Usage</u>	<u>Present Bill</u>	<u>Proposed Bill</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
-	\$ 280.20	\$ 308.22	\$ 28.02	10.00%
1,000	281.37	309.48	\$ 28.11	9.99%
2,000	282.54	310.74	\$ 28.20	9.98%
3,000	283.71	312.00	\$ 28.29	9.97%
4,000	284.88	313.26	\$ 28.38	9.96%
5,000	286.05	314.52	\$ 28.47	9.95%
6,000	287.22	315.78	\$ 28.56	9.94%
7,000	288.39	317.04	\$ 28.65	9.93%
8,000	289.56	318.30	\$ 28.74	9.93%
9,000	290.73	319.56	\$ 28.83	9.92%
10,000	291.90	320.82	\$ 28.92	9.91%
11,000	293.07	322.08	\$ 29.01	9.90%
12,000	294.24	323.34	\$ 29.10	9.89%
13,000	295.41	324.60	\$ 29.19	9.88%
14,000	296.58	325.86	\$ 29.28	9.87%
15,000	297.75	327.12	\$ 29.37	9.86%
16,000	298.92	328.38	\$ 29.46	9.86%
17,000	300.09	329.64	\$ 29.55	9.85%
18,000	301.26	330.90	\$ 29.64	9.84%
19,000	302.43	332.16	\$ 29.73	9.83%
20,000	303.60	333.42	\$ 29.82	9.82%
40,000	327.00	358.62	\$ 31.62	9.67%
80,000	373.80	409.02	\$ 35.22	9.42%
153,000	459.21	501.00	\$ 41.79	9.10%
312,000	645.24	701.34	\$ 56.10	8.69%
1,054,000	1,703.04	1,858.62	\$ 155.58	9.14%
3,410,000	5,142.80	5,628.22	\$ 485.42	9.44%
6,365,000	9,457.10	10,356.22	\$ 899.12	9.51%

Present Rates:

Monthly Minimum:	\$ 280.20
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 400,000	\$ 1.17
Up to 999,999,999	\$ 1.46
Up to 999,999,999	\$ 1.46
Over 1,000,000,000	\$ 1.46

Proposed Rates:

Monthly Minimum:	\$ 308.22
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 400,000	\$ 1.26
Up to 999,999,999	\$ 1.60
Up to 999,999,999	\$ 1.60
Over 1,000,000,000	\$ 1.60

Average Usage				
1,561,292	\$ 2,443.69	\$ 2,670.29	\$ 226.60	9.27%
Median Usage				
474,000	\$ 856.24	\$ 930.62	\$ 74.38	8.69%

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 3 Inch Turf (P2M1T)

Exhibit
 Rebuttal Schedule H-4
 Page 17
 Witness: Kozoman

<u>Usage</u>	<u>Present Bill</u>	<u>Proposed Bill</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
-	\$ 84.06	\$ 92.47	\$ 8.41	10.00%
1,000	84.96	93.57	8.61	10.13%
2,000	85.86	94.67	8.81	10.26%
3,000	86.76	95.77	9.01	10.38%
4,000	87.66	96.87	9.21	10.51%
5,000	88.56	97.97	9.41	10.63%
6,000	89.46	99.07	9.61	10.74%
7,000	90.36	100.17	9.81	10.86%
8,000	91.26	101.27	10.01	10.97%
9,000	92.16	102.37	10.21	11.08%
10,000	93.06	103.47	10.41	11.19%
11,000	93.96	104.57	10.61	11.29%
12,000	94.86	105.67	10.81	11.40%
13,000	95.76	106.77	11.01	11.50%
14,000	96.66	107.87	11.21	11.60%
15,000	97.56	108.97	11.41	11.70%
16,000	98.46	110.07	11.61	11.79%
17,000	99.36	111.17	11.81	11.89%
18,000	100.26	112.27	12.01	11.98%
19,000	101.16	113.37	12.21	12.07%
20,000	102.06	114.47	12.41	12.16%
40,000	120.06	136.47	16.41	13.67%
80,000	156.06	180.47	24.41	15.64%
100,000	174.06	202.47	28.41	16.32%
2,341,000	2,190.96	2,667.57	476.61	21.75%
2,539,000	2,369.16	2,885.37	516.21	21.79%
5,295,000	4,849.56	5,916.97	1,067.41	22.01%
11,483,000	10,418.76	12,723.77	2,305.01	22.12%
Average Usage				
6,726,800	\$ 6,138.18	\$ 7,491.95	1,353.77	22.05%
Median Usage				
9,109,000	\$ 8,282.16	\$ 10,112.37	1,830.21	22.10%

Present Rates:

Monthly Minimum:	\$ 84.06
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ 0.90
Up to 999,999,999	\$ 0.90
Up to 999,999,999	\$ 0.90
Over 1,000,000,000	\$ 0.90

Proposed Rates:

Monthly Minimum:	\$ 92.47
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 25,000,000	\$ 1.10
Up to 25,000,001	\$ 1.10
Up to 25,000,001	\$ 1.10
Over 25,000,002	\$ 1.10

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Zone: 3 Inch Turf (P4M1T)

Exhibit

Rebuttal Schedule H-4

Page 18

Witness: Kozoman

<u>Usage</u>	<u>Present Bill</u>	<u>Proposed Bill</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
-	\$ 84.06	\$ 92.47	\$ 8.41	10.00%
1,000	84.96	93.57	\$ 8.61	10.13%
2,000	85.86	94.67	\$ 8.81	10.26%
3,000	86.76	95.77	\$ 9.01	10.38%
4,000	87.66	96.87	\$ 9.21	10.51%
5,000	88.56	97.97	\$ 9.41	10.63%
6,000	89.46	99.07	\$ 9.61	10.74%
7,000	90.36	100.17	\$ 9.81	10.86%
8,000	91.26	101.27	\$ 10.01	10.97%
9,000	92.16	102.37	\$ 10.21	11.08%
10,000	93.06	103.47	\$ 10.41	11.19%
11,000	93.96	104.57	\$ 10.61	11.29%
12,000	94.86	105.67	\$ 10.81	11.40%
13,000	95.76	106.77	\$ 11.01	11.50%
14,000	96.66	107.87	\$ 11.21	11.60%
15,000	97.56	108.97	\$ 11.41	11.70%
16,000	98.46	110.07	\$ 11.61	11.79%
17,000	99.36	111.17	\$ 11.81	11.89%
18,000	100.26	112.27	\$ 12.01	11.98%
19,000	101.16	113.37	\$ 12.21	12.07%
20,000	102.06	114.47	\$ 12.41	12.16%
40,000	120.06	136.47	\$ 16.41	13.67%
80,000	156.06	180.47	\$ 24.41	15.64%
100,000	174.06	202.47	\$ 28.41	16.32%
335,000	385.56	460.97	\$ 75.41	19.56%
607,000	630.36	760.17	\$ 129.81	20.59%
886,000	881.46	1,067.07	\$ 185.61	21.06%
1,406,000	1,349.46	1,639.07	\$ 289.61	21.46%

Average Usage				
812,955	\$ 815.72	\$ 986.72	\$ 171.00	20.96%
Median Usage				
607,000	\$ 630.36	\$ 760.17	\$ 129.81	20.59%

Present Rates:

Monthly Minimum:		\$ 84.06
Gallons in Minimum		-
Charge Per 1,000 Gallons		
Up to	999,999,999	\$ 0.90
Up to	999,999,999	\$ 0.90
Up to	999,999,999	\$ 0.90
Over	1,000,000,000	\$ 0.90

Proposed Rates:

Monthly Minimum:		\$ 92.47
Gallons in Minimum		-
Charge Per 1,000 Gallons		
Up to	25,000,000	\$ 1.10
Up to	25,000,001	\$ 1.10
Up to	25,000,001	\$ 1.10
Over	25,000,002	\$ 1.10

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code Paradise Valley Country Club (P2PVC)
6 Inch

Exhibit
Rebuttal Schedule H-4
Page 19
Witness: Kozoman

<u>Usage</u>	<u>Present Bill</u>	<u>Proposed Bill</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
-	\$ 12,817.00	\$ 15,665.22	\$ 2,848.22	22.22%
1,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
2,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
3,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
4,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
5,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
6,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
7,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
8,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
9,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
10,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
11,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
12,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
13,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
14,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
15,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
16,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
17,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
18,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
19,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
20,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
40,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
80,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
100,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
5,852,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
21,949,000	12,817.00	15,665.22	\$ 2,848.22	22.22%
Average Usage				
16,921,917	\$ 12,817.00	\$ 15,665.22	\$ 2,848.22	22.22%
Median Usage				
15,880,000	\$ 12,817.00	\$ 15,665.22	\$ 2,848.22	22.22%

Present Rates:

Monthly Minimum:	\$ 12,817.00
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Over 1,000,000,000	\$ -

Proposed Rates:

Monthly Minimum:	\$ 15,665.22
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Over 1,000,000,000	\$ -

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 5/8 Inch OWU/OPA (P5M1A)

Exhibit

Rebuttal Schedule H-4

Page 20

Witness: Kozoman

Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
-	\$ 8.41	\$ 9.26	\$ 0.85	10.11%
1,000	9.73	10.72	\$ 0.99	10.17%
2,000	11.05	12.18	\$ 1.13	10.23%
3,000	12.37	13.64	\$ 1.27	10.27%
4,000	13.69	15.10	\$ 1.41	10.30%
5,000	15.01	16.56	\$ 1.55	10.33%
6,000	16.33	18.02	\$ 1.69	10.35%
7,000	17.65	19.48	\$ 1.83	10.37%
8,000	18.97	20.94	\$ 1.97	10.38%
9,000	20.29	22.40	\$ 2.11	10.40%
10,000	21.61	23.86	\$ 2.25	10.41%
11,000	22.93	25.32	\$ 2.39	10.42%
12,000	24.25	26.78	\$ 2.53	10.43%
13,000	25.57	28.24	\$ 2.67	10.44%
14,000	26.89	29.70	\$ 2.81	10.45%
15,000	28.21	31.16	\$ 2.95	10.46%
16,000	29.53	32.62	\$ 3.09	10.46%
17,000	30.85	34.08	\$ 3.23	10.47%
18,000	32.17	35.54	\$ 3.37	10.48%
19,000	33.49	37.00	\$ 3.51	10.48%
20,000	34.81	38.46	\$ 3.65	10.49%
40,000	61.21	67.66	\$ 6.45	10.54%
80,000	114.01	126.06	\$ 12.05	10.57%
100,000	140.41	155.26	\$ 14.85	10.58%

Present Rates:

Monthly Minimum:	\$ 8.41
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ 1.32
Up to 999,999,999	\$ 1.32
Up to 999,999,999	\$ 1.32
Over 1,000,000,000	\$ 1.32

Proposed Rates:

Monthly Minimum:	\$ 9.26
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ 1.46
Up to 999,999,999	\$ 1.46
Up to 999,999,999	\$ 1.46
Over 1,000,000,000	\$ 1.46

Average Usage				
887	\$ 9.58	\$ 10.56	\$ 0.97	10.17%
Median Usage				
2,501	\$ 11.71	\$ 12.91	\$ 1.20	10.25%

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 1 Inch OWU/OPA (P5M1A)

Exhibit

Rebuttal Schedule H-4

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Witness: Kozoman

<u>Usage</u>	<u>Present Bill</u>	<u>Proposed Bill</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
-	\$ 14.01	\$ 15.42	\$ 1.41	10.06%
1,000	15.33	16.88	\$ 1.55	10.11%
2,000	16.65	18.34	\$ 1.69	10.15%
3,000	17.97	19.80	\$ 1.83	10.18%
4,000	19.29	21.26	\$ 1.97	10.21%
5,000	20.61	22.72	\$ 2.11	10.24%
6,000	21.93	24.18	\$ 2.25	10.26%
7,000	23.25	25.64	\$ 2.39	10.28%
8,000	24.57	27.10	\$ 2.53	10.30%
9,000	25.89	28.56	\$ 2.67	10.31%
10,000	27.21	30.02	\$ 2.81	10.33%
11,000	28.53	31.48	\$ 2.95	10.34%
12,000	29.85	32.94	\$ 3.09	10.35%
13,000	31.17	34.40	\$ 3.23	10.36%
14,000	32.49	35.86	\$ 3.37	10.37%
15,000	33.81	37.32	\$ 3.51	10.38%
16,000	35.13	38.78	\$ 3.65	10.39%
17,000	36.45	40.24	\$ 3.79	10.40%
18,000	37.77	41.70	\$ 3.93	10.41%
19,000	39.09	43.16	\$ 4.07	10.41%
20,000	40.41	44.62	\$ 4.21	10.42%
40,000	66.81	73.82	\$ 7.01	10.49%
80,000	119.61	132.22	\$ 12.61	10.54%
81,000	120.93	133.68	\$ 12.75	10.54%
82,000	122.25	135.14	\$ 12.89	10.54%
83,000	123.57	136.60	\$ 13.03	10.54%
84,000	124.89	138.06	\$ 13.17	10.55%
85,000	126.21	139.52	\$ 13.31	10.55%
86,000	127.53	140.98	\$ 13.45	10.55%
87,000	128.85	142.44	\$ 13.59	10.55%
88,000	130.17	143.90	\$ 13.73	10.55%
89,000	131.49	145.36	\$ 13.87	10.55%
90,000	132.81	146.82	\$ 14.01	10.55%
91,000	134.13	148.28	\$ 14.15	10.55%
92,000	135.45	149.74	\$ 14.29	10.55%
145,000	205.41	227.12	\$ 21.71	10.57%
303,000	413.97	457.80	\$ 43.83	10.59%
505,000	680.61	752.72	\$ 72.11	10.59%

Present Rates:

Monthly Minimum:	\$ 14.01
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ 1.32
Up to 999,999,999	\$ 1.32
Up to 999,999,999	\$ 1.32
Over 1,000,000,000	\$ 1.32

Proposed Rates:

Monthly Minimum:	\$ 15.42
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ 1.46
Up to 999,999,999	\$ 1.46
Up to 999,999,999	\$ 1.46
Over 1,000,000,000	\$ 1.46

Average Usage

45,542 \$ 74.12 \$ 81.91 \$ 7.79 10.50%

Median Usage

3,001 \$ 17.97 \$ 19.80 \$ 1.83 10.18%

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 2 Inch OWU/OPA (P5M1A)

Exhibit

Rebuttal Schedule H-4

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Witness: Kozoman

Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
-	\$ 44.83	\$ 49.32	\$ 4.49	10.02%
1,000	46.15	50.78	\$ 4.63	10.03%
2,000	47.47	52.24	\$ 4.77	10.05%
3,000	48.79	53.70	\$ 4.91	10.06%
4,000	50.11	55.16	\$ 5.05	10.08%
5,000	51.43	56.62	\$ 5.19	10.09%
6,000	52.75	58.08	\$ 5.33	10.10%
7,000	54.07	59.54	\$ 5.47	10.12%
8,000	55.39	61.00	\$ 5.61	10.13%
9,000	56.71	62.46	\$ 5.75	10.14%
10,000	58.03	63.92	\$ 5.89	10.15%
11,000	59.35	65.38	\$ 6.03	10.16%
12,000	60.67	66.84	\$ 6.17	10.17%
13,000	61.99	68.30	\$ 6.31	10.18%
14,000	63.31	69.76	\$ 6.45	10.19%
15,000	64.63	71.22	\$ 6.59	10.20%
16,000	65.95	72.68	\$ 6.73	10.20%
17,000	67.27	74.14	\$ 6.87	10.21%
18,000	68.59	75.60	\$ 7.01	10.22%
19,000	69.91	77.06	\$ 7.15	10.23%
20,000	71.23	78.52	\$ 7.29	10.23%
40,000	97.63	107.72	\$ 10.09	10.33%
80,000	150.43	166.12	\$ 15.69	10.43%
123,000	207.19	228.90	\$ 21.71	10.48%

Present Rates:

Monthly Minimum:	\$ 44.83
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ 1.32
Up to 999,999,999	\$ 1.32
Up to 999,999,999	\$ 1.32
Over 1,000,000,000	\$ 1.32

Proposed Rates:

Monthly Minimum:	\$ 49.32
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ 1.46
Up to 999,999,999	\$ 1.46
Up to 999,999,999	\$ 1.46
Over 1,000,000,000	\$ 1.46

Average Usage				
21,000	\$ 72.55	\$ 79.98	\$ 7.43	10.24%
Median Usage				
9,501	\$ 57.37	\$ 63.19	\$ 5.82	10.14%

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 5/8 Inch Fire (P6M1A)

Exhibit

Rebuttal Schedule H-4

Page 23

Witness: Kozoman

<u>Usage</u>	<u>Present Bill</u>	<u>Proposed Bill</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
-	\$ 5.00	\$ 5.00	\$ -	0.00%
1,000	5.00	5.00	\$ -	0.00%
2,000	5.00	5.00	\$ -	0.00%
3,000	5.00	5.00	\$ -	0.00%
4,000	5.00	5.00	\$ -	0.00%
5,000	5.00	5.00	\$ -	0.00%
6,000	5.00	5.00	\$ -	0.00%
7,000	5.00	5.00	\$ -	0.00%
8,000	5.00	5.00	\$ -	0.00%
9,000	5.00	5.00	\$ -	0.00%
10,000	5.00	5.00	\$ -	0.00%
11,000	5.00	5.00	\$ -	0.00%
12,000	5.00	5.00	\$ -	0.00%
13,000	5.00	5.00	\$ -	0.00%
14,000	5.00	5.00	\$ -	0.00%
15,000	5.00	5.00	\$ -	0.00%
16,000	5.00	5.00	\$ -	0.00%
17,000	5.00	5.00	\$ -	0.00%
18,000	5.00	5.00	\$ -	0.00%
19,000	5.00	5.00	\$ -	0.00%
20,000	5.00	5.00	\$ -	0.00%
40,000	5.00	5.00	\$ -	0.00%
80,000	5.00	5.00	\$ -	0.00%
100,000	5.00	5.00	\$ -	0.00%

Present Rates:

Monthly Minimum:	\$ 5.00
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Over 1,000,000,000	\$ -

Proposed Rates:

Monthly Minimum:	\$ 5.00
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Over 1,000,000,000	\$ -

Average Usage					
136	\$ 5.00	\$ 5.00	\$ -	0.00%	
Median Usage					
-	\$ 5.00	\$ 5.00	\$ -	0.00%	

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 3/4 Inch Fire (P6M1A)

Exhibit

Rebuttal Schedule H-4

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Witness: Kozoman

<u>Usage</u>	<u>Present Bill</u>	<u>Proposed Bill</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
-	\$ 5.00	\$ 5.00	\$ -	0.00%
1,000	5.00	5.00	\$ -	0.00%
2,000	5.00	5.00	\$ -	0.00%
3,000	5.00	5.00	\$ -	0.00%
4,000	5.00	5.00	\$ -	0.00%
5,000	5.00	5.00	\$ -	0.00%
6,000	5.00	5.00	\$ -	0.00%
7,000	5.00	5.00	\$ -	0.00%
8,000	5.00	5.00	\$ -	0.00%
9,000	5.00	5.00	\$ -	0.00%
10,000	5.00	5.00	\$ -	0.00%
11,000	5.00	5.00	\$ -	0.00%
12,000	5.00	5.00	\$ -	0.00%
13,000	5.00	5.00	\$ -	0.00%
14,000	5.00	5.00	\$ -	0.00%
15,000	5.00	5.00	\$ -	0.00%
16,000	5.00	5.00	\$ -	0.00%
17,000	5.00	5.00	\$ -	0.00%
18,000	5.00	5.00	\$ -	0.00%
19,000	5.00	5.00	\$ -	0.00%
20,000	5.00	5.00	\$ -	0.00%
40,000	5.00	5.00	\$ -	0.00%
80,000	5.00	5.00	\$ -	0.00%
100,000	5.00	5.00	\$ -	0.00%

Present Rates:

Monthly Minimum:	\$ 5.00
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Over 1,000,000,000	\$ -

Proposed Rates:

Monthly Minimum:	\$ 5.00
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Over 1,000,000,000	\$ -

Average Usage				
- \$	5.00	\$ 5.00	\$ -	0.00%
Median Usage				
- \$	5.00	\$ 5.00	\$ -	0.00%

Arizona-American Water Company /Paradise Valley Water District
Bill Comparison Present and Proposed Rates

Meter Size and Code 1 Inch Fire (P6M1A)

Exhibit
 Rebuttal Schedule H-4
 Page 25
 Witness: Kozoman

<u>Usage</u>	<u>Present Bill</u>	<u>Proposed Bill</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
-	\$ 5.00	\$ 5.00	\$ -	0.00%
1,000	5.00	5.00	\$ -	0.00%
2,000	5.00	5.00	\$ -	0.00%
3,000	5.00	5.00	\$ -	0.00%
4,000	5.00	5.00	\$ -	0.00%
5,000	5.00	5.00	\$ -	0.00%
6,000	5.00	5.00	\$ -	0.00%
7,000	5.00	5.00	\$ -	0.00%
8,000	5.00	5.00	\$ -	0.00%
9,000	5.00	5.00	\$ -	0.00%
10,000	5.00	5.00	\$ -	0.00%
11,000	5.00	5.00	\$ -	0.00%
12,000	5.00	5.00	\$ -	0.00%
13,000	5.00	5.00	\$ -	0.00%
14,000	5.00	5.00	\$ -	0.00%
15,000	5.00	5.00	\$ -	0.00%
16,000	5.00	5.00	\$ -	0.00%
17,000	5.00	5.00	\$ -	0.00%
18,000	5.00	5.00	\$ -	0.00%
19,000	5.00	5.00	\$ -	0.00%
20,000	5.00	5.00	\$ -	0.00%
40,000	5.00	5.00	\$ -	0.00%
80,000	5.00	5.00	\$ -	0.00%
100,000	5.00	5.00	\$ -	0.00%

Present Rates:

Monthly Minimum:	\$ 5.00
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Over 1,000,000,000	\$ -

Proposed Rates:

Monthly Minimum:	\$ 5.00
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Over 1,000,000,000	\$ -

Average Usage				
-	\$ 5.00	\$ 5.00	\$ -	0.00%
Median Usage				
-	\$ 5.00	\$ 5.00	\$ -	0.00%

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 2 Inch Fire (P6M1A)

Exhibit

Rebuttal Schedule H-4

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Witness: Kozoman

Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
-	\$ 5.00	\$ 5.00	\$ -	0.00%
1,000	5.00	5.00	\$ -	0.00%
2,000	5.00	5.00	\$ -	0.00%
3,000	5.00	5.00	\$ -	0.00%
4,000	5.00	5.00	\$ -	0.00%
5,000	5.00	5.00	\$ -	0.00%
6,000	5.00	5.00	\$ -	0.00%
7,000	5.00	5.00	\$ -	0.00%
8,000	5.00	5.00	\$ -	0.00%
9,000	5.00	5.00	\$ -	0.00%
10,000	5.00	5.00	\$ -	0.00%
11,000	5.00	5.00	\$ -	0.00%
12,000	5.00	5.00	\$ -	0.00%
13,000	5.00	5.00	\$ -	0.00%
14,000	5.00	5.00	\$ -	0.00%
15,000	5.00	5.00	\$ -	0.00%
16,000	5.00	5.00	\$ -	0.00%
17,000	5.00	5.00	\$ -	0.00%
18,000	5.00	5.00	\$ -	0.00%
19,000	5.00	5.00	\$ -	0.00%
20,000	5.00	5.00	\$ -	0.00%
40,000	5.00	5.00	\$ -	0.00%
100,000	5.00	5.00	\$ -	0.00%

Present Rates:

Monthly Minimum:	\$ 5.00
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Over 1,000,000,000	\$ -

Proposed Rates:

Monthly Minimum:	\$ 5.00
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Up to 999,999,999	\$ -
Over 1,000,000,000	\$ -

Average Usage					
14	\$ 5.00	\$ 5.00	\$ -	0.00%	
Median Usage					
-	\$ 5.00	\$ 5.00	\$ -	0.00%	

Arizona-American Water Company /Paradise Valley Water District

Bill Comparison Present and Proposed Rates

Meter Size and Code 3 Inch Irrigation (P7M1A)

Exhibit

Rebuttal Schedule H-4

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Witness: Kozoman

Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
-	\$ 84.06	\$ 92.47	\$ 8.41	10.00%
1,000	85.38	93.93	\$ 8.55	10.01%
2,000	86.70	95.39	\$ 8.69	10.02%
3,000	88.02	96.85	\$ 8.83	10.03%
4,000	89.34	98.31	\$ 8.97	10.04%
5,000	90.66	99.77	\$ 9.11	10.05%
6,000	91.98	101.23	\$ 9.25	10.06%
7,000	93.30	102.69	\$ 9.39	10.06%
8,000	94.62	104.15	\$ 9.53	10.07%
9,000	95.94	105.61	\$ 9.67	10.08%
10,000	97.26	107.07	\$ 9.81	10.09%
11,000	98.58	108.53	\$ 9.95	10.09%
12,000	99.90	109.99	\$ 10.09	10.10%
13,000	101.22	111.45	\$ 10.23	10.11%
14,000	102.54	112.91	\$ 10.37	10.11%
15,000	103.86	114.37	\$ 10.51	10.12%
16,000	105.18	115.83	\$ 10.65	10.13%
17,000	106.50	117.29	\$ 10.79	10.13%
18,000	107.82	118.75	\$ 10.93	10.14%
19,000	109.14	120.21	\$ 11.07	10.14%
20,000	110.46	121.67	\$ 11.21	10.15%
40,000	136.86	150.87	\$ 14.01	10.24%
80,000	189.66	209.27	\$ 19.61	10.34%
100,000	216.06	238.47	\$ 22.41	10.37%

Present Rates:

Monthly Minimum:	\$ 84.06
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ 1.32
Up to 999,999,999	\$ 1.32
Up to 999,999,999	\$ 1.32
Over 1,000,000,000	\$ 1.32

Proposed Rates:

Monthly Minimum:	\$ 92.47
Gallons in Minimum	-
Charge Per 1,000 Gallons	
Up to 999,999,999	\$ 1.46
Up to 999,999,999	\$ 1.46
Up to 999,999,999	\$ 1.46
Over 1,000,000,000	\$ 1.46

Average Usage				
-	\$ 84.06	\$ 92.47	\$ 8.41	10.00%
Median Usage				
-	\$ 84.06	\$ 92.47	\$ 8.41	10.00%

Arizona-American Water Company / Paradise Valley Water District
 Test Year 12 Months Ended December 2004
 Other Meter: Sales for Resale

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 Rebuttal Schedule H-4
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 Witness: Kozoman

Various Meter Sizes

Line No.	Meter Size & Number	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	Dec-04	Totals
1	5/8	7	4	6	5	3	5	5	5	5	5	5	3	58
2	3/4	-	-	-	-	-	-	-	-	-	-	-	-	-
3	1	20	10	10	10	4	16	5	6	16	8	6	9	120
4	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-
5	2	7	4	4	4	4	4	4	1	7	4	1	4	48
6	3	-	-	-	-	-	-	-	-	-	-	-	-	-
7	4	-	-	-	-	-	-	-	-	-	-	-	-	-
8	6	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TOTAL	34	18	20	19	11	25	14	12	28	17	12	16	226

Proposed Rates

Line No.	Meter Size & Number	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	Dec-04	Totals
12	Monthly Minimum Rates													
13	5/8	\$ 9.26	\$ 9.26	\$ 9.26	\$ 9.26	\$ 9.26	\$ 9.26	\$ 9.26	\$ 9.26	\$ 9.26	\$ 9.26	\$ 9.26	\$ 9.26	\$ 9.26
14	3/4	\$ 9.62	\$ 9.62	\$ 9.62	\$ 9.62	\$ 9.62	\$ 9.62	\$ 9.62	\$ 9.62	\$ 9.62	\$ 9.62	\$ 9.62	\$ 9.62	\$ 9.62
15	1	\$ 15.42	\$ 15.42	\$ 15.42	\$ 15.42	\$ 15.42	\$ 15.42	\$ 15.42	\$ 15.42	\$ 15.42	\$ 15.42	\$ 15.42	\$ 15.42	\$ 15.42
16	1.5	\$ 30.83	\$ 30.83	\$ 30.83	\$ 30.83	\$ 30.83	\$ 30.83	\$ 30.83	\$ 30.83	\$ 30.83	\$ 30.83	\$ 30.83	\$ 30.83	\$ 30.83
17	2	\$ 49.32	\$ 49.32	\$ 49.32	\$ 49.32	\$ 49.32	\$ 49.32	\$ 49.32	\$ 49.32	\$ 49.32	\$ 49.32	\$ 49.32	\$ 49.32	\$ 49.32
18	3	\$ 92.47	\$ 92.47	\$ 92.47	\$ 92.47	\$ 92.47	\$ 92.47	\$ 92.47	\$ 92.47	\$ 92.47	\$ 92.47	\$ 92.47	\$ 92.47	\$ 92.47
19	4	\$ 154.11	\$ 154.11	\$ 154.11	\$ 154.11	\$ 154.11	\$ 154.11	\$ 154.11	\$ 154.11	\$ 154.11	\$ 154.11	\$ 154.11	\$ 154.11	\$ 154.11
20	6	\$ 308.22	\$ 308.22	\$ 308.22	\$ 308.22	\$ 308.22	\$ 308.22	\$ 308.22	\$ 308.22	\$ 308.22	\$ 308.22	\$ 308.22	\$ 308.22	\$ 308.22

Revenues from Monthly Minimums Rates

22	5/8	\$ 64.82	\$ 37.04	\$ 55.56	\$ 46.30	\$ 27.78	\$ 46.30	\$ 46.30	\$ 46.30	\$ 46.30	\$ 46.30	\$ 46.30	\$ 46.30	\$ 27.78
23	3/4	-	-	-	-	-	-	-	-	-	-	-	-	-
24	1	308.40	154.20	154.20	154.20	61.68	246.72	77.10	92.52	246.72	123.36	92.52	138.78	138.78
25	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-
26	2	345.24	197.28	197.28	197.28	197.28	197.28	197.28	49.32	345.24	197.28	49.32	197.28	197.28
27	3	-	-	-	-	-	-	-	-	-	-	-	-	-
28	4	-	-	-	-	-	-	-	-	-	-	-	-	-
29	6	-	-	-	-	-	-	-	-	-	-	-	-	-
30	TOTAL	\$ 718.46	\$ 388.52	\$ 407.04	\$ 397.78	\$ 286.74	\$ 490.30	\$ 320.68	\$ 188.14	\$ 638.26	\$ 366.94	\$ 188.14	\$ 363.84	\$ 4,754.84

Quantity of Water Sold in 1,000's of Gallons

33	Total	838	370	415	796	507	735	496	272	1235	539	221	356	356
34	Commodity Rate	\$ 1.46	\$ 1.46	\$ 1.46	\$ 1.46	\$ 1.46	\$ 1.46	\$ 1.46	\$ 1.46	\$ 1.46	\$ 1.46	\$ 1.46	\$ 1.46	\$ 1.46
35	Revenues from	\$ 1,223.48	\$ 540.20	\$ 605.90	\$ 1,162.16	\$ 740.22	\$ 1,073.10	\$ 724.16	\$ 397.12	\$ 1,803.10	\$ 786.94	\$ 322.66	\$ 519.76	\$ 9,899
36	Commodity Rates	\$ 1,941.94	\$ 928.72	\$ 1,012.94	\$ 1,559.94	\$ 1,026.96	\$ 1,563.40	\$ 1,044.84	\$ 585.26	\$ 2,441.36	\$ 1,153.88	\$ 510.80	\$ 883.60	\$ 14,654
37	(Line 34 times Line 35)													
38	TOTAL REVENUES	\$ 1,941.94	\$ 928.72	\$ 1,012.94	\$ 1,559.94	\$ 1,026.96	\$ 1,563.40	\$ 1,044.84	\$ 585.26	\$ 2,441.36	\$ 1,153.88	\$ 510.80	\$ 883.60	\$ 14,654
39	(Line 31 + Line 36)													
40	Average Number of Customers													18.83
41	Average Usage													565

Dollar Change from Present Rates

42	\$ 182.90	\$ 87.26	\$ 95.26	\$ 147.75	\$ 97.13	\$ 147.67	\$ 98.70	\$ 55.28	\$ 231.14	\$ 108.95	\$ 48.14	\$ 83.04	\$ 83.04	\$ 83.04
43	Percentage Change from Present Rates	10.40%	10.37%	10.38%	10.46%	10.45%	10.43%	10.43%	10.43%	10.46%	10.43%	10.41%	10.37%	10.37%