0000095518

EXHIBITS

W-01303A-08-0227
SW-01303A-08-0227

PART 2 OF 3

To review Part 1 please see:
BAR CODE #0000095496

To review Part 3 please see:
BAR CODE #0000095519

EXHIBIT
A-11
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS AGUA FRIA WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT.	DOCKET NO. W-01303A-08-0227
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 MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227

REVISED DIRECT TESTIMONY
OF
THOMAS M. BRODERICK
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
JUNE 20, 2008

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TABLE OF CONTENTS

EXECUTIVE SUMMARY ..... **iii**
I INTRODUCTION AND QUALIFICATIONS **1**
II PURPOSE OF TESTIMONY **2**
III SUMMARY OF RATE CASE **2**
IV COST OF CAPITAL (ALL DISTRICTS) **5**
V RATE CASE EXPENSE (ALL DISTRICTS) **7**
VI ACQUISITION PREMIUM (ALL DISTRICTS) **7**
VII IMPUTED REGULATORY ADVANCES AND CONTRIBUTIONS (ALL DISTRICTS EXCEPT PARADISE VALLEY) **8**
VIII WHITE TANKS PLANT (AGUA FRIA WATER) **11**
A CWIP IN RATE BASE 11
B WHITE TANKS PLANT O&M DEFERRAL 16
C WHITE TANKS PLANT ACCOUNTING REQUESTS 19
IX ARSENIC REMEDIATION ISSUES **24**
A TUBAC 24
B ELIMINATE ACRMS (AGUA FRIA, HAVASU, PARADISE VALLEY AND SUN CITY WEST WATER DISTRICTS) 27
C RECOVERY OF ARSENIC MEDIA DEFERRAL (HAVASU) 27
X RATE DESIGN INCLUDING SURCHARGES (PARADISE VALLEY) **28**
XI HOOK-UP FEES (HAVASU WATER) **32**
XII WASTEWATER EFFLUENT TARIFF (MOHAVE WASTEWATER) **32**

EXHIBIT TMB-1 – Summary of Schedule A-1s, B-1s and C-1s

EXHIBIT TMB-2 - Cost of Capital

EXHIBIT TMB-3 - Rate Case Expense

EXHIBIT TMB-4 – White Tanks' AFUDC Reduction

EXHIBIT TMB-5 - Tubac ACRM Step 1 Forecast

EXHIBIT TMB-6 - Paradise Valley Average Residential Usage

EXECUTIVE SUMMARY

Thomas M. Broderick testifies that:

This new rate case filing complies with deadlines for filing new rate cases established by the Commission in Decisions 68825, 69173, 69181, and 69396.

The total requested revenue increase is $19,961,632 and the test year is 2007. Test year adjusted revenues and expenses include annualized actual ACRM revenues and expenses.

This case includes **all** Arizona districts, **except** the districts of Anthem Water, Anthem/Agua Fria Wastewater, Sun City Water, Sun City Wastewater, and Sun City West Wastewater which had rate cases recently.

Arizona-American's cost of capital is not less than 8.40%. The average cost of long-term debt is 5.463% and the cost of equity is 11.75%. The forecasted equity ratio is 46.75% and the debt ratio is 53.25%. Short-term debt has again been excluded from the calculation of the capital structure.

Arizona-American's proposed rate case expense is $612,000.

Amortizations of imputed regulatory AIAC should extend through July 14, 2008, rather than cease at December 31, 2007, because the full six and one-half year amortization period will expire July 14, 2008 and new rates in this case will not be established until late 2009 – long after the end of the amortization period.

White Tanks Plant CWIP should be included in rate base in the amount of $25 million because the real estate slowdown has caused actual hook-up fees to be far below the forecast and it is fair for existing Agua Fria customers to pay for a portion of the White Tanks Plant in order to stay the course on funding the balance of the Plant via hook-up fees.

Arizona-American proposes a White Tanks Plant O&M deferral mechanism equivalent to an ACRM step increase which authorizes a deferral of twelve months of O&M expenses and recovery in the subsequent twelve months. Such a mechanism also provides the Commission an additional opportunity to include White Tanks Plant in service in rate base in the event that actual hook-up fees further disappoint.

Arizona-American proposes to amortize incremental White Tanks Plant hook-up fees in an accelerated amount, but not to exceed the total post in-service AFUDC accrued in that month to keep the deferred accumulated balance of post-in-service AFUDC at zero. Second, each month Arizona-American will also amortize any remaining available incremental WHU-1 fees in an amount not to exceed the monthly depreciation expense for the White Tanks Plant. Third, each month any remaining incremental WHU-1 funds will be applied as a contribution to the White Tanks Plant. All such contributions shall reduce the White Tanks Plant in the next month for purposes of calculating post-in-service AFUDC, depreciation expense, and the White Tanks Plant balance.

Arizona-American requests an ACRM for Tubac district as a result of the US EPA's denial of a 3-year extension in the arsenic compliance deadline and because Arizona-American plans to construct a facility in Tubac to be in-service in 2010. The estimated Step 1 increase is a $25.98

per month increase in the basic service charge and a $3.14 per 1000 gallons increase for a 5/8 inch meter residential customer.

The existing ACRM surcharges for Agua Fria, Havasu, Paradise Valley and Sun City West should cease upon implementation of permanent rates at the conclusion of this case as the revenues and expenses would thereafter be in permanent rates.

Other Arizona-American's witnesses present important requests in this case.

I INTRODUCTION AND QUALIFICATIONS

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

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

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

A. I am employed by American Water as Director, Rates & Regulation for operations in Arizona, New Mexico and Texas. Arizona-American Water Company ("Arizona-American" or the "Company") is a wholly-owned subsidiary of American Water.

Q. PLEASE DESCRIBE YOUR PRIMARY RESPONSIBILITIES FOR THE COMPANY.

A. I am responsible for water and wastewater rate cases and public utility regulation in Arizona, New Mexico and Texas.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AND EDUCATION.

A. For more than 20 years before joining the Company in 2004, I held various management positions in the electric-utility industry with responsibilities for regulatory and government affairs, corporate economics, planning, load forecasting, finance and budgeting with Arizona Public Service Company, PG&E National Energy Group and Energy Services, and the United States Agency for International Development. I was employed at APS for nearly 14 years as Supervisor, Regulatory Affairs, then Supervisor, Forecasting, and then Manager, Planning. I was designated APS' Chief Economist in the early 1990s. For PG&E National Energy Group, I was Director, Western Region-External Relations. For USAID, I was Senior Energy Advisor to Ukraine.

I have a Masters Degree in Economics from the University of Wisconsin – Madison and a Bachelors Degree in Economics from Arizona State University.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes, on many occasions.

II PURPOSE OF TESTIMONY

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

A. Please see the executive summary of my direct testimony.

III SUMMARY OF RATE CASE

Q. WHAT ARE ARIZONA-AMERICAN'S REQUESTED REVENUE INCREASES IN THIS CASE?

A. Arizona-American's requested revenue increases, rate base and operating expenses are summarized on Exhibit TMB-1. The total requested revenue increase is $19,961,632. This requested rate base for these seven districts is $198, 272,853.

Q. WHAT ARE ARIZONA-AMERICAN'S OTHER REQUESTS IN THIS RATE CASE?

A. Other requests by Arizona-American include approval of various accounting treatments especially as regards the White Tanks Plant, and various surcharges such as a Tubac ACRM and a Paradise Valley Public Safety surcharge.

Q. WHAT WITNESSES SUPPORT ARIZONA-AMERICAN'S REQUEST?

A. In addition to my testimony, the following witnesses are providing testimony to support Arizona-American's direct case: Mr. Paul Townsley, Mr. Joseph Gross, Mr. Bradley J. Cole, Ms. Sheryl Hubbard, Ms. Linda Gutowski, Mr. John C. (Jake) Lenderking, and external expert witnesses Dr. Bente Villadsen and Mr. Paul Herbert.

Q. DOES THIS CASE INCLUDE EVERY ARIZONA-AMERICAN DISTRICT?

A. No. This case complies with Commission orders that Arizona-American file new rate cases for its Agua Fria, Havasu, and Sun City West water districts by May 31, 2008, and for its Paradise Valley water district by September 30, 2008, as a requirement of the authorization of arsenic surcharges for those districts. This case includes **all** Arizona districts, **except** the districts of Anthem Water, Anthem/Agua Fria Wastewater, Sun City Water, Sun City Wastewater, and Sun City West Wastewater which had rate cases very recently.

Q. WHAT SCHEDULES ARE YOU SPONSORING?

A. I sponsor Schedules A-1, A-3, D-1, D-2, D-3, D-4, E-4, and E-9.

Q. WHAT IS SCHEDULE A-1?

A. Schedule A-1 titled "Computation of Increase in Gross Revenue Requirements" for each district shows the calculation of the increase in gross revenue requested by Arizona-American in this proceeding. This increase in gross revenue represents the amount necessary for Arizona-American to continue providing safe and reliable service to its customers within each district, while providing an opportunity for Arizona-American to earn a reasonable rate of return on its investment in plant, equipment, and working capital. The increase in gross revenue requirement for each district based on a 2007 test-year is shown in the following tables.

Table 1 – Water Districts

District	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley Water	Sun City West Water	Tubac Water
Revenue Increase	$9,192,203	$ 815,803	$1,655,410	$3,101,550	$4,276,305	$278,214

Table 2. Wastewater Districts

District	Mohave Wastewater
Revenue Increase	$ 642,148

Q. WHAT IS SCHEDULE A-3?

A. Schedule A-3 titled "Summary of Capital Structure" summarizes the debt and equity of the Company allocated to the operating districts for the years 2007, 2006, and 2005 as well as projected year 2008. The test-year 2007 figures for each water and wastewater district are unadjusted from Arizona-American's accounting records.

Q. WHAT ARE SCHEDULES D-1 THROUGH D-4?

A. These schedules provide the cost of capital and the component details – equity, debt and capital structure for Arizona-American and each district.

Q. WHAT IS SCHEDULE E-4?

A. Schedule E-4 titled "Statement of Changes in Stockholder's Equity-Test Year Ended December 31, 2007" details the changes in components comprising stockholder's equity since the beginning of 2005 to the end of the test year.

Q. WHAT IS SCHEDULE E-9?

A. Schedule E-9 has the self-explanatory title of "Notes to Financial Statements."

Q. IS ARIZONA-AMERICAN WILLING TO USE ITS ORIGINAL COST RATE BASE AS ITS FAIR VALUE RATE BASE IN THIS PROCEEDING?

A. Yes.

IV COST OF CAPITAL (ALL DISTRICTS)

Q. WHAT IS THE REQUESTED COST OF CAPITAL?

A. Arizona-American's cost of capital is not less than 8.40%. This amount is calculated in the D Schedules, which I sponsor.

Q. WHAT IS THE AMOUNT AND COST OF DEBT?

A. Exhibit TMB-2 displays long-term debt in the amount of $189.2 million, with an average cost of debt of 5.463%. The amount of long-term debt excludes an upcoming August 2008 maturity of $4.5 million in long-term debt.

Q. WHAT IS THE REQUESTED CAPITAL STRUCTURE?

A. Arizona-American's forecasted equity ratio is 46.75% and its debt ratio is 53.25%. Short-term debt has again been excluded from the calculation of the capital structure. Exhibit TMB-2 does display short-term debt, including an amount for the $20.2 million Anthem refund which occurred in March 2008.

Q. WHAT ARE THE AMOUNT AND ESTIMATED COST OF EQUITY?

A. The amount of equity is forecasted at $166.1 million with an associated estimated cost of 11.75%. The amount of equity includes another post-test-year equity infusion of $20 million which occurred in May 2008 and an additional $10 million equity infusion which may occur in August 2008.

Q. WHAT ARE ARIZONA-AMERICAN'S RETAINED EARNINGS?

A. Because Arizona-American has been unprofitable for many years, retained earnings are a negative $28.9 million at the end of the 2007 test year. Arizona-American's negative retained earnings are the cumulative result of net income being negative nearly every

year since 2002. Unfortunately, this sorry state of affairs worsened in 2007 and net income is forecasted to be negative again in 2008 and into 2009, until new permanent rates can be implemented after a decision in this rate case. Without the rates requested herein, Arizona-American cannot achieve positive net income. Retained earnings can also be updated for actual results throughout the course of this case until the hearing.

Q. WHY IS DR. VILLADSEN'S ESTIMATED COST OF EQUITY OF 11.75% NEAR HER UPPER RANGE FOR A COMPANY WITH A 46.75% EQUITY RATIO?

A. I informed Dr. Villadsen that Commission Staff was certain to recommend that short-term debt be included in the capital structure and that the Commission would probably accept that recommendation. Dr. Villadsen informed me that if Staff's recommendation is accepted by the Commission, then her estimated cost of equity of 11.75% would be in the lower, not upper, range for an equity ratio of 41.62% (which is the ratio resulting after inclusion in the capital structure of the short-term debt displayed in Exhibit TMB-2).

Q. WILL ADDITIONAL SHORT-TERM DEBT BE DRAWN DURING THE TERM OF THIS CASE?

A. Yes. Significant additional short-term debt will be drawn in 2008 to finance construction of the White Tanks Regional Water Treatment Plant ("White Tanks Plant"). The short-term debt balance can also be updated for actual results throughout the course of this case.

Q. IS IT ARIZONA-AMERICAN'S POSITION THAT SHORT-TERM DEBT LARGELY FINANCES CONSTRUCTION WORK IN PROGRESS ("CWIP")?

A. Yes, that has been and continues to be our position. Therefore, it is logical, consistent, and a partially consequential position for Arizona-American to request that $25 million of CWIP for the White Tanks Plant be included in rate base in response to Commission

Staff's inclusion of short-term debt in the capital structure. I discuss this proposal further in Section VIII.A, below.

Q. IF THE COMMISSION ACCEPTS ARIZONA-AMERICAN'S REQUEST TO INCLUDE $25 MILLION OF CWIP IN RATE BASE FOR THE WHITE TANKS PLANT, WOULD YOU ACCEPT INCLUDING SHORT-TERM DEBT IN THE CAPITAL STRUCTURE?

A. Yes, that would be an appropriate matching of rate base and invested capital.

V RATE CASE EXPENSE (ALL DISTRICTS)

Q. WHAT IS ARIZONA-AMERICAN'S PROPOSED RATE CASE EXPENSE FOR THIS PROCEEDING?

A. Exhibit TMB-3 displays by cost component proposed rate case expense of $612,000. Included in this estimate are substantial postage costs to issue the initial and post case notices required by the Commission to each customer. The rate case expense cost per customer is less than the expenses approved for recent Arizona-American rate cases, because many more districts are involved and there are economies of scale (e.g., roughly the same expense for the cost-of-equity witness regardless of size of case).

Ms. Hubbard sponsors Schedule C-2 income statement adjustment SLH-8, which relies on a four-factor allocation of this proposed rate case expense to each district amortized over three years.

VI ACQUISITION PREMIUM (ALL DISTRICTS)

Q. HAS THE COMPANY REMOVED THE PREMIUM IT PAID TO ACQUIRE ASSETS FROM CITIZENS?

A. Yes. Schedule B-2 rate base adjustment TMB-9 removes the remaining unamortized amount of this acquisition premium. Please note two things. First, the acquisition-

premium amortization has been a below-the-line expense, so that it has not affected rates in these districts. Second, the premium and the associated amortization expense have been reflected in the books for Paradise Valley Water, although this was not one of the districts acquired from Citizens Utilities ("Citizens"). Removal of the unamortized acquisition premium corrects this accounting treatment.

VII IMPUTED REGULATORY ADVANCES AND CONTRIBUTIONS (ALL DISTRICTS EXCEPT PARADISE VALLEY)

Q. WHAT ARE THE TEST-YEAR ADJUSTMENTS TO REFLECT IMPUTED REGULATORY ADVANCES AND CONTRIBUTIONS ON THE RATE BASE B SCHEDULES AND INCOME C SCHEDULES?

A. Schedule B-2 rate base adjustments TMB-7 and TMB-8 and Schedule C-2 income statement adjustment SLH-11 result from Commission Decision No. 63584 (dated April 24, 2001), which approved a settlement agreement requiring the imputation of advances in aid of construction ("AIAC") and contributions in aid of construction ("CIAC") for ratemaking purposes in future rate proceedings in the former Citizens' Districts. The Decision also required re-building the imputed CIAC through reductions to actual depreciation expense. These imputations reduce rate base and depreciation expense until they have been fully amortized on a timetable also established in Decision No. 63584. With one exception, the method we use to calculate recovery in this case is identical to methods used by Staff and RUCO and accepted by the Commission in recent rate cases.

Q. WHAT IS THAT EXCEPTION?

A. I propose to amortize regulatory AIAC through July 14, 2008, rather than ceasing regulatory AIAC amortization at the end of the test year December 31, 2007. This means that rate base adjustment TMB-7 will not reduce test-year rate base. I do not propose to alter the end date for the CIAC amortization.

Q. WHY SHOULD THE COMMISSION AUTHORIZE AMORTIZING IMPUTED REGULATORY AIAC ALMOST SEVEN MONTHS BEYOND THE END OF THE TEST YEAR?

A. On July 14, 2008, the six-and-one-half year period established for amortizing imputed regulatory AIAC in Decision No. 63584 will be over; whereas, the ten-year period established for amortizing imputed regulatory CIAC continues until January 14, 2012. The measurement period for both imputed regulatory AIAC and CIAC began January 15, 2002. Since new rates in this case are not likely to be implemented until late in 2009, the entire established amortization period for imputed regulatory AIAC will have already been over for more than one year by then. Stated alternatively, if the Commission does not accept my proposal to fully amortize imputed regulatory AIAC in this case, then the remaining amortization from January 1, 2008 through July 14, 2008, will not be recognized in rates until completion of the rate case *after this case,* or several years later. That seems unfair and not in keeping with the intention of this Settlement, especially in light of Arizona-American's dismal financial performance and the fact that no rate increases associated with this Settlement occurred in any district until the completion of the Mohave rate case in 2007. Further, recognizing the final seven months of amortization in this case could postpone the need to file future rate cases to recognize the rate-base increase, thereby allowing the Commission and the parties to conserve personnel and financial resources that could be better deployed elsewhere.

Q. WASN'T THERE AN ISSUE IN RECENT CASES OVER THE EXACT ENDING DATE FOR IMPUTED AIAC AND CIAC?

A. Yes, but that was a measurement issue, as opposed to a policy issue. In the recent Sun Cities' Wastewater rate case there was a measurement issue concerning the exact ending of the test year – December 9 versus December 31. That issue did not arise in the recent

Sun City Water rate case; all parties agreed that the test year ended December 31, just as it does in this rate case. Our request to extend amortization of imputed regulatory AIAC through July 14, 2008, is strictly based on policy and equity grounds.

Q. HASN'T ARIZONA-AMERICAN AGREED IN PREVIOUS CASES NOT TO INCLUDE POST-TEST-YEAR AMORTIZATIONS OF REGULATORY AIAC AND CIAC?

A. Yes. In order to minimize contested issues, Arizona-American has previously withdrawn requests to include these post-test-year amortizations, despite the resulting financial impact. And Arizona-American still agrees not to include post-test-year amortizations of imputed regulatory CIAC. As I stated before, the issue is the imputed regulatory AIAC amortization. Total rate base for all districts increases by $3,734,397 amount as a result of the additional amortization of imputed regulatory AIAC from January 1, 2008 through July 14, 2008. Commission Staff and RUCO may argue this reduces the value bargained for in this Settlement. However, a rigid adherence to the test-year amortization in this case is misplaced given that many of the districts have seen no amortization at all to date. The rates established in this case in September 2009 will be the first opportunity to include any amortization for the Agua Fria, Havasu, Sun City West and Tubac water districts. Nearly a decade of sustained losses in net income is not a good bargain for customers or the shareholder of the state's largest private water utility. I do not believe it was the intention of the Commission to impose such losses, or the intention of Arizona-American to accept them at the time the Settlement was entered into.

VIII WHITE TANKS PLANT (AGUA FRIA WATER)

A CWIP IN RATE BASE

Q. IS ARIZONA-AMERICAN REQUESTING COMMISSION APPROVAL TO INCLUDE $25 MILLION OF THE WHITE TANKS PLANT CONSTRUCTION WORK IN PROGRESS ("CWIP") IN RATE BASE?

A. Yes. Agua Fria Water district's Schedule B-2 rate base Adjustment LJG-10 includes this amount. If the Commission approves Arizona-American's request, AFUDC would cease on the amount of CWIP included in rate base starting on the date that new permanent rates are implemented in this case. While I support the specific request to include CWIP in rate base, Mr. Townsley and Mr. Gross provide important additional supporting project and schedule details about the White Tanks Plant. In particular, Mr. Gross discusses how existing customers will utilize the entire initial capacity of the White Tanks Plant starting in 2010. Hence, this request is revenue neutral. Permanent rates are anticipated to be established in late 2009, with the White Tanks Plant is forecasted to be in-service a few months later, April 2010.

Q. WHAT WAS THE WHITE TANKS PLANT'S CWIP BALANCE AT THE END OF THE TEST YEAR?

A. While the balance was only $8.4 million at the end of the 2007 test year, it will climb to $43.2 million by the end of 2008. Arizona-American will provide updates and supporting information throughout the conduct of this case. The current estimate of the total cost of the White Tanks Plant including AFUDC is $61.9 million for 13.5 mgd capacity.

Q. IS ARIZONA-AMERICAN PROPOSING TO CHANGE THE AGUA FRIA WATER DISTRICT HOOK-UP FEE ("WHU-1")?

A. No. To the contrary, Mr. Townsley requests that the recently-approved increase be extended from 2015 until December 31, 2020 in order to allow more time to fund the White Tanks Plant. The WHU-1 fee was increased substantially in 2007 for the purpose of providing additional contributions to offset the White Tanks Plant's costs. As Mr. Townsley testifies, the anticipated additional proceeds from the WHU-1 tariff are falling far short of expectations, due largely to the emerging real estate slowdown. In 2007, only $73,485 in incremental hook-up fees were available to the White Tanks Plant versus $1,064,988 forecasted for 2007 during the White Tanks Plant hearing. However, if we were to request an increase in the WHU-1 fee in response to the real estate slowdown, we expect this would be received negatively by the residential home-builder community.

Q. WHY SHOULD EXISTING AGUA FRIA WATER CUSTOMERS PAY ALMOST HALF THE COST OF THE WHITE TANKS PLANT?

A. First, as I discussed above, the plant will enter service shortly after rates are effective as a result of this filing and will immediately begin providing renewable surface water to customers, nearly all of whom will never pay a hook-up fee. Thus, it is certainly fair that these customers shoulder a reasonable share of the plant's cost. Second, if CWIP were not included in rate base, the accumulated balance of the hook-up fee is forecasted to be exhausted by the end of 2010, given the revised customer forecast. Arizona-American needs to avoid this situation as our auditors may not allow us to recognize the associated deferrals and even a portion of the plant balance may be in jeopardy under possible interpretations of FASB 92. Setting this very important concern aside, the accumulated hook-up fees would not pay off the White Tanks Plant until 2027 without any CWIP in rate base, again given the revised customer forecast. Clearly, the year 2027 is not an acceptable pay off date.

Q. ISN'T THIS A CHANGE FROM ARIZONA-AMERICAN'S PREVIOUS PROPOSAL FOR NEW CUSTOMERS TO PAY FOR THE ENTIRE COST OF THE WHITE TANKS PLANT VIA THE WHU-1 HOOK-UP FEE?

A. Yes, this is an update to our original funding plan for this project. As I testified in the White Tanks case:

> If the Agua Fria Water Facilities Hook-up Fee is set at the level proposed by Staff and the Commission provides the necessary accounting approvals, then Arizona-American does not presently intend to ask for a rate increase for capital costs associated with building the White Tanks Plant. <u>This intention will be re-examined based on information known at the time of the next rate cases for the Agua Fria Water District.</u>[1]

Q. WHAT WILL ARIZONA-AMERICAN DO IF THE COMMISSION DOES NOT AUTHORIZE INCLUDING CWIP IN RATE BASE?

A. If hook-up fees remain low through 2009 and the Commission does not authorize including CWIP in rate base, Arizona-American will face an even more difficult financial situation by 2010. The primary issue is cash-flow. By 2010, Arizona-American will have funded (provided cash for) the White Tanks Plant and it will then go in service with additional cash requirements for O&M expenses. Although the Commission has authorized the deferral of White Tanks Plant depreciation, post in-service AFUDC and will also consider a deferral of White Tanks Plant O&M expenses in this case, Arizona-American will still be providing cash until White Tanks Plant is either paid for by hook-up fees or placed in rates. Given this difficult scenario, Arizona-American may be forced in the next rate case to request approval to include the entire White Tanks Plant investment in rate base. Arizona-American's request for CWIP in rate base is designed,

[1] Docket No W-01303A-05-0718, Exhibit A-7 – Surrebuttal Testimony of Thomas M. Broderick at 6.

in large part, to reduce the likelihood that such a rate-base request will be necessary. Including a portion of the White Tank Plant's CWIP in rate base will help stay the course for having the balance funded via hook-up fees.

If the Commission approves Arizona-American's request for CWIP in rate base in this case, Arizona-American will endeavor to do its best to have the balance of the White Tanks Plant funded via hook-up fees. Put differently, the Commission can help preserve the intention of funding much of the White Tanks Plant by hook-up fees if it allows $25 million of CWIP in rate base in this case.

Q. WHY DOES CASH-FLOW MATTER?

A. Cash pays the bills, and Arizona-American is already unable to generate enough cash to pay all bills, which forces additional borrowing. For the adjusted test year 2007, Arizona-American's operating income for these seven districts was $4,623,998 (Exhibit TMB-1, Summary of Schedule A-1's), yet interest expense alone was $5,769,740 (Exhibit TMB-1, Summary of Schedule C-1's). This situation is not sustainable, especially as debt and interest expense will increase further during the construction of the White Tanks Plant. For several years now, American Water has been infusing equity into Arizona-American in order to pay interest expense and maintain a balanced capital structure.

Q. HOW MUCH WOULD AFUDC BE REDUCED IF THE COMMISSION APPROVED CWIP IN RATE BASE?

A. I do have an exhibit, but first one must bear in mind that AFUDC is greater than previously forecasted simply because hook-up fees (which begin reducing AFUDC in the month received) are so much lower during the construction period than earlier forecasted. But, setting that aside, Exhibit TMB-4 re-forecasts the White Tanks Plant cost including

AFUDC and offsets the cost with revised forecasted hook-up fees using current forecast information. It also offsets the White Tanks Plant cost with $25 million of CWIP in rate base starting September 2009. It also incorporates the impacts of several proposed accounting entries resulting from the recent Commission-authorized deferral. By performing the calculation both with and without CWIP in rate base, accumulated AFUDC is reduced by $6.0 million when CWIP is included in rate base for the period September 2009 through September 2011 (the forecasted date of new rates in the next rate case for the Agua Fria Water District). Exhibit TMB-4 assumed the $25 million CWIP in rate base remains in rate base through the next rate case.

Mr. Gross sponsors the revised customer forecast and associated adjustments to arrive at the effective customer growth in Agua Fria district that pays the WHU-1 fee.

Q. HAS RUCO PREVIOUSLY EXPRESSED SUPPORT FOR REDUCING WHITE TANKS PLANT AFUDC?

A. Yes. During the proceeding to increase the WHU-1 fee, RUCO supported a much larger hook-up fee increase and stated "RUCO still believes that the Company's Option 2 will result in less AFUDC accruals than will Option 1, and is therefore still preferable."[2]

Q. WHAT IS THE FORECASTED UNRECOVERED WHITE TANKS PLANT BALANCE AT SEPTEMBER 2009 ASSUMING $25 MILLION OF CWIP GOES INTO RATE BASE?

A. Exhibit TMB-4 displays a remaining net investment of $29.3 million at September 30, 2009. This balance is forecasted to grow to a maximum of $33.1 million at December 2010. This remaining balance would be recovered by hook-up fees.

[2] Docket No. W-01303A-05-0718, Exhibit R-2 – Rebuttal Testimony of William Rigsby at 2. (Option 2 was a significantly larger hook-up fee.)

Q. EXHIBIT TMB-4 ALSO SHOWS AN UNRECOVERED WHITE TANKS PLANT BALANCE AT FEBRUARY 2017 TO BE $0. IS THAT WHEN WHITE TANKS PLANT AND DEFERRALS ARE FORECASTED TO BE FULLY RECOVERED?

A. Yes, based on current forecast information and assuming the Commission authorizes the inclusion of $25 million of CWIP in rate base in this proceeding. That date is already several years later than initially desired and planned for.

Q. IF THE MARICOPA WATER DISTRICT ("MWD") EXERCISES ITS OPTION TO EXPAND THE WHITE TANKS PLANT, WOULD ARIZONA-AMERICAN AGREE TO REVISIT THE AMOUNT OF WHITE TANKS PLANT TO BE PERMANENTLY INCLUDED IN RATE BASE IN THE NEXT RATE CASE?

A. Yes. This is an evolving and dynamic situation and if the Commission approves the White Tanks Plant's CWIP in rate base, then Arizona-American can certainly agree—once we know whether MWD will be involved in the White Tanks Plant—to revisit how much of White Tanks Plant should remain in rate base permanently versus how much should be collected via hook-up fees. Also, by then we may know more about the recovery of the real estate market in the Agua Fria Water District.

B <u>WHITE TANKS PLANT O&M DEFERRAL</u>

Q. ARIZONA-AMERICAN WAS AUTHORIZED TO FILE, AS PART OF ITS 2008 AGUA FRIA WATER RATE CASE, A PROPOSED MECHANISM TO DEFER AND SUBSEQUENTLY RECOVER O&M EXPENSES FOR WHITE TANKS PLANT (DECISION NO. 69914, PAGE 29, LINES 25-28). WHAT IS THE PROPOSED MECHANISM?

A. Arizona-American proposes an O&M deferral mechanism that is essentially the same as an ACRM mechanism. The ACRM mechanism authorizes a deferral of 12 months of initial actual O&M expenses. At the conclusion of the initial 12-month period, Arizona-

American submits evidence of ***actual*** O&M expense along with the other required schedules and approximately ninety days later a surcharge rate increase is authorized which recovers two times the actual O&M expense (i.e., the deferred expenses plus an equal amount to recover the on-going expenses). And at the end of 12 months following implementation of the surcharge, the surcharge is reduced down to an amount equal to the actual on-going expenses (which are equal to the actual expenses from the deferral period) until the completion of the next rate case which places on-going expenses in permanent rates.

Q. WHAT IS THE ESTIMATE OF WHITE TANKS PLANT O&M FOR 2010?

A. Exhibit BJC-1 to Mr. Cole's direct testimony shows $1.927 million as an annualized amount of O&M for 2010. Mr. Cole sponsors the details of the White Tanks Plant O&M forecast which is merely an early estimate subject to significant revision in the future. I am sponsoring Arizona-American's request for a deferral of the first year's O&M expense for the White Tanks Plant.

Q. WOULD THE DEFINITION OF ELIGIBLE O&M EXPENSES DIFFER FROM AN ACRM?

A. Yes. The ACRM recovers only arsenic media related O&M expense; whereas, the White Tanks Plant O&M expense would obviously contain a more broad definition, including labor expense for personnel located at the White Tanks Plant. I propose to include all the O&M categories displayed in Exhibit BJC-1. Now, rather than later, would be the time to examine the O&M cost categories proposed for recovery via an ACRM-like surcharge.

Q. WOULD THE WHITE TANKS PLANT SURCHARGE MECHANISM ALSO ALLOW RECOVERY OF WHITE TANKS PLANT?

A. Yes, it would be useful if the Commission created this additional opportunity given how dynamic and evolving the situation is with the White Tanks Plant. Therefore, I also request authorization to include an additional portion of the unrecovered White Tanks Plant as a type of ACRM step 1 increase, with the understanding that the Commission may or may not allow any additional White Tanks Plant investment in rates via this mechanism.

Q. HOW DOES THAT REQUEST DOVETAIL WITH THE EXISTING HOOK-UP FEE, WHITE TANKS PLANT DEFERRALS, AND THE NEW REQUEST FOR CWIP IN RATE BASE?

A. Each of these mechanisms would be coordinated and integrated. An ACRM-like Step 1 increase (in addition to a Step 2 increase for O&M expense) for the White Tanks Plant would permit the recovery of, for example, White Tanks Plant depreciation expense (as there is no need to wait for twelve months of actual data for depreciation expense). This would reduce the amount of deferred depreciation recovered via the hook-up fee, thereby allowing the hook-up fee to pay down more actual plant investment. The mechanism could also include additional plant in rate base.

Q. WHAT CRITERIA SHOULD THE COMMISSION APPLY TO DETERMINE HOW MUCH DEPRECIATION OR ADDITIONAL WHITE TANKS PLANT SHOULD BE RECOVERED THROUGH AN ACRM-LIKE MECHANISM?

A. I propose that the target date of not later than May 2015 be established as the date to payoff all amounts via the hook-up fee. In other words, the CWIP-in-rate-base and ACRM-like mechanism should be utilized so that hook-up fees will fully fund the remaining White Tanks Plant within the first five years of its in-service date or by May 2015. Since the current forecast projects payoff by February 2017, the mechanism proposed herein can help accelerate that date.

Q. WOULD THIS ACRM-LIKE SURCHARGE CONTAIN AN EARNINGS TEST?

A. Yes. The earnings test of the ACRM limits the amount of the ACRM surcharge to an amount consistent with the authorized return on equity. If the Commission authorizes both Step 1 and 2 ACRM-like surcharges for the White Tanks Plant, an earnings test would be acceptable.

C WHITE TANKS PLANT ACCOUNTING REQUESTS

Q. ARE YOU FAMILIAR WITH THE CURRENT WATER FACILITIES HOOK-UP FEE ("WHU-1") FOR ARIZONA-AMERICAN'S AGUA FRIA WATER DISTRICT?

A. Yes. In Decision No. 69914, dated September 27, 2007, the Commission approved Arizona-American's request to increase its existing WHU-1 tariff to fund construction of its planned White Tanks Plant. The Commission-approved hook-up fees as follows:

Meter Size	Fee
5/8 x 3/4-inch	$ 3,280
3/4-inch	4,920
1-inch	8,200
1 1/2-inch	16,400
2-inch	26,240
3-inch	52,480
4-inch	82,000
6-inch or larger	164,000

Q. DECISION NO. 69914 STATES "ADDITIONALLY, THE COMPANY REQUESTS THAT IT BE ALLOWED TO PROPOSE, IN ITS NEXT RATE CASE FILING FOR THE AGUA FRIA WATER DISTRICT, SPECIFIC ACCOUNTING ENTRIES TO MEET THIS OBJECTIVE." (PAGE 24, LINES 23-25) WHAT OBJECTIVE IS THIS REFERING TO?

A. This statement refers to Arizona-American's expressed objective of not depressing earnings as a result of constructing the White Tanks Plant. Accordingly, the Commission approved the Company's request to record post-in-service AFUDC and to defer post in-

service depreciation expense. The Decision was otherwise silent concerning the exact accounting entries needed to recover these deferrals.

Q. WHAT SPECIFIC ACCOUNTING ENTRIES IS ARIZONA-AMERICAN NOW PROPOSING TO AUGMENT THE EXISTING ACCOUNTING ORDER?

A. I will first discuss how Arizona-American intends to account for WHU-1 proceeds during the period until the White Tanks Plant goes into service.

Q. WHAT IS ARIZONA-AMERICAN PROPOSAL TO ACCOUNT FOR HOOK-UP FEES FOR THE PERIOD UNTIL THE WHITE TANKS PLANT GOES INTO SERVICE IN APRIL 2010?

A. As I testified in the White Tanks case, all proceeds generated from the **increase** in the WHU-1 tariff should be applied to the White Tanks Plant. This ensures that additional funds generated by the Commission-approved increase in the WHU-1 are applied as intended – to finance the White Tanks Plant.

Q. HOW MUCH HAS BEEN GENERATED TO-DATE BY THE INCREASED HOOK-UP FEES TO OFFSET THE COST OF THE WHITE TANKS PLANT?

A. As of December 31, 2007, only $73,485 has been generated to offset the White Tank Plant costs. This is attributable to Arizona's real estate slowdown and developer properties that were grandfathered and permitted to pay the previous (lower) amount of the WHU-1 fees.

In accordance with Decision No. 69914, Agua Fria Water Schedule B-2 rate base adjustment LJG-5 removes $73,485 in Contributions as an increase to rate base. This contributed amount is already reducing White Tanks Plant AFUDC under Arizona-American's proposal.

Q. HOW WOULD THE PROPOSED ALLOCATION OF WHU-1 FUNDS BE APPLIED TO THE WHITE TANKS PLANT AND OTHER ELIGIBLE PROJECTS?

A. For a new water customer with a 5/8 x 3/4-inch meter, the previous WHU-1 Fee was $1,150, while the current WHU-1 Fee is $3,280. Arizona-American proposes to continue to apply $1,150 of the current $3,280 Hook-Up Fee towards water-supply projects ***other*** than the White Tanks Plant, and apply the $2,130 balance toward the White Tanks Plant and so forth for all the other meter sizes.

Q. WILL ARIZONA-AMERICAN ACCOUNT EACH MONTH FOR THE WHU-1 FUNDS AVAILABLE FOR THE WHITE TANKS PLANT?

A. Yes. The $73,485 was initially booked to account 271160. However, that amount was reclassified to account 271161 to isolate the funds from other contributions/hook-up fees. This account will be used for all future incremental WHU-1 fees. Also, when we book AFUDC on the White Tanks Plant, we will first subtract the amount of hook-up fees accumulated in account 271161 from the asset value so that we are only recording AFUDC on the net amount of funds that the Company is financing. When the White Tanks Plant is placed in service, the balance in account 271161 will be applied as described below (for the post-in-service period).

Q. WHAT ACCOUNTING TREATMENT ARE YOU PROPOSING ONCE THE WHITE TANKS PLANT IS IN SERVICE?

A. The remaining completed cost of the White Tanks Plant, including accumulated AFUDC, will continue to be offset by available incremental WHU-1 fees during the post-in-service period. At the in-service date, we propose to change the accounting for WHU-1 available to White Tanks Plant, because post-in-service AFUDC and deferred depreciation expense will begin, as authorized in Decision No. 69914.

Q. WHAT POST-IN SERVICE ACCOUNTING HAS ALREADY BEEN AUTHORIZED?

A. The Commission authorized Arizona-American to book post-in-service AFUDC and to defer depreciation expense in order to keep it whole on its investment until such time that the accumulated hook-up fees are sufficient to fund the entire plant balance. Post-in-service AFUDC is calculated only on the balance of the White Tanks Plant remaining after applying all the WHU-1 proceeds dedicated to the White Tanks Plant.

Q. HOW DOES ARIZONA-AMERICAN PROPOSE TO ACCOUNT FOR WHU-1 FEES AFTER THE WHITE TANKS PLANT ENTERS SERVICE?

A. Arizona-American asks the Commission to approve the following accounting treatments as a package for use after the White Tanks Plant enters service:

1. First, each month Arizona-American will amortize incremental (amount above the original hook-up fee) WHU-1 fees in an accelerated amount, but not to exceed the total post in-service AFUDC accrued in that month. This will result in the recovery of an amount equivalent to post-in-service AFUDC each month and keep the deferred accumulated balance of post-in-service AFUDC at zero.

2. Second, each month Arizona-American will also amortize in an accelerated amount remaining available incremental WHU-1 fees in an amount not to exceed the monthly depreciation expense for the White Tanks Plant.

3. Third, each month the remaining incremental WHU-1 funds, if any, will be applied as a contribution to the White Tanks Plant. All such contributions shall reduce the White Tanks Plant in the next month for purposes of calculating post-in-service AFUDC, depreciation expense, and the White Tanks Plant balance.

4. However, if the accumulated incremental WHU-1 funds in any month are insufficient to cover the post-in-service AFUDC or to allow its amortization to fully offset White Tanks Plant's depreciation expense, Arizona-American will defer the unrecovered post-in-service AFUDC and depreciation expense for recovery at a time when hook-up fees are sufficient or until it is included in rate base. This will be accomplished by using the accumulated amounts in account 271161 as a balancing account. Please note that in the forecast in Exhibit TMB-4, the additional WHU-1 fees are inadequate to fund post-in-service AFUDC and depreciation from April 2010 through December 2012. Therefore, the accumulated balance in account 271161 (as opposed to just the new amount collected each month) is amortized over that period.

Q. HOW DOES THE PROCESS YOU HAVE JUST DESCRIBED SATISFY ARIZONA-AMERICAN'S EARLIER STATED OBJECTIVE OF NOT DEPRESSING EARNINGS?

A. By recovering post-in-service AFUDC as it is incurred, Arizona-American will recover its White Tanks Plant cost of capital on an on-going basis. If this were not the case, we would incur a reduction in earnings, because, for financial reporting purposes generally accepted accounting principles ("GAAP") would not allow deferring the equity portion of post-in-service AFUDC. Instead, earnings would be reduced. So, even with the Commission-authorized deferral and subsequent recovery of this amount, our earnings in the present time frame would be reduced if we are not granted the accounting explained above. We believe that would not be in keeping with the Commission's intention.

Q. IS COMMISSION AUTHORIZATION NECESSARY IN ORDER FOR ARIZONA-AMERICAN TO IMPLEMENT THE ACCOUNTING PROCESS YOU ARE PROPOSING?

A. Yes. Approval is needed in order to account for a portion of the accumulated WHU-1 fees as an accelerated amortization of a contribution in an amount equal to post-in-service AFUDC. Commission approval is also needed for the accelerated amortization of the accumulated WHU-1 contributions in an amount equal to the deferred depreciation on the White Tanks Plant.

Q. HOW DO AGUA FRIA CUSTOMERS BENEFIT FROM THE PRE- AND POST-IN-SERVICE ACCOUNTING OF THE WHITE TANKS PROJECT?

A. Of all the WHU-1 fee eligible projects, only the White Tanks Plant was authorized an accounting deferral order. Arizona-American's proposal clearly identifies the amount of WHU-1 available to the White Tanks Plant and minimizes the post-in-service AFUDC and deferred depreciation expense which is ultimately paid for by customers.

Q. HOW DOES THE REQUEST FOR THE WHITE TANKS PLANT CWIP IN RATE BASE IMPACT THE PROPOSED ACCOUNTING PROCESS?

A. It does not impact the accounting process. To the extent that the remaining plant amount subject to recovery by the WHU-1 fees is reduced by the amount of CWIP in rate base (including the assumption that the CWIP in rate base remains in rate base permanently), the accounting deferrals will be calculated only on the amount of White Tanks Plant not in rate base. The forecast in Exhibit TMB-4 assumes the inclusion of the requested $25 million CWIP in rate base as of an estimated date of September 1, 2009.

IX <u>ARSENIC REMEDIATION ISSUES</u>

A <u>TUBAC</u>

Q. WHAT ARE ARIZONA-AMERICAN'S CURRENT PLANS FOR ARSENIC REMEDIATION IN TUBAC?

A. Mr. Gross discusses a planned arsenic-remediation project for our Tubac Water District. He indicates that Arizona-American must begin constructing an arsenic-remediation facility for the district, because on January 18, 2008, the Environmental Protection Agency denied our request for a three-year exemption from the requirement to meet the new arsenic maximum contaminant level. Construction of Tubac's arsenic-treatment facility will commence in summer 2008, with the facility placed in service two summers later. Mr. Gross explains, however, that the current estimated net plant cost of $2.3 million is substantially lower than the previous estimate, because a developer will contribute approximately $1 million toward the facility.

Q. IS ARIZONA-AMERICAN REQUESTING APPROVAL OF AN ARSENIC COST RECOVERY MECHANISM ("ACRM") FOR TUBAC IN THIS RATE CASE?

A. Yes. An ACRM provides the opportunity for rate recovery on this facility to commence roughly ninety days following the placement of Tubac's arsenic-remediation facility in service for customers – much quicker than possible in a rate case. Even with the recent substantial reduction in the estimated net plant cost of Tubac's arsenic facility, the cost of the facility will more than double Tubac's adjusted 2007 rate base. Without an ACRM, Arizona-American's financial situation would further decline.

Q. ARE YOU REQUESTING AN ACRM IDENTICAL TO THOSE PREVIOUSLY APPROVED BY THE COMMISSION FOR ARIZONA-AMERICAN?

A. Yes, with the minor exception that we would like to include the associated engineering overheads.[3]

Q. WHY HASN'T ARIZONA-AMERICAN PREVIOUSLY REQUESTED AN ACRM FOR ITS TUBAC WATER DISTRICT?

[3] This is consistent with more recent precedent concerning Arizona Water Company ACRMs. See Docket No. W-01445A-00-0962.

A. Arizona-American originally included the Tubac Water District in its application that resulted in Decision No. 68310, which approved an ACRM two-step rate increase process for our Agua Fria, Havasu and Sun City West water districts. However, on May 4, 2005, Arizona-American moved to delete Tubac from that case because there was strong community interest in pursuing alternative technologies and community interest in seeking an extension in the arsenic compliance deadline. That motion (which was granted) stated, "Arizona-American reserves the right to make an ACRM filing for its Tubac Water District in a new docket at a later date." All of Arizona-American's eight other arsenic-remediation facilities went into service in 2006, so Tubac customers have benefited from a four-year delay before they will have to fund an arsenic-remediation facility.

Q. WHAT IS THE ESTIMATED ACRM STEP-1 RATE INCREASE IN TUBAC?

A. For an estimated net arsenic plant investment of $2.3 million, with an estimated four-percent depreciation rate (Account 320.1-water treatment), the estimated annual increase in the revenue requirement for ACRM Step 1 is $416,332. This is in addition to the $278,214 base revenue increase requested in this case. Tubac's adjusted test year revenues were $423,061. For the ACRM, $416,332 translates to an estimated $25.98 per month increase in the monthly minimum charge for residential 5/8-inch meter customers and a $3.14 increase in the charge per 1,000 gallons. These amounts are derived in Exhibit TMB-5.

Please recall that the actual Step 1 increase is based on actual, not estimated, plant costs. The current plan is that the Step 1 ACRM in Tubac would be effective in the third quarter of 2010, following completion of construction in summer 2010. The local Tubac community already knows we are proceeding with this project.

B ELIMINATE ACRMS (AGUA FRIA, HAVASU, PARADISE VALLEY AND SUN CITY WEST WATER DISTRICTS)

Q. HOW ARE ACRM REVENUES AND ARSENIC-REMEDIATION-RELATED EXPENSES REFLECTED IN THE REQUIRED SCHEDULES?

A. They are included in adjusted test year revenues and expenses. The annualized ACRM revenues are reflected in Schedule C-2 income statement adjustment LJG-4. The annualized arsenic media expenses are in Schedule C-2 income statement adjustment SLH-4. Therefore, the adjusted test year results contain annualized actual Step 1 ACRM revenues and all arsenic related expenses.

Q. CAN THE ACRM SURCHARGES FOR AGUA FRIA, HAVASU, PARADISE VALLEY AND SUN CITY WEST WATER DISTRICTS TERMINATE UPON IMPLEMENTATION OF NEW PERMANENT RATES IN THIS CASE?

A. Yes, with one caveat. If any deferred arsenic O&M expense remains unrecovered at the time new permanent rates are established, that portion of the ACRM surcharge should be allowed to continue until it is fully recovered and then automatically terminate. Arizona-American has yet to file its ACRM Step 2 increases for its Agua Fria Water Districts, so this is the only district that might face this issue.

C RECOVERY OF ARSENIC MEDIA DEFERRAL (HAVASU)

Q. HAS ARIZONA-AMERICAN INCLUDED THE HAVASU WATER DISTRICT'S DEFERRED ARSENIC MEDIA REPLACEMENT COSTS IN THE COST OF SERVICE?

A. Yes. Decision No. 69162, dated December 5, 2006, authorizes a deferral of twelve months of these costs until our next rate case for the district. The actual invoiced amount of $88,300 plus authorized (estimated) AFUDC is included in Schedule B-2 rate base adjustment LJG-10 and a twelve-year amortization rate is proposed. An equal amount,

$88,300, has been included in both the Havasu ACRM Step 2 increase (filed April 14, 2008) and in Schedule C-2 income adjustment SLH-4 for on-going arsenic media replacement costs. Mr. Cole can provide the operational details regarding arsenic-media replacement in Havasu (and elsewhere for that matter).

X RATE DESIGN INCLUDING SURCHARGES (PARADISE VALLEY)

Q. IS ARIZONA-AMERICAN PROPOSING TO REVISE THE EXISTING RATE DESIGN FOR ITS PARADISE VALLEY WATER DISTRICT?

A. Yes. Arizona-American's rate design witness Mr. Paul Herbert sponsors the rate design for all districts in this case. I only discuss select issues herein.

First, Mr. Herbert proposes enhancements to the existing rate design for residential customers in Paradise Valley. The new residential tiers are as follows:

Tier 1:	0 to 4,000 gallons
Tier 2:	4,001 to 20,000 gallons
Tier 3:	20,001 to 65,000 gallons
Tier 4:	65,001 to 125,000 gallons
Tier 5:	Over 125,001 gallons

This updates the existing three tiers, which presently break at 25,000 gallons, and 80,000 gallons.

The new rate design creates a low usage tier, as is typical in our other water districts and it creates higher priced tiers 4 and 5, respectively, in order to further encourage conservation.

Q. DID THE RATE DESIGN ORDERED IN DECISION NO. 68858 WHICH WAS EFFECTIVE AUGUST 2006 CAUSE RESIDENTIAL CUSTOMERS TO CONSERVE?

A. Apparently not, at least that we can see based on residential-average-consumption data before and after the last rate increase. Recall that the now controversial High Block surcharge began August 1, 2006, for residential consumption in excess of 80,000 gallons. Then, in March 2007, a large ACRM Step 1 increase occurred, which was followed in October 2007 by the implementation of the Public Safety surcharge. However, an examination of Exhibit TMB-6, which displays Paradise Valley district's actual (not weather normalized) average daily water usage by residential customers since 2004, indicates that the established slight upward trend in usage continued unabated after August 2006. No doubt many individual customers conserved after the rate increase, but that is not the overall result. This means that either other existing residential customers increased consumption or that new residential customers consumed more than existing customers or both. Clearly, if conservation in Paradise Valley remains important to the Commission, then something else must be attempted.

Q. ARE YOU PROPOSING TO CEASE THE HIGH-BLOCK SURCHARGE?

A. Yes. If our proposal for five residential rate tiers is approved, the high-block surcharge is unnecessary and can be terminated upon completion of this rate case.

Q. WOULD THE PUBLIC-SAFETY SURCHARGE REMAIN IN EFFECT?

A. Yes, the public-safety surcharge would be the sole remaining surcharge used to fund fire-flow improvements in the district.

Q. DO YOU PROPOSE TO MODIFY THE PUBLIC SAFETY SURCHARGE?

A. Yes. The public-safety surcharge should apply to all residential and commercial consumption, not just that over 25,000 gallons per month. All customers of Paradise Valley Water district benefit from improved fire flows. We also propose to account for the proceeds from this surcharge as revenue and not as a contribution in aid of construction. This topic is presently under re-consideration in a matter which re-opened the previous Paradise Valley rate case for the limited purpose of considering a proposed Rate Design Agreement. No doubt the outcome in that case will inform this case regarding the future direction of the Public Safety surcharge.

Q. HOW MANY FUTURE STEP INCREASES IN THE PUBLIC-SAFETY SURCHARGE ARE NEEDED TO FUND ALL REMAINING FIRE-FLOW PROJECTS FOR PARADISE VALLEY?

A. Up to an additional four step increases in the Public-Safety Surcharge are necessary to fund the remaining projects. Construction phases 4 through 7 are scheduled for completion in the 2009 to 2012 timeframe. Phase 3 is already underway and is scheduled to be completed in late 2008 and, therefore, a step rate increase is necessary during this case depending on how the re-opened matter is resolved.

It is up to the Commission whether to include the phase 3 plant in rate base at the conclusion of this rate case (and again re-set the Public-Safety Surcharge at zero), or whether to continue its recovery via the then existing surcharge (followed by four more step increases).

If the Commission again wishes to order the filing of another Paradise Valley rate case by a date certain as a requirement of the Public-Safety Surcharge, then Arizona-American would not oppose a deadline of no later than May 31, 2013.

Q. COMMISSION DECISION NO. 68303 APPROVED AN ACCOUNTING DEFERRAL ORDER FOR PARADISE VALLEY FIRE FLOW AND COMMISSION DECISION NO. 68858 MODIFIED THAT ORDER. DO YOU HAVE A PROPOSAL FOR RECOVERING THE AUTHORIZED DEFERRAL IN THIS CASE?

A. Yes. I propose that recovery of any remaining amounts of this deferral occur via the Public-Safety Surcharge. The deferral may be already recovered in the Public-Safety Surcharge before this case is completed, depending, in part, on how the re-opened case is resolved.

Q. ARE THERE ANY OTHER SURCHARGE PROPOSALS FOR PARADISE VALLEY?

A. Yes. Arizona-American proposes a new system-benefit surcharge applicable to consumption in residential rate tier 5 (consumption exceeding 125,001 gallons per month). The system-benefit surcharge would fund programs such as the new residential-landscape conversion program the Town of Paradise Valley intends to propose later in this case. It can also fund other programs from time to time as Arizona-American may request and the Commission may approve. The system-benefit surcharge would be accounted for as revenue and trued-up in the next rate case for accumulated under- or over-spending.

Q. HOW WOULD THE NEW PARADISE VALLEY LANDSCAPE-CONVERSION PROGRAM WORK?

A. The Town told me they would create and administer a landscape-conversion program and inform Arizona-American which customers qualify for a rate discount. The Town will propose specific program details later in this case. Arizona-American's role in this program would be to provide a water-rate discount for, say, up to five years to Paradise

Valley district customers determined by the Town to have met the program's criteria. The rate discount would be funded by revenues collected from the system-benefit surcharge described above. As soon as we have the key program details, the initial amount of the system-benefit charge can be proposed based on an amount necessary to help provide residential customers an incentive to convert landscape and based on an estimate of the size of the target population the Town would like to incent to convert landscape to reduce water usage. An on-going rate discount is preferable to a one-time rebate, because rebate programs may tend to benefit free riders (people or developers that were going to do a landscape conversion without any incentive).

Arizona-American looks forward to learning more about this program from the Town of Paradise Valley and will respond further in its rebuttal testimony.

XI HOOK-UP FEES (HAVASU WATER)

Q. HAVE PROCEEDS OBTAINED FROM HAVASU WATER DISTRICT'S ARSENIC IMPACT FEE ("AIF") BEEN APPLIED AS CONTRIBUTIONS TO REDUCE HAVASU'S ARSENIC RATE BASE?

A. Yes. Through the end of the test year, $61,805 in AIF proceeds had been collected and reflected as contributions which reduced test year rate base in Schedule B rate base for Havasu. This is well short of expectations.

XII WASTEWATER EFFLUENT TARIFF (MOHAVE WASTEWATER)

Q. WHY IS ARIZONA-AMERICAN ASKING TO INCREASE THE RATE FOR TREATED EFFLUENT IN THE MOHAVE WASTEWATER DISTRICT?

A. We are asking to increase the rate for treated effluent from $200 to $250 per acre-foot. Only one customer—a golf course known as Desert Lakes—is on this tariff. Arizona-American has agreed to provide Desert Lakes all effluent available from wastewater

operations. Desert Lakes, in turn, has an agreement with the Mohave Valley Irrigation and Drainage District to furnish all remaining water needed for golf course irrigation, but this water must be replaced with reclaimed wastewater by the year 2017. Currently, we estimate that the effluent being produced and provided is about half of the golf course's irrigation requirements. We also believe that the cost of treated effluent at the increased rate will remain below the cost of water from the District. Thus, as the Mohave Wastewater District's sewage flows grow the golf course should continue to purchase all of the effluent produced. A rate increase for treated effluent reduces the rate increase required from other Mohave Wastewater customers at test-year effluent volumes (see Schedule C-2 income statement adjustment LJG-4).

Q. ARE EFFLUENT RATES ELSEWHERE COMPARABLE?

A. Yes. Woodruff's rate is $300 per acre foot. Gold Canyon is presently $256 per acre foot. The nearby City of Bullhead is presently $256 per acre foot.

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

A. Yes.

Arizona American Water Company
Test Year Ended December 31, 2007
Computation of Increase in Gross Revenue Requirement

Summary of Schedule A-1's

Line No.		Total Water & Wastewater Districts	Total Water Districts	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley	Sun City West	Tubac Water	Total Wastewater Districts	Mohave Wastewater
1	Original Cost Rate Base	$198,272,853	$193,532,704	$96,976,395	$4,221,474	$12,041,310	$40,864,986	$37,901,085	$1,527,454	$4,740,149	$4,740,149
2											
3	Adjusted Operating Income	$4,623,998	$4,608,379	$2,601,288	($131,419)	$37,140	$1,552,498	$587,425	($38,553)	$15,619	$15,619
4											
5	Current Rate of Return	2.33%	2.38%	2.68%	-3.11%	0.31%	3.80%	1.55%	-2.52%	0.33%	0.33%
6											
7	Required Operating Income	$16,654,920	$16,256,747	$8,146,017	$354,604	$1,011,470	$3,432,659	$3,183,691	$128,306	$398,173	$398,173
8											
9	Required Rate of Return	8.40%	8.40%	8.40%	8.40%	8.40%	8.40%	8.40%	8.40%	8.40%	8.40%
10											
11	Operating Income Deficiency	$12,030,921	$11,648,368	$5,544,729	$486,022	$974,330	$1,880,161	$2,596,266	$166,859	$382,553	$382,553
12											
13	Gross Revenue Conversion Factor	1.6592	1.6586	1.6578	1.6785	1.6990	1.6496	1.6471	1.6674	1.6786	1.6786
14											
15	**Increase in Gross Revenue**										
16	**Requirement**	**$19,961,632**	**$19,319,484**	**$9,192,203**	**$815,803**	**$1,655,410**	**$3,101,550**	**$4,276,305**	**$278,214**	**$642,148**	**$642,148**
17											
18	Test Year Adjusted Present Rate Revenue	$39,732,055	$38,935,894	$18,818,613	$1,026,587	$5,113,631	$7,848,732	$5,701,431	$426,900	$796,161	$796,161
19											
20	Percent Rate Increase	50.2%	49.6%	48.8%	79.5%	32.4%	39.5%	75.0%	65.2%	80.7%	80.7%
21											
22	**Test Year Adjusted Current ROE**	-0.82%	-0.79%	0.03%	-5.66%	-1.89%	-1.45%	-1.12%	-4.91%	-2.34%	-2.34%
23											
24	Year End Number of Annualized Customers	73,012	71,771	33,948	1,427	15,783	4,617	15,446	550	1,241	1,241
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Arizona American Water Company
Test Year Ended December 31, 2007
Summary of Fair Value Rate Base

Line No.	Summary of Schedule B-1's	Total Water & Wastewater Districts	Total Water Districts	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley	Sun City West	Tubac Water	Total Wastewater Districts	Mohave Wastewater
1											
2	Gross Utility Plant in Service	$370,842,198	$363,687,898	$211,145,154	$9,837,304	$28,800,225	$61,588,447	$48,893,385	$3,423,384	$7,154,300	$7,154,300
3	Phoenix Interconnection	0	0								
4	CWIP in Rate Base	25,000,000	25,000,000	25,000,000							
5	Less: Amortization of Phx Interconnect	0	0								
6	Less: Accumulated Depreciation	58,366,368	57,999,155	20,033,433	1,327,687	13,084,198	12,099,985	10,514,488	939,364	367,213	367,213
7											
8	Net Utility Plant in Service	$337,475,831	$330,688,744	$216,111,721	$8,509,617	$15,716,027	$49,488,461	$38,378,897	$2,484,020	$6,787,087	$6,787,087
9											
10	Less:										
11	Advances in Aid of										
12	Construction	$112,734,629	$111,319,923	$98,233,813	$3,217,334	$5,947,009	$1,704,269	$1,175,373	$1,042,125	$1,414,706	$1,414,706
13	Contributions in Aid of										
14	Construction - Net of amortization	37,672,629	37,003,684	28,271,263	1,355,090	107,545	7,250,116	19,491	178	668,945	668,945
15	Imputed Regulatory Advances	0	0	0	0	0	0	0	0	0	0
16	Imputed Regulatory Contributions	2,649,064	2,517,827	796,965	113,427	1,157,044	0	392,368	58,023	131,237	131,237
17	Customer Meter Deposits	41,717	41,717	19,040	512	7,800	12,600	1,225	540	0	0
18	Deferred Income Taxes & Credits	(4,208,800)	(4,103,210)	(2,839,311)	(131,385)	(1,360,455)	1,600,604	(1,326,577)	(46,088)	(105,590)	(105,590)
19	Investment tax Credits	0	0	0	0	0	0	0	0	0	0
20	Plus:										
21	Unamortized Finance										
22	Charges	0	0	0	0	0	0	0	0	0	0
23	Deferred Debits	5,950,111	5,950,111	3,529,517	155,374	1,749,805	1,238,398	(777,486)	54,503	0	0
24	Allowance for Working Capital	3,736,151	3,673,791	1,816,928	111,462	434,422	705,715	561,556	43,709	62,360	62,360
25	Utility Plant Acquisition Adjustment	0	0	0	0	0	0	0	0	0	0
26											
27	Total Rate Base	$198,272,853	$193,532,704	$96,976,395	$4,221,474	$12,041,310	$40,864,986	$37,901,085	$1,527,454	$4,740,149	$4,740,149
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Arizona American Water Company
Test Year Ended December 31, 2007
Adjusted Test Year Income Statement

Summary of Schedule C-1s

Line No.		Total Water & Wastewater Districts	Total Water Districts	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley	Sun City West	Tubac Water	Total Wastewater Districts	Mohave Wastewater
1	**Revenues**										
2	Water Revenues	$ 38,557,064	$ 37,765,785	17,913,497	1,003,476	4,932,608	7,832,113	5,661,030	423,061	$ 791,279	$ 791,279
3	Other Revenues	1,174,991	1,170,109	905,117	23,110	181,023	16,619	40,401	3,839	4,882	4,882
4											
5	**Total Revenue**	$ 39,732,055	$ 38,935,894	$ 18,818,613	$ 1,026,587	$ 5,113,631	$ 7,848,732	$ 5,701,431	$ 426,900	$ 796,161	$ 796,161
6	**Operating Expenses**										
7	Labor	$ 4,205,086	$ 4,096,090	1,440,677	204,741	899,973	715,859	703,217	131,623	$ 108,996	$ 108,996
8	Purchased Water	943,161	943,161	901,467	-	44,384	-	(2,690)	-	-	-
9	Fuel & Power	4,190,253	4,116,604	1,954,815	111,139	501,877	693,068	830,074	25,631	73,650	73,650
10	Chemicals	1,693,926	1,684,712	1,121,555	88,249	7,846	236,982	227,889	2,190	9,214	9,214
11	Waste Disposal	129,085	2,857	(870)	(52)	(295)	(290)	4,391	(27)	126,228	126,228
12	Management Fees	6,017,490	5,893,825	2,775,604	166,461	940,899	923,778	999,903	87,180	123,665	123,665
13	Group Insurance	1,094,600	1,070,554	396,645	63,729	209,312	184,827	191,120	24,921	24,046	24,046
14	Pensions	719,481	701,034	240,413	35,586	127,879	130,911	137,699	28,546	18,447	18,447
15	Regulatory Expense	265,860	243,720	64,012	3,840	119,303	21,283	33,802	1,480	22,140	22,140
16	Insurance Other Than Group	335,518	328,224	158,153	8,974	51,991	45,435	58,622	5,049	7,294	7,294
17	Customer Accounting	810,228	793,732	370,806	22,062	132,002	123,742	133,476	11,644	16,497	16,497
18	Rents	125,392	123,779	63,217	5,059	15,559	21,467	14,331	4,146	1,613	1,613
19	General Office Expense	440,438	432,564	161,107	13,616	103,944	87,860	57,226	8,811	7,874	7,874
20	Miscellaneous	1,835,525	1,818,798	787,967	42,644	354,017	351,828	232,408	49,935	16,726	16,726
21	Maintenance Expense	2,221,876	2,216,928	591,329	198,697	583,888	578,292	247,328	17,394	4,948	4,948
22	Depreciation & Amortization	8,841,217	8,592,819	4,397,190	291,351	883,235	1,615,824	1,323,541	81,679	248,398	248,398
23	General Taxes-Property Taxes	1,582,143	1,544,220	803,071	44,112	221,795	268,996	179,896	26,350	37,922	37,922
24	General Taxes-Other	377,030	367,252	128,923	17,638	75,809	67,972	65,832	11,078	9,778	9,778
25	Income Taxes	(720,253)	(643,359)	(138,756)	(159,839)	(196,927)	228,400	(324,059)	(52,178)	(76,894)	(76,894)
26											
27	**Total Operating Expenses**	$ 35,108,056	$ 34,327,515	$ 16,217,325	$ 1,158,005	$ 5,076,491	$ 6,296,235	$ 5,114,006	$ 465,453	$ 780,542	$ 780,542
28	**Utility Operating Income**	$ 4,623,998	$ 4,608,379	$ 2,601,288	$ (131,419)	$ 37,140	$ 1,552,498	$ 587,425	$ (38,553)	$ 15,619	$ 15,619
29	**Other Income & Deductions**										
30	Other Income & Deductions	-	-	-	-	-	-	-	-	-	-
31	Interest Expense	5,769,740	5,631,802	2,822,013	122,845	350,402	1,189,171	1,102,922	44,449	137,938	137,938
32	Other Expense	(2,242)	(2,196)	(1,034)	(62)	(351)	(344)	(372)	(33)	(46)	(46)
33	Gain/Loss Sale of Fixed Assets	(491,773)	(503,000)	251,993	15,113	85,423	(954,224)	90,780	7,915	11,227	11,227
34	**Total Other Income & Deductions**	$ (6,259,271)	$ (6,132,606)	$ (2,568,986)	$ (107,670)	$ (264,628)	$ (2,143,051)	$ (1,011,770)	$ (36,501)	$ (126,665)	$ (126,665)
35	**Net Profit (Loss)**	$ (1,635,273)	$ (1,524,226)	$ 32,302	$ (239,088)	$ (227,488)	$ (590,553)	$ (424,344)	$ (75,054)	$ (111,046)	$ (111,046)
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Arizona-American's Cost of Debt				
	Adjusted TY	Annual Interest	Interest Rate	
Long-Term Debt				
Sept '13 PILR - Monterey	32,726	2,049	6.260%	Actual
Aug '13 PILR - Montex/Lincoln	19,220	1,107	5.761%	Actual
Aug '15 PILR - Rosalee	38,347	2,753	7.180%	Actual
Aug '15 PILR - T.O. Development	32,847	2,358	7.179%	Actual
Sept '28 L-T Note - Maricopa	10,635,000	386,051	3.630%	Actual
Dec '13 L-T Promissory Note	24,700,000	1,331,330	5.390%	Actual
Dec '16 L-T Promissory Note	11,200,000	618,240	5.520%	Actual
Dec '18 L-T Promissory Note	123,100,000	6,918,220	5.620%	Actual
Oct '37 L-T Promissory Note (1)	10,000,000	650,000	6.500%	ACC Max.
Oct '37 L-T Promissory Note	6,450,000	425,249	6.593%	Actual
Phoenix Agreement (2)	3,000,000	-	0.000%	Forecast
Long-Term Debt (3)	189,208,140	10,337,356	5.463%	
Total Debt	**$ 189,208,140**	**$ 10,337,356**	**5.463%**	**53.2%**

Arizona-American's Cost of Equity			
Common Equity	Adjusted TY	Cost of Equity	
Common Stock	522,880		Actual
Paid in Capital	164,468,228		Actual
Retained Earnings	(28,867,782)		Actual
Equity Infusion (4)	30,000,000		Forecast
Total Common Equity	**$ 166,123,326**	**11.75%**	**46.8%**
Total Capitalization	**$ 355,331,466**		**100%**

FYI: Short Term Debt:

Commercial Paper	$ 19,065,498	$ 984,733	5.165%	Actual 02/08
Aug '08 L-T Senior Notes	$ 4,519,474	321,877	7.122%	Actual
2008 Anthem Refund Payment (5)	$ 20,226,122	1,044,679	5.165%	Actual 02/08

Footnotes:

(1) The actual rate for this note is 6.593%, but the ACC authorized ceiling is 6.5%.

(2) A $1 M payment is due September 12, 2009 (the 3rd anniversary of the 2nd payment).

(3) Excluded Tolleson obligation for ratemaking purposes as per ACC precedent.

(4) An equity infusion occurred May 2008 ($20 m) and another may occur August 2008 ($10 m)

(5) The 2008 Anthem refund payment was paid as per the 4th Amendment to the Anthem Agreement.

Arizona-American 2008 Rate Case

EXHIBIT TMB-3
Page 1 of 1

Rate Case Expense:		**Estimated Expense**
External Counsel	$	200,000
Cost of Equity External Witness	$	75,000
Rate Design & Cost of Service External Witness	$	125,000
Shared Services Center - Rates Staff:	$	75,000
ACC Required Customer Notices:		
-Required Initial Customer Notice - Letter	$	50,000
-Required Post Case New Rates Notice - Letter	$	50,000
-Required Newspaper Publish Initial Customer Notice	$	4,000
-Required Newspaper Publish ACC Public Comment Meetings	$	2,000
Company Sponsored Public Participation Meetings:		
-Notice	$	4,000
-Community Meetings (room reservation costs)	$	7,000
-Travel	$	5,000
Case Production:		
-External duplicating costs, binders, tabs	$	5,000
Witness Training	$	10,000
TOTAL	**$**	**612,000**

Arizona American Water
White Tank Water Treatment Plant
Monthly Amortization/Accounting Table

PRE-IN-SERVICE PERIOD

Total Plant cost without AFUDC $55,458,234

Date	Beginning asset cost including AFUDC	Beginning of month accumulated hook-up fees (liability balance)	Beginning of month investment, net of accumulated hook up fees (Asset - Liability)	AFUDC for current month (assumes 6.5% cost of capital thru Aug. 09, then 8.4%)	Additional costs incurred during the month	Hook-up fees collected during the current month (amount will vary each month)	Ending accumulated hook-up fees	Ending asset balance, including AFUDC	No. of customers who paid incremental hook up fee	Company's ending net investment in White Tanks Plant	
Jan-08	8,449,468	73,485	8,375,983	45,370	1,192,719		73,485	9,687,557		9,614,072	
Feb-08	9,687,557	73,485	9,614,072	52,076	4,055,053		73,485	13,794,686		13,721,201	
Mar-08	13,794,686	73,485	13,721,201	74,323	2,416,674	63,004	136,489	16,285,683	14	16,149,194	
Apr-08	16,285,683	136,489	16,149,194	87,475	2,602,259	46,447	182,936	18,975,417	10	18,792,481	
May-08	18,975,417	182,936	18,792,481	101,793	2,525,352	27,839	210,775	21,602,562	6	21,391,787	
Jun-08	21,602,562	210,775	21,391,787	115,872	3,910,334	82,931	293,706	25,628,768	18	25,335,062	
Jul-08	25,628,768	293,706	25,335,062	137,232	3,996,987	108,279	401,985	29,762,986	24	29,361,001	
Aug-08	29,762,986	401,985	29,361,001	159,039	3,099,960	67,546	469,531	33,021,985	15	32,552,454	
Sep-08	33,021,985	469,531	32,552,454	176,326	3,782,033	88,646	558,177	36,980,344	20	36,422,167	
Oct-08	36,980,344	558,177	36,422,167	197,287	3,064,572	43,370	601,547	40,242,203	10	39,640,656	
Nov-08	40,242,203	601,547	39,640,656	214,720	2,761,748	73,847	675,394	43,218,671	16	42,543,277	
Dec-08	43,218,671	675,394	42,543,277	230,443	1,730,637	879	676,273	45,179,751	0	44,503,478	
Jan-09	45,179,751	676,273	44,503,478	241,061	1,538,882	268,593	944,866	46,959,693	60	46,014,827	
Feb-09	46,959,693	944,866	46,014,827	249,247	1,515,891	320,495	1,265,361	48,724,831	72	47,459,470	
Mar-09	48,724,831	1,265,361	47,459,470	257,072	1,342,583	325,037	1,590,398	50,324,486	73	48,734,088	
Apr-09	50,324,486	1,590,398	48,734,088	263,976	1,303,351	153,760	1,744,158	51,891,814	34	50,147,656	
May-09	51,891,814	1,744,158	50,147,656	271,633	1,019,101	415,216	2,159,374	53,182,548	93	51,023,174	
Jun-09	53,182,548	2,159,374	51,023,174	276,376	805,628	221,233	2,380,607	54,264,551	50	51,883,944	
Jul-09	54,264,551	2,380,607	51,883,944	281,038	784,599	202,418	2,583,025	55,330,188	45	52,747,163	
Aug-09	55,330,188	2,583,025	52,747,163	285,714	776,591	193,335	2,776,360	56,392,493	43	53,616,133	
Sep-09	31,392,493	2,776,360	28,616,133	200,313	713,397	195,930	2,972,290	32,306,203	44	29,333,913	$25 M CWIP in rate base and new AFUDC rate starts
Oct-09	32,306,203	2,972,290	29,333,913	205,337	703,801	100,560	3,072,850	33,215,341	23	30,142,491	
Nov-09	33,215,341	3,072,850	30,142,491	210,997	582,167	241,345	3,314,195	34,008,506	54	30,694,311	
Dec-09	34,008,506	3,314,195	30,694,311	214,860	739,862	104,453	3,418,648	34,963,228	23	31,544,580	
Jan-10	34,963,228	3,418,648	31,544,580	220,812	647,741	435,953	3,854,601	35,831,781	98	31,977,180	
Feb-10	35,831,781	3,854,601	31,977,180	223,840	431,098	243,153	4,097,754	36,486,719	55	32,388,965	
Mar-10	36,486,719	4,097,754	32,388,965	226,723	311,507	284,893	4,382,647	37,024,949	64	32,642,302	

POST IN-SERVICE PERIOD

Date	Beginning of month asset balance, net of accumulated depreciation	Beginning of month accumulated hook-up fees (liability balance)	Beginning of month investment, net of accumulated hook up fees (Asset - Liability)	Post in-service AFUDC for current month (assumes 8.4% cost of capital / 11.86% grossed up for taxes)	Monthly depreciation of asset (assumes 40 year life)	Hook-up fees collected during the current month (amount will vary each month)	Preliminary total accumulated hook-up fees collected	Hook-up fees to be amortized for post in-service AFUDC and depreciation offset	Ending net accumulated hook-up fees (after amortization)	Ending asset balance, net of accumulated depreciation	Current month net hook-up fee after allocating to post in service AFUDC	No. of customers who paid incremental hook up fee	Company's ending net investment in White Tanks Plant
Apr-10	37,024,949	4,382,647	32,642,302	322,493	77,135	210,026	4,592,673	399,628	4,193,045	36,947,814	-189,602	47	32,754,769
May-10	36,947,814	4,193,045	32,754,769	323,604	77,135	125,883	4,318,928	400,739	3,918,189	36,870,679	-274,856	28	32,952,490
Jun-10	36,870,679	3,918,189	32,952,490	325,557	77,135	374,999	4,293,188	402,692	3,890,496	36,793,543	-27,693	84	32,903,048
Jul-10	36,793,543	3,890,496	32,903,048	325,069	77,135	489,619	4,380,115	402,204	3,977,911	36,716,408	87,415	110	32,738,497
Aug-10	36,716,408	3,977,911	32,738,497	323,443	77,135	305,432	4,283,343	400,578	3,882,764	36,639,273	-95,146	69	32,756,508
Sep-10	36,639,273	3,882,764	32,756,508	323,621	77,135	400,838	4,283,602	400,756	3,882,846	36,562,137	82	90	32,679,291
Oct-10	36,562,137	3,882,846	32,679,291	322,858	77,135	196,113	4,078,959	399,993	3,678,966	36,485,002	-203,880	44	32,806,036
Nov-10	36,485,002	3,678,966	32,806,036	324,110	77,135	333,921	4,012,887	401,246	3,611,641	36,407,867	-67,325	75	32,796,226
Dec-10	36,407,867	3,611,641	32,796,226	324,013	77,135	3,975	3,615,616	401,149	3,214,468	36,330,731	-397,174	1	33,116,264
Jan-11	36,330,731	3,214,468	33,116,264	327,175	77,135	381,980	3,596,448	404,310	3,192,137	36,253,596	-22,330	86	33,061,459
Feb-11	36,253,596	3,192,137	33,061,459	326,634	77,135	381,980	3,574,117	403,769	3,170,348	36,176,461	-21,789	86	33,006,113
Mar-11	36,176,461	3,170,348	33,006,113	326,087	77,135	381,980	3,552,328	403,222	3,149,106	36,099,325	-21,242	86	32,950,220
Apr-11	36,099,325	3,149,106	32,950,220	325,535	77,135	381,980	3,531,086	402,670	3,128,416	36,022,190	-20,690	86	32,893,774
May-11	36,022,190	3,128,416	32,893,774	324,977	77,135	381,980	3,510,396	402,112	3,108,283	35,945,055	-20,132	86	32,836,771
Jun-11	35,945,055	3,108,283	32,836,771	324,414	77,135	381,980	3,490,263	401,549	3,088,714	35,867,920	-19,569	86	32,779,205
Jul-11	35,867,920	3,088,714	32,779,205	323,845	77,135	381,980	3,470,694	400,980	3,069,714	35,790,784	-19,000	86	32,721,071
Aug-11	35,790,784	3,069,714	32,721,071	323,271	77,135	381,980	3,451,694	400,406	3,051,288	35,713,649	-18,426	86	32,662,361
Sep-11	35,713,649	3,051,288	32,662,361	322,691	77,135	381,980	3,433,268	399,826	3,033,441	35,636,514	-17,846	86	32,603,072
Oct-11	35,636,514	3,033,441	32,603,072	322,105	77,135	381,980	3,415,421	399,240	3,016,181	35,559,378	-17,260	86	32,543,197
Nov-11	35,559,378	3,016,181	32,543,197	321,513	77,135	381,980	3,398,161	398,649	2,999,512	35,482,243	-16,669	86	32,482,731
Dec-11	35,482,243	2,999,512	32,482,731	320,916	77,135	381,980	3,381,492	398,051	2,983,441	35,405,108	-16,071	86	32,421,667
Jan-12	35,405,108	2,983,441	32,421,667	320,313	77,135	382,246	3,365,687	397,448	2,968,239	35,327,972	-15,202	86	32,359,733
Feb-12	35,327,972	2,968,239	32,359,733	319,701	77,135	382,246	3,350,485	396,836	2,953,649	35,250,837	-14,590	86	32,297,188

Mar-12	35,250,837	2,953,649	32,297,188	319,083	77,135	382,246	3,335,895	396,218	2,939,677	35,173,702	-13,972	86	32,234,025	EXHIBIT TMB-4
Apr-12	35,173,702	2,939,677	32,234,025	318,459	77,135	382,246	3,321,923	395,594	2,926,329	35,096,566	-13,348	86	32,170,238	Page 2 of 3
May-12	35,096,566	2,926,329	32,170,238	317,829	77,135	382,246	3,308,575	394,964	2,913,611	35,019,431	-12,718	86	32,105,820	
Jun-12	35,019,431	2,913,611	32,105,820	317,192	77,135	382,246	3,295,857	394,328	2,901,530	34,942,296	-12,081	86	32,040,766	
Jul-12	34,942,296	2,901,530	32,040,766	316,550	77,135	382,246	3,283,776	393,685	2,890,091	34,865,160	-11,439	86	31,975,070	
Aug-12	34,865,160	2,890,091	31,975,070	315,901	77,135	382,246	3,272,337	393,036	2,879,301	34,788,025	-10,790	86	31,908,724	
Sep-12	34,788,025	2,879,301	31,908,724	315,245	77,135	382,246	3,261,547	392,380	2,869,167	34,710,890	-10,134	86	31,841,723	
Oct-12	34,710,890	2,869,167	31,841,723	314,583	77,135	382,246	3,251,413	391,719	2,859,695	34,633,755	-9,472	86	31,774,060	
Nov-12	34,633,755	2,859,695	31,774,060	313,915	77,135	382,246	3,241,941	391,050	2,850,891	34,556,619	-8,804	86	31,705,728	
Dec-12	34,556,619	2,850,891	31,705,728	313,240	77,135	382,246	3,233,137	390,375	2,842,762	34,479,484	-8,129	86	31,636,722	
Jan-13	34,479,484	2,842,762	31,636,722	312,558	77,135	809,311	3,652,073	389,693	3,262,380	34,402,349	419,618	182	31,139,969	
Feb-13	34,402,349	3,262,380	31,139,969	307,650	77,135	809,311	4,071,691	384,785	3,686,905	34,325,213	424,526	182	30,638,308	
Mar-13	34,325,213	3,686,905	30,638,308	302,694	77,135	809,311	4,496,216	379,829	4,116,387	34,248,078	429,482	182	30,131,691	
Apr-13	34,248,078	4,116,387	30,131,691	297,689	77,135	809,311	4,925,698	374,824	4,550,874	34,170,943	434,487	182	29,620,069	
May-13	34,170,943	4,550,874	29,620,069	292,634	77,135	809,311	5,360,185	369,769	4,990,415	34,093,807	439,542	182	29,103,392	
Jun-13	34,093,807	4,990,415	29,103,392	287,530	77,135	809,311	5,799,726	364,665	5,435,062	34,016,672	444,646	182	28,581,611	
Jul-13	34,016,672	5,435,062	28,581,611	282,375	77,135	809,311	6,244,373	359,510	5,884,863	33,939,537	449,801	182	28,054,674	
Aug-13	33,939,537	5,884,863	28,054,674	277,169	77,135	809,311	6,694,174	354,304	6,339,870	33,862,401	455,007	182	27,522,532	
Sep-13	33,862,401	6,339,870	27,522,532	271,911	77,135	809,311	7,149,181	349,047	6,800,134	33,785,266	460,264	182	26,985,132	
Oct-13	33,785,266	6,800,134	26,985,132	266,602	77,135	809,311	7,609,445	343,737	7,265,707	33,708,131	465,574	182	26,442,423	
Nov-13	33,708,131	7,265,707	26,442,423	261,240	77,135	809,311	8,075,018	338,376	7,736,643	33,630,996	470,935	182	25,894,353	
Dec-13	33,630,996	7,736,643	25,894,353	255,826	77,135	809,311	8,545,954	332,961	8,212,993	33,553,860	476,350	182	25,340,867	
Jan-14	33,553,860	8,212,993	25,340,867	250,357	77,135	809,311	9,022,304	327,493	8,694,811	33,476,725	481,818	182	24,781,914	
Feb-14	33,476,725	8,694,811	24,781,914	244,835	77,135	809,311	9,504,122	321,970	9,182,152	33,399,590	487,341	182	24,217,438	
Mar-14	33,399,590	9,182,152	24,217,438	239,258	77,135	809,311	9,991,463	316,394	9,675,069	33,322,454	492,917	182	23,647,385	
Apr-14	33,322,454	9,675,069	23,647,385	233,627	77,135	809,311	10,484,380	310,762	10,173,618	33,245,319	498,549	182	23,071,701	
May-14	33,245,319	10,173,618	23,071,701	227,939	77,135	809,311	10,982,929	305,074	10,677,855	33,168,184	504,237	182	22,490,329	
Jun-14	33,168,184	10,677,855	22,490,329	222,195	77,135	809,311	11,487,166	299,331	11,187,835	33,091,048	509,980	182	21,903,213	
Jul-14	33,091,048	11,187,835	21,903,213	216,395	77,135	809,311	11,997,146	293,530	11,703,616	33,013,913	515,781	182	21,310,297	
Aug-14	33,013,913	11,703,616	21,310,297	210,537	77,135	809,311	12,512,927	287,672	12,225,255	32,936,778	521,639	182	20,711,523	
Sep-14	32,936,778	12,225,255	20,711,523	204,621	77,135	809,311	13,034,566	281,757	12,752,809	32,859,642	527,554	182	20,106,833	
Oct-14	32,859,642	12,752,809	20,106,833	198,647	77,135	809,311	13,562,120	275,783	13,286,337	32,782,507	533,528	182	19,496,170	
Nov-14	32,782,507	13,286,337	19,496,170	192,614	77,135	809,311	14,095,648	269,750	13,825,899	32,705,372	539,561	182	18,879,473	
Dec-14	32,705,372	13,825,899	18,879,473	186,521	77,135	809,311	14,635,210	263,657	14,371,553	32,628,236	545,654	182	18,256,683	
Jan-15	32,628,236	14,371,553	18,256,683	180,369	77,135	809,311	15,180,864	257,504	14,923,360	32,551,101	551,807	182	17,627,741	
Feb-15	32,551,101	14,923,360	17,627,741	174,155	77,135	809,311	15,732,671	251,290	15,481,381	32,473,966	558,021	182	16,992,585	
Mar-15	32,473,966	15,481,381	16,992,585	167,880	77,135	809,311	16,290,692	245,015	16,045,677	32,396,831	564,296	182	16,351,154	
Apr-15	32,396,831	16,045,677	16,351,154	161,543	77,135	809,311	16,854,988	238,678	16,616,310	32,319,695	570,633	182	15,703,385	
May-15	32,319,695	16,616,310	15,703,385	155,143	77,135	809,311	17,425,621	232,278	17,193,343	32,242,560	577,033	182	15,049,217	
Jun-15	32,242,560	17,193,343	15,049,217	148,680	77,135	809,311	18,002,654	225,815	17,776,838	32,165,425	583,496	182	14,388,586	
Jul-15	32,165,425	17,776,838	14,388,586	142,153	77,135	809,311	18,586,149	219,289	18,366,860	32,088,289	590,022	182	13,721,429	
Aug-15	32,088,289	18,366,860	13,721,429	135,562	77,135	809,311	19,176,171	212,697	18,963,474	32,011,154	596,614	182	13,047,680	
Sep-15	32,011,154	18,963,474	13,047,680	128,906	77,135	809,311	19,772,785	206,041	19,566,744	31,934,019	603,270	182	12,367,275	
Oct-15	31,934,019	19,566,744	12,367,275	122,184	77,135	809,311	20,376,055	199,319	20,176,736	31,856,883	609,992	182	11,680,147	
Nov-15	31,856,883	20,176,736	11,680,147	115,395	77,135	809,311	20,986,047	192,530	20,793,517	31,779,748	616,781	182	10,986,231	
Dec-15	31,779,748	20,793,517	10,986,231	108,539	77,135	809,311	21,602,828	185,675	21,417,153	31,702,613	623,636	182	10,285,460	
Jan-16	31,702,613	21,417,153	10,285,460	101,616	77,135	809,311	22,226,464	178,751	22,047,712	31,625,477	630,560	182	9,577,765	
Feb-16	31,625,477	22,047,712	9,577,765	94,624	77,135	809,311	22,857,023	171,760	22,685,264	31,548,342	637,551	182	8,863,078	
Mar-16	31,548,342	22,685,264	8,863,078	87,564	77,135	809,311	23,494,575	164,699	23,329,876	31,471,207	644,612	182	8,141,331	
Apr-16	31,471,207	23,329,876	8,141,331	80,433	77,135	809,311	24,139,187	157,568	23,981,618	31,394,071	651,743	182	7,412,453	
May-16	31,394,071	23,981,618	7,412,453	73,232	77,135	809,311	24,790,929	150,367	24,640,562	31,316,936	658,944	182	6,676,374	
Jun-16	31,316,936	24,640,562	6,676,374	65,960	77,135	809,311	25,449,873	143,095	25,306,778	31,239,801	666,216	182	5,933,023	
Jul-16	31,239,801	25,306,778	5,933,023	58,616	77,135	809,311	26,116,089	135,751	25,980,338	31,162,666	673,560	182	5,182,328	
Aug-16	31,162,666	25,980,338	5,182,328	51,199	77,135	809,311	26,789,649	128,335	26,661,314	31,085,530	680,976	182	4,424,216	
Sep-16	31,085,530	26,661,314	4,424,216	43,709	77,135	809,311	27,470,625	120,845	27,349,780	31,008,395	688,466	182	3,658,614	
Oct-16	31,008,395	27,349,780	3,658,614	36,146	77,135	809,311	28,159,091	113,281	28,045,811	30,931,260	696,030	182	2,885,449	
Nov-16	30,931,260	28,045,811	2,885,449	28,507	77,135	809,311	28,855,122	105,642	28,749,479	30,854,124	703,669	182	2,104,645	
Dec-16	30,854,124	28,749,479	2,104,645	20,793	77,135	809,311	29,558,790	97,928	29,460,862	30,776,989	711,383	182	1,316,127	
Jan-17	30,776,989	29,460,862	1,316,127	13,003	77,135	809,311	30,270,173	90,138	30,180,035	30,699,854	719,173	182	519,819	
Feb-17	30,699,854	30,180,035	519,819	5,136	77,135	524,955	30,704,990	82,271	30,622,719	30,622,718	442,684	118	0	
Mar-17	30,622,718	30,622,719	0	0	77,135		30,622,719	77,135	30,545,583	30,545,583				
Apr-17	30,545,583	30,545,583	0	0	77,135		30,545,583	77,135	30,466,448	30,466,448				
May-17	30,466,448	30,466,448	0	0	77,135		30,466,448	77,135	30,391,313	30,391,312				
Jun-17	30,391,312	30,391,313	0	0	77,135		30,391,313	77,135	30,314,177	30,314,177				
Jul-17	30,314,177	30,314,177	0	0	77,135		30,314,177	77,135	30,237,042	30,237,042				
Aug-17	30,237,042	30,237,042	0	0	77,135		30,237,042	77,135	30,159,907	30,159,907				
Sep-17	30,159,907	30,159,907	0	0	77,135		30,159,907	77,135	30,082,771	30,082,771				
Oct-17	30,082,771	30,082,771	0	0	77,135		30,082,771	77,135	30,005,636	30,005,636				
Nov-17	30,005,636	30,005,636	0	0	77,135		30,005,636	77,135	29,928,501	29,928,501				
Dec-17	29,928,501	29,928,501	0	0	77,135		29,928,501	77,135	29,851,366	29,851,365				
Jan-18	29,851,365	29,851,366	0	0	77,135		29,851,366	77,135	29,774,230	29,774,230				
Feb-18	29,774,230	29,774,230	0	0	77,135		29,774,230	77,135	29,697,095	29,697,095				
Mar-18	29,697,095	29,697,095	0	0	77,135		29,697,095	77,135	29,619,960	29,619,959				
Apr-18	29,619,959	29,619,960	0	0	77,135		29,619,960	77,135	29,542,824	29,542,824				

May-18	29,542,824	29,542,824	0	0	77,135	29,542,824	77,135	29,465,689	29,465,689
Jun-18	29,465,689	29,465,689	0	0	77,135	29,465,689	77,135	29,388,554	29,388,553
Jul-18	29,388,553	29,388,554	0	0	77,135	29,388,554	77,135	29,311,418	29,311,418
Aug-18	29,311,418	29,311,418	0	0	77,135	29,311,418	77,135	29,234,283	29,234,283
Sep-18	29,234,283	29,234,283	0	0	77,135	29,234,283	77,135	29,157,148	29,157,147
Oct-18	29,157,147	29,157,148	0	0	77,135	29,157,148	77,135	29,080,012	29,080,012
Nov-18	29,080,012	29,080,012	0	0	77,135	29,080,012	77,135	29,002,877	29,002,877
Dec-18	29,002,877	29,002,877	0	0	77,135	29,002,877	77,135	28,925,742	28,925,742
Jan-19	28,925,742	28,925,742	0	0	77,135	28,925,742	77,135	28,848,607	28,848,606
Feb-19	28,848,606	28,848,607	0	0	77,135	28,848,607	77,135	28,771,471	28,771,471
Mar-19	28,771,471	28,771,471	0	0	77,135	28,771,471	77,135	28,694,336	28,694,336
Apr-19	28,694,336	28,694,336	0	0	77,135	28,694,336	77,135	28,617,201	28,617,200
May-19	28,617,200	28,617,201	0	0	77,135	28,617,201	77,135	28,540,065	28,540,065
Jun-19	28,540,065	28,540,065	0	0	77,135	28,540,065	77,135	28,462,930	28,462,930
Jul-19	28,462,930	28,462,930	0	0	77,135	28,462,930	77,135	28,385,795	28,385,794
Aug-19	28,385,794	28,385,795	0	0	77,135	28,385,795	77,135	28,308,659	28,308,659
Sep-19	28,308,659	28,308,659	0	0	77,135	28,308,659	77,135	28,231,524	28,231,524
Oct-19	28,231,524	28,231,524	0	0	77,135	28,231,524	77,135	28,154,389	28,154,388
Nov-19	28,154,388	28,154,389	0	0	77,135	28,154,389	77,135	28,077,254	28,077,253
Dec-19	28,077,253	28,077,254	0	0	77,135	28,077,254	77,135	28,000,118	28,000,118
Jan-20	28,000,118	28,000,118	0	0	77,135	28,000,118	77,135	27,922,983	27,922,983
Feb-20	27,922,983	27,922,983	0	0	77,135	27,922,983	77,135	27,845,848	27,845,847
Mar-20	27,845,847	27,845,848	0	0	77,135	27,845,848	77,135	27,768,712	27,768,712
Apr-20	27,768,712	27,768,712	0	0	77,135	27,768,712	77,135	27,691,577	27,691,577
May-20	27,691,577	27,691,577	0	0	77,135	27,691,577	77,135	27,614,442	27,614,441
Jun-20	27,614,441	27,614,442	0	0	77,135	27,614,442	77,135	27,537,306	27,537,306
Jul-20	27,537,306	27,537,306	0	0	77,135	27,537,306	77,135	27,460,171	27,460,171
Aug-20	27,460,171	27,460,171	0	0	77,135	27,460,171	77,135	27,383,036	27,383,035
Sep-20	27,383,035	27,383,036	0	0	77,135	27,383,036	77,135	27,305,900	27,305,900
Oct-20	27,305,900	27,305,900	0	0	77,135	27,305,900	77,135	27,228,765	27,228,765
Nov-20	27,228,765	27,228,765	0	0	77,135	27,228,765	77,135	27,151,630	27,151,629
Dec-20	27,151,629	27,151,630	0	0	77,135	27,151,630	77,135	27,074,495	27,074,494

Tubac Water District
Arsenic Revenue Requirement Forecast

EXHIBIT TMB-5

Line No.		[A]
1	Arsenic Plant Revenue Requirement	
2	Arsenic Plant in Service/Rate Base	$ 2,300,000
3	Depreciation rate	4.00%
4	Depreciation expense	92,000
5	Depreciation expense net of tax savings	56,489
6	Recoverable O&M costs	-
7	Recoverable O&M costs net of tax savings	-
8	Arsenic Operating Income	(56,489)
9	Rate of return	-2.46%
10	Required Rate of Return	8.40%
11	Required Operating Income	193,200
12	Operating Income deficiency	249,689
13	Gross revenue conversion factor	1.6674
14	Revenue deficiency	416,332
15		
16		
17		
18		
19		
20		Proposed
21		ACRM
22	Rates	Surcharge
23	Minimum 5/8" Meter	$ 25.98
24	Commodity Rate, per 1,000 gallons	3.1370
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		

EXHIBIT TMB-6

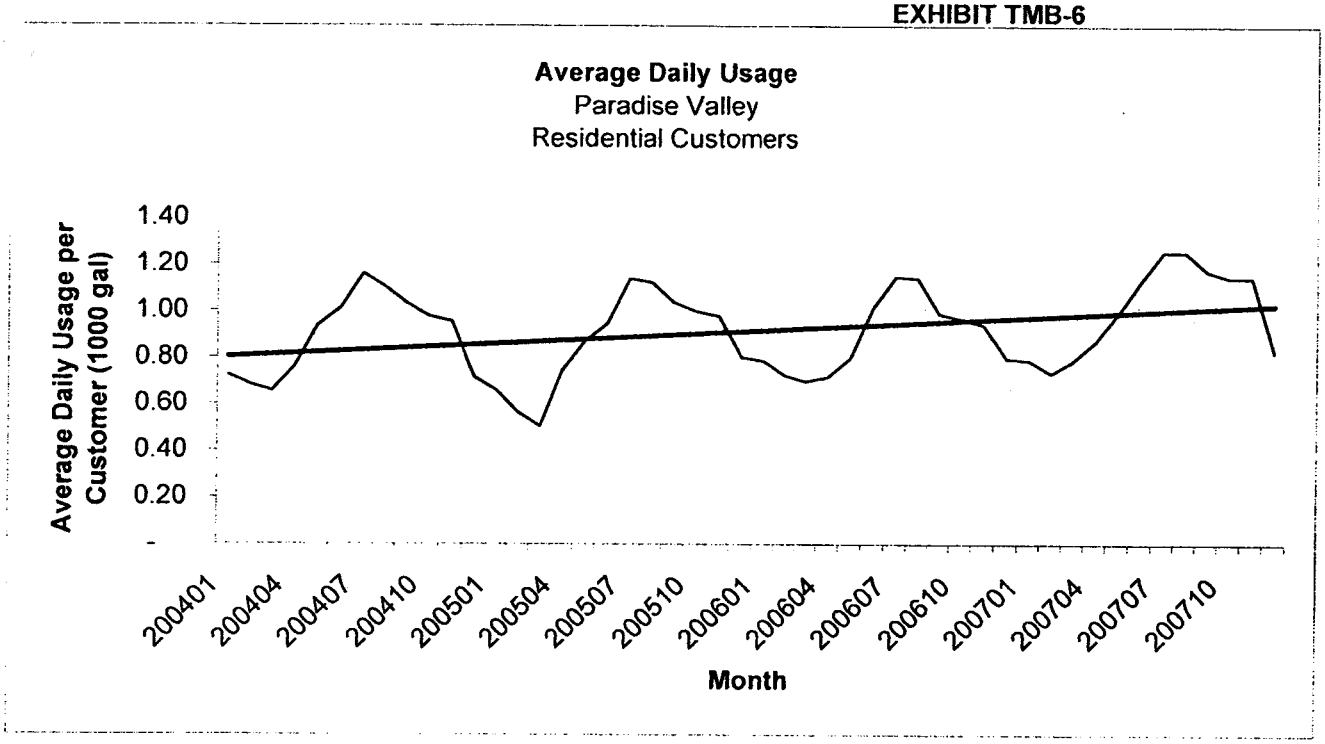

EXHIBIT
A-12
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

KRISTIN K. MAYES, Chairman
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

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 AGUA FRIA WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT	DOCKET NO. W-01303A-08-0227
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 MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227

REBUTTAL TESTIMONY
OF
THOMAS M. BRODERICK
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
FEBRUARY 11, 2009

REBUTTAL TESTIMONY
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ARIZONA-AMERICAN WATER COMPANY
FEBRUARY 11, 2009

TABLE OF CONTENTS

	EXECUTIVE SUMMARY	**iii**
I	**INTRODUCTION**	**1**
II	**REBUTTAL REVENUE REQUIREMENT**	**1**
III	**VOLUNTARY COMMUNITY OUTREACH**	**2**
IV	**PARADISE VALLEY FIRE FLOW UPDATE**	**2**
V	**WHITE TANKS PROJECT**	**3**
VI	**RATE CONSOLIDATION**	**5**
VII	**MOHAVE WASTEWATER FUTURE RATE ADJUSTMENT**	**8**
VIII	**REBUTTAL OF STAFF**	**9**
A	IMPUTED REGULATORY ASSETS	9
B	COST OF CAPITAL	12
C	WATER USE DATA	13
D	RATE DESIGN	14
E	WATER LOSS	15
F	HOOK-UP FEE COMPLIANCE	16
IX	**REBUTTAL OF RUCO**	**16**
A	RATE CASE EXPENSE	16
X	**REBUTTAL OF MAGRUDER**	**17**
A	RATE CASE EXPENSE	17
B	ARSENIC COST RECOVERY MECHANISM ("ACRM")	17

EXECUTIVE SUMMARY

Thomas M. Broderick testifies as follows:

Rebuttal Revenue Requirement

Arizona-American's revised rebuttal requirement is shown on Schedule A-1 Rebuttal. Arizona-American has reduced its requested revenue requirement increase to $16.2 million (40.2% increase) from its original request of $20.0 million (50.2% increase).

Voluntary Community Outreach

Arizona-American completed at least one voluntary community presentation in each of the districts included in this rate case in addition to voluntary written communication. Each community presentation consisted of a formal presentation, followed by a question-and-answer session. We also responded to approximately 500 customer e-mails received at "azrates@amwater.com" requesting that the proposed rate increase be calculated for an individual account.

Paradise Valley Fire Flow Update

Arizona-American withdraws its request to re-establish the Public Safety surcharge in the Paradise Valley Water District to further fund its discretionary fire-flow projects.

High Block surcharge proceeds will be adequate to recover the costs of the initial study conducted several years ago and to recover the costs of the suspended Phase 3b before the High Block surcharge is eliminated upon conclusion of this case. The Public Safety surcharge can remain at zero.

White Tanks Project

The existing WHU-1 hook-up fee tariff is a single fee by meter size that combines the original hook-up fee ($1,150 for a 5/8 inch meter) and the incremental hook-up fee ($2,130 for a 5/8 inch meter) approved in late 2007 to help pay for the White Tanks Water Treatment Plant. Arizona-American proposes to separate the single fee hook-up fee into two components with the second component (the White Tanks portion) ineligible for offset credits. The original hook-up fee ($1,150, Component A) will continue to be used to pay for Arizona-American's existing investment in common facilities and will be eligible for offset against developer built common facilities. The White Tanks portion of the hook-up fee (Component B) will not be eligible for offset against developer built common facilities and will always be applied towards White Tanks plant.

Rate Consolidation

Arizona-American has developed a flexible analysis tool to evaluate rate consolidation in this case. This will be made available to any party.

Based on several assumptions, rate consolidation would result in the following total revenue and percentage shifts and typical consolidated bills for 5/8 inch meter customers by district:

Anthem ($4.6) million or (47.74%) rate decrease	$34.15 typical bill
Tubac ($0.3) million or (47.13%) rate decrease	$41.01 typical bill
Havasu ($0.6) million or (42.90%) rate decrease	$35.85 typical bill
Agua Fria ($3.5) million or (17.75%) rate decrease	$30.09 typical bill

Sun City West ($1.3) million or (15.69%) rate decrease	$28.35 typical bill
Paradise Valley $0.3 million or 2.95% rate increase	$66.94 typical bill
Mohave $1.7 million or 37.22% rate increase	$31.77 typical bill
Sun City $8.4 million or 136.00% rate increase	$32.26 typical bill

Mohave Wastewater Future Rate Adjustment

If the Commission includes all of Mohave Wastewater's Wishing Well Plant in rates, Arizona-American is willing to accept a deadline to file the next Mohave Wastewater rate case, which may result in a rate decrease in the future for that district due to reflecting such mitigating factors as accumulated depreciation, increases in test year treatment volumes and accumulated hook-up fees. Additionally, in the interim until the next rate case, Arizona-American is willing to accept an annual requirement of a surcredit filing.

Rebuttal Of Staff

Imputed Regulatory Assets

Arizona-American shareholders have been shouldering these expenses in the interim following American Water's acquisition of the affected districts from Citizens in 2002. The mismatch is in the direction opposite than Staff testifies. Due to a number of factors, especially the three-year rate moratorium imposed as a condition of RWE's acquisition of Arizona-American's parent company, actual amortizations due to the passage of time have fallen far short of what Arizona-American bargained for.

The following table compares the actual cumulative increase to rate vase versus what was contemplated in 2001:

Increases to Rate Base Resulting From Amortizing

Imputed Regulatory Advances for Arizona American Water

	Commission Approved Amortization Schedule	Test Year Amounts Actually Reflected in Rate Base
2002	$16,769,441	$0
2003	$32,209,659	$0
2004	$51,649,878	$1,209,090
2005	$69,090,096	$42,182,344
2006	$86,350,315	43,961,770
2007	$103,970,533	TBD in this case

RUCO supports Arizona-American's request concerning imputed regulatory advances.

Cost of Capital

Short-term debt should not be included in Arizona-American's capital structure. Arizona-American's short-term debt has increased due to the on-going construction of the White Tanks project. This large project is in CWIP and is being financed in the interim by short-term debt. It is inappropriate to include this short term debt in our permanent capital structure, when it is

financing CWIP. RUCO was earlier persuaded by Arizona-American's rationale on this point and continues to remain in agreement in this case.

Long-term interest rates have been dramatically increasing. Arizona-American's affiliate American Water Capital Corporation ("AWCC") issues long-term debt for Arizona-American and other regulated affiliates. Just in recent months, AWCC's debt cost has risen by approximately 350 basis points. The interest rate is 10.0%, compared to just 6.5% not long ago. Fortunately, Arizona-American has not had to issue long-term debt at the higher amount.

Water Use Data

It would be unwise for the Commission to order Staff to automatically declare insufficiency and suspend the time clock if Arizona-American submits inaccurate water use data in the next rate case. This would be an overly harsh penalty on Arizona-American. These water-use errors had no impact on the original cost-of-service study or the original rate design. Staff already has adequate authority in the sufficiency process and does not need an automatic requirement which may not be appropriate, given the facts in the next rate case.

Rate Design

Paradise Valley's residential rate design can be expanded from three to five rate blocks to provide an incentive for those customers with one-acre lots to conserve to levels below 65,000 gallons per month. Paradise Valley residential customers consuming more than 80,000 gallons per month will receive a substantial rate reduction upon conclusion of this case due to eliminating the existing High Block surcharge.

Water Loss

Arizona-American should not be required to reduce its water loss percentage to below 10 percent in several districts as proposed by Staff. Rather, it would make much more sense to require Arizona-American and Staff to work cooperatively together to derive a plan to further reduce water loss, with the cost of the plan made transparent to all. If the consequence of somewhat higher water losses for a district would be no rate relief, Arizona-American could be forced to cancel or defer other worthwhile capital projects in favor of addressing water losses.

Mohave Hook-Up Fee Compliance

Arizona-American is in compliance concerning the Mohave wastewater hook-up fee. However, Arizona-American does not oppose the new future compliance recommended by Ms. Hains.

Rebuttal of RUCO

Rate Case Expense

Arizona-American's revised request for rate case expenses totals $456,275 which is down from $612,000 requested in the original application. This is very close to RUCO's recommended level.

White Tanks Hook-Up Fee Extension

RUCO simultaneously recommends denial of the requested hook-up fee extension, while recommending that Arizona-American stay the course and rely only on hook-up fees and never put the costs for the initial phase of White Tanks in rate base. In light of the real estate depression which has dramatically eroded hook-up fee proceeds, the consequence of these

combined RUCO recommendations, if adopted, would be to permanently deny Arizona-American cost recovery of White Tanks. Arizona-American's requested extension to 2020 is reasonable and probably will need to be extended further.

Rebuttal of Magruder

Rate Case Expense

Arizona-American accepts Mr. Magruder's recommendation to eliminate any expense for witness training.

Arsenic Cost Recovery Mechanism ("ACRM")

The Commission should reject Mr. Magruder's proposal to not allow an ACRM for the Tubac Water District. The ACRM concept was created precisely because arsenic facility costs occur after the test year end in a rate case and yet the costs – when incurred – are very significant and due to a federal mandate. The Commission has previously approved ACRMs for four other Arizona-American water districts. In each case, once the ACRMs were approved, construction commenced. By design, this occurred after the test year. Then, after the treatment facility entered service, Arizona-American made an ACRM Step I filing, including all the required schedules, exhibits and project invoices. The procedure Arizona-America is following for Tubac Water is completely consistent with this past practice and that of other water utilities, such as Arizona Water.

Third Pricing Block for Tubac

The Commission should reject Mr. Magruder's proposal to set a very expensive third pricing block for Tubac Water. Higher use water consumers in Tubac are price sensitive and drill private wells to fully or partially bypass our system. Since most of our costs are fixed costs, such dramatic conservation only serves to raise rates later for the remaining customers.

I INTRODUCTION

Q. PLEASE STATE YOUR NAME, ADDRESS, AND TELEPHONE NUMBER.

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

Q. ARE YOU THE SAME THOMAS M. BRODERICK WHO PREVIOUSLY SUBMITTED DIRECT TESTIMONY IN THIS DOCKET?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. In my testimony:

- I sponsor Arizona-American's rebuttal revenue requirement.
- I discuss Arizona-American's community outreach in this rate case, and various other minor issues.
- I provide an update on the Paradise Valley Fire-Flow programs.
- I indicate which Company witnesses are responding to Staff and RUCO's positions to our White Tanks rate proposals and request a modification to tariff WHU-1.
- I provide and explain the rate consolidation spreadsheet analysis tool developed by Arizona-American that is now available as a work paper for use by the parties.
- I propose a response to allowing the Wishing Well Wastewater Treatment Plant upgrade into rate base.
- Finally, I respond to various testimony positions of Staff, RUCO and Mr. Magruder concerning various subjects, including imputed regulatory advances, cost of capital, water-use data, water loss, Tubac's ACRM, and rate case expense.

II REBUTTAL REVENUE REQUIREMENT

Q. WHAT IS ARIZONA-AMERICANS REBUTTAL REVENUE REQUIREMENT?

A. Arizona-American's revised rebuttal requirement is shown on Schedule A-1 Rebuttal. Arizona-American has reduced its requested revenue requirement increase to $16.2 million (40.2% increase) from its original request of $20.0 million (50.2% increase).

III VOLUNTARY COMMUNITY OUTREACH

Q. WHAT HAS ARIZONA-AMERICAN DONE FOR VOLUNTARY COMMUNITY OUTREACH CONCERNING THIS RATE CASE?

A. Arizona-American completed at least one voluntary community presentation in each of the districts included in this rate case in addition to voluntary written communication. Each community presentation consisted of a formal presentation, followed by a question-and-answer session. As an example, Rebuttal Exhibit TMB-R1 is a copy of the public presentation in the Tubac Water District on December 8, 2008. We also had informational tables set up at each community meeting for customers to ask questions about such topics as water quality, conservation, operations and billing. Meetings were well attended.

We also responded to approximately 500 customer e-mails received at "azrates@amwater.com" requesting that the proposed rate increase be calculated for an individual account.

While we can always improve, I am not aware of any other utility in Arizona conducting this level of outreach into the community to explain a rate increase request.

IV PARADISE VALLEY FIRE FLOW UPDATE

Q. ARE YOU WITHDRAWING ANY REQUESTS?

A. Yes. I withdraw the request (Broderick Direct Testimony, page 29, lines 21-22) to re-establish the Public Safety surcharge in the Paradise Valley Water District to further fund its discretionary fire-flow project. Decision No. 70488 issued September 3, 2008, re-set this surcharge to zero. This on-going case represented the next opportunity to re-

establish this surcharge; however, the Town of Paradise Valley did not file direct testimony. Therefore, with no evidentiary support for the fire flow project we can no longer support a Public Safety surcharge.

Q. ARE THERE ANY REMAINING HOUSEKEEPING DETAILS FROM THE PRIOR FIRE-FLOW PROJECT PHASES?

A. Yes. In 2008, Arizona-American suspended the Paradise Valley fire-flow project and recovered the associated deferrals by August as authorized in Decision No. 68303 and later modified in Decision No. 68858. High Block surcharge proceeds will be adequate to recover the costs of the initial study conducted several years ago and to recover the costs of the suspended Phase 3b before the High Block surcharge is eliminated upon conclusion of this case. Thus, other than to order the elimination of the High Block surcharge upon conclusion of this case, no further Commission action is necessary. The Public Safety surcharge can remain at zero.

V <u>WHITE TANKS PROJECT</u>

Q. IN YOUR DIRECT TESTIMONY, YOU PRESENTED A NUMBER OF REQUESTS RELATED TO THE WHITE TANKS PROJECT, WHICH WERE DISCUSSED BY STAFF AND RUCO. ARE YOU RESPONDING TO THESE DISCUSSIONS?

A. No. Rebuttal to the specific positions of Staff and RUCO concerning these critical requests is being addressed by Company witnesses Mr. Townsley, Mr. Buls, Mr. Gross and Ms. Hubbard.

Q. ARE YOU PROPOSING ANY FURTHER CHANGES TO THE WHITE TANKS HOOK-UP FEE TARIFF WHU-1?

A. Yes. The existing WHU-1 hook-up fee tariff is a single fee by meter size that combines the original hook-up fee ($1,150 for a 5/8 inch meter) and the incremental hook-up fee

($2,130 for a 5/8 inch meter) approved in late 2007 to help pay for the White Tanks Surface Water Treatment Plant (WTSWTP). While we internally bifurcate the accounting of the hook-up fees to track the amount received for the White Tanks, the fee is administered as a single fee to the developer/customer. Since the Commission requires that hook-up fees be offset against developer built off-site facilities (also referred to as common facilities) and new development occurring in the Aqua Fria district typically requires some degree of common facilities, this delays Arizona-American's cash receipts for White Tanks as the offsets credits are worked off slowly by the developer. This approach was reasonable during the high growth real estate market of the recent past as offset credits were extinguished fairly quickly, but in today's housing market and for the foreseeable near future, the slow growth is delaying cash receipts for many years.

As a result of the planned White Tanks Plant completion, Arizona-American has reduced the need for developers to bring new wells. But while this benefits developers, Arizona-American does not benefit while we are constructing White Tanks as we are not receiving adequate cash until the developer works off the credits against any of the developer-built common facilities. The solution is to separate the single fee hook-up fee into two components with the second component (the White Tanks portion) ineligible for offset credits. The original hook-up fee ($1,150, Component A) will continue to be used to pay for Arizona-American's existing investment in common facilities and will be eligible for offset against developer built common facilities. The White Tanks portion of the hook-up fee (Component B) will not be eligible for offset against developer built common facilities and will always be applied towards White Tanks plant. Rebuttal Exhibit TMB-R2 displays the requested revised tariff. Please note that the hook-up fee projections contained in Mr. Gross' and Mr. Buls' rebuttal testimonies are based on the existing method of offsets. If my new proposal is approved, this would improve somewhat the cash receipts relative to that forecast.

VI RATE CONSOLIDATION

Q. HAS ARIZONA-AMERICAN PREPARED A SPREADSHEET BASED ANALYSIS TOOL FOR EVALUATING VARIOUS RATE CONSOLIDATION SCENARIOS?

A. Yes. In a letter to the docket dated December 17, 2008, I promised to provide a flexible analysis tool in response to Chairman Mayes' request for the parties to evaluate rate consolidation in this case.

The consolidation-analysis tool is a large Excel spreadsheet. The spreadsheet uses Excel's 2007 version, but it can also be used in Excel 2003 with an upgrade patch. We will provide the spreadsheet on a CD-ROM to any party that requests a copy. If any party is interested in calculating various rate consolidation scenarios, please contact me at 623-445-2420 in order that you can be provided the necessary detailed instructions necessary to utilize the spreadsheet. Alternatively, a party can submit a data request to Arizona-American specifying the assumptions desired and we will reply with the results.

Rebuttal Exhibit TMB – R4 is the result of one specific rate consolidation scenario for the residential class of customers for all of Arizona-American's eight water districts.

Q. DID THE RATE-CONSOLIDATION ANALYSIS PROCESS PROVE MORE COMPLICATED THAN YOU EXPECTED?

A. Yes. A rate-consolidation analysis has a number of assumptions and decision points. For example, in addition to the obvious need to decide which water districts to consolidate, one must additionally decide (my scenario decisions are in parenthesis):

- Whether to base the consolidated rates on existing or proposed rates (original proposed as we do not have rates designed for Arizona-American's revised rebuttal revenue requirement).

- Whether to preserve the class revenues or allow class revenues to re-allocate among the classes in the consolidation process (preserved proposed class revenues).
- Whether to exclude surcharges (excluded Tubac's ACRM as a matter of convenience, but included it for the other districts since those were already in the base rates proposed in this case).
- Where the rate blocks should break (selected 4,000 and 15,000 gallons for a 5/8 inch meter).
- What the rates should be for the rate blocks ($1.50, $2.50 and $3.25).
- Whether to include multi-housing residential tariffs which represent less than one percent of residential revenue and present rate design challenges to consolidate (excluded for now).
- What customer classes to consolidate (residential only in my scenario).

Q. WHAT ARE THE RESULTS OF YOUR RATE CONSOLIDATION SCENARIO?

A. I included all eight of Arizona-American's water districts, even Anthem and Sun City, even though these districts are not part of this rate case. I did not yet want to narrow the analysis at this initial exploratory stage. One can delete any district from a rate consolidation scenario simply by going to line 54 of the results tab and deleting the name of the district to exclude. One also needs to re-set the target revenue for the calibration of the rates in the targeting process.

For unconsolidated rates, I used Arizona-American's proposed rates in the original application of this case, including Anthm (as we do not have rates designed for our requested rebuttal revenue), plus Sun City's existing rates. Unconsolidated rates can be updated in later scenarios.

For a residential 5/8 inch meter, the spreadsheet calculates a consolidated monthly basic service charge of $15.59 and consolidated commodity tier 1 rates of $1.50, tier 2 rates of

$2.50 and tier 3 rates of $3.25. These consolidated rates cause the following total residential revenue and percentage shifts (in total the changes net to zero) by district:

- Anthem ($4.6) million - (47.74%) rate decrease
- Tubac ($0.3) million - (47.13%) rate decrease
- Havasu ($0.6) million - (42.90%) rate decrease
- Agua Fria ($3.5) million - (17.75%) rate decrease
- Sun City West ($1.3) million - (15.69%) rate decrease
- Paradise Valley $0.3 million - 2.95% rate increase
- Mohave $1.7 million - 37.22% rate increase
- Sun City $8.4 million - 136.00% rate increase

Rebuttal Exhibit TMB4 R4 displays the typical 5/8 inch bills on a pre and post consolidated basis. For example, on a pre-consolidated basis the typical proposed 5/8 inch meter customer in Havasu would pay monthly $73.77, but on a post consolidated basis this drops to $35.85 per month. In order to reduce water rates in Havasu and four other districts, customers in Sun City and Mohave water would see typical 5/8 inch meter customer monthly bills increase from $13.91 to $32.26 in Sun City and $24.50 to $31.77 in Mohave.

I experimented with the residential rate designs (and you can as well), but this did not change the overall robust conclusion that in order to achieve a total residential rate consolidation, the rates in Sun City and Mohave would increase significantly. The major short-term beneficiaries of such a rate consolidation would be Anthem, Tubac and Havasu water districts. Only Paradise Valley would be largely unaffected in an eight-district consolidation.

The rate consolidation results make sense intuitively. Sun City and Mohave districts' rates are low because they are older, larger, and slower growing districts that did not have

arsenic-compliance issues. Original costs were low and depreciation has had years to reduce rate base. The other districts are newer or smaller and /or had arsenic-compliance problems.

Q. WHAT IS ARIZONA-AMERICAN'S PROPOSAL CONCERNING RATE CONSOLIDATION?

A. Our customers are not yet ready for an eight-district rate consolidation, with this magnitude of revenue shift. Mr. Townsley presents a specific partial rate-consolidation proposal in his rebuttal testimony, which, if implemented and after the passage of some years, would reduce the gap from our highest rate to our lowest rate water districts to enable future rate consolidation. This could eventually promote community acceptance for rate consolidation of some of all of these districts in the future. The first district that would benefit under Mr. Townsley's proposal is Tubac, because that district will otherwise be the district with the highest rates after completion of its arsenic facility.

The other parties are encouraged to submit their own proposals. RUCO submitted a consolidation proposal for the districts in this case, but did not calculate a revenue shift among the districts.

VII <u>MOHAVE WASTEWATER FUTURE RATE ADJUSTMENT</u>

Q. IF THE COMMISSION INCLUDES ALL OF MOHAVE WASTEWATER'S WISHING WELL PLANT IN RATES, WHAT COMMITMENT CAN ARIZONA-AMERICAN MAKE?

A. Arizona-American is willing to accept a deadline to file the next Mohave Wastewater rate case, which may result in a rate decrease in the future for that district due to reflecting such mitigating factors as accumulated depreciation, increases in test year treatment volumes and accumulated hook-up fees. Additionally, in the interim until the next rate case, Arizona-American is willing to accept an annual requirement of a surcredit filing.

The filing would provide that if the annual revenue requirement in Mohave wastewater district decreases, Arizona-American would credit to customers the difference from rates approved in this case. For example, if a calculation of Mohave wastewater's revenue requirement using a test year of 2009 is less than what the established tariffs actually collected in 2009, then a credit would appear on customers' bills after Commission review and approval of the 2009 test year data. And so on for 2010, until the next rate case. The interim surcredit would not be used to increase rates above the amounts authorized in this case, again, based on including all of Mohave Wastewater's plant in service in rates upon conclusion of this case.

VIII REBUTTAL OF STAFF

A IMPUTED REGULATORY ASSETS

Q. STAFF'S RATE BASE ADJUSTMENT NO. 3 WOULD REDUCE RATE BASE BY $3,467,655 FOR IMPUTED REGULATORY ADVANCES IN THE AFFECTED DISTRICTS FOR THE AMORTIZATION PERIOD JANUARY 1, 2008 THROUGH JULY 14, 2008. DO YOU AGREE TO THIS ADJUSTMENT?

A. No. First, I note that Staff's Mr. Becker erred in his Direct Testimony when he stated (page 14, line 9) that the settlement agreement's six and one-half year amortization period ends July 2009. Rather, the amortization period already ended July 14, 2008, as correctly described by Arizona-American and by RUCO's Mr. Rigsby (Direct Testimony, page 9, line 12). This is because the six and one-half year period started January 15, 2002, as initially set by the Commission.

Q. WHY SHOULD THE COMMISSION REJECT STAFF'S ADJUSTMENT NO. 3?

A. This is the first rate case in which the Commission considers this issue after the entire six and one-half year amortization period has ended. Please note; there is not a parallel Company request in this case for post test year amortizations of imputed ***contributions*** because those amortizations are not completed until January 14, 2012.

Mr. Becker alleges that Arizona-American's request creates a mismatch between revenues and expenses. However, the investment expenses that gave rise to the imputed regulatory advances were made in the 1990's. Arizona-American shareholders have been shouldering these expenses in the interim following American Water's acquisition of the affected districts from Citizens in 2002. The mismatch is in the direction opposite than Staff testifies.

Mr. Becker alleges that there is a violation of the historical test-year standard. I believe he is referring to the Commission's known and measurable standard. However the amortization amounts and schedule are known precisely and have been for many years.

Q. MR. BECKER STATES THAT ARIZONA-AMERICAN'S REQUEST CIRCUMVENTS THE COMMISSION'S INTENT. HOW DO YOU RESPOND?

A. Staff has previously described post-test-year amortization of imputed advances as exceeding what the Commission "bargained for" in Decision No. 67093. However, the bargain has actually been a terrible one for Arizona-American.

Q. WHY DO YOU STATE THAT THE AMORTIZATIONS OF IMPUTED ADVANCES HAVE BEEN A TERRIBLE BARGAIN FOR ARIZONA-AMERICAN?

A. In Decision No. 63584, dated April 24, 2001, the Commission approved, as part of its approval of the sale of Citizens Utilities' water and wastewater properties to Arizona-American, the 6.5-year amortization period for imputed advances included as reductions to rate base. As per the Settlement, as time elapsed and amortizations of the imputed advances/contributions occurred, rate base would increase. The amortization period was to begin on the day the transfer from Citizens to Arizona-American took place. The sale was completed on January 15, 2002, so the 6.5-year amortization period went from that date to July 14, 2008. However, due to a number of factors, especially the three-year rate

moratorium imposed as a condition of RWE's acquisition of Arizona-American's parent company, actual amortizations due to the passage of time have fallen far short of what Arizona-American bargained for. The following table compares the actual cumulative increase to rate base versus what was contemplated in 2001:

Increases to Rate Base Resulting From Amortizing
Imputed Regulatory Advances for Arizona American Water

	Commission Approved Amortization Schedule	Test Year Amounts Actually Reflected in Rate Base
2002	$16,769,441	$0
2003	$32,209,659	$0
2004	$51,649,878	$1,209,090
2005	$69,090,096	$42,182,344
2006	$86,350,315	$43,961,770
2007	$103,970,533	TBD in this case

Q. WHY DID THE ACTUAL TEST YEAR IMPUTED ADVANCES FALL SO FAR BEHIND THE APPROVED AMORTIZATIONS?

A. As I discussed, the major reason was the three-year rate case moratorium. The first amortization in 2004 was only for Mohave water and wastewater district. The next opportunity arose with 2005 test year filings for rate cases involving Sun City Wastewater, Sun City West Wastewater, Anthem Water and Anthem/Agua Fria Wastewater, which increased amortizations substantially to $42,182,344. However, this was still $27 million behind the bargained for amortizations of $69,090,096.

The next case filed was the first one for Sun City Water after the three-year moratorium, it used a 2006 test year and that result is reflected above. The gap had grown to $43 million.

In this on-going rate case, Commission Staff informed Arizona-American that if it did not withdraw several former Citizens districts from the case (e.g., Anthem) the case would

experience delays for all of the districts, including a requirement to re-file using an updated test year. This, once again, postponed the possibility of realization in rates of the total Company-wide amount eligible for 2007 of $103,970,533 based on the amortization schedule approved in 2001.

I should also point out that the rate impacts of the limited reductions in imputed advances using test year amounts were not realized until the rate cases concluded. This ranged from an additional 16 months to over two years following the test years.

Hence, if Staff's bargain concept is based on approved versus actual amortizations eligible over the life of the settlement agreement, then the agreement has indeed been a very bad bargain for Arizona-American to-date. It is very difficult to understand why Staff opposes including the roughly $4 million Arizona-American requests in this case, when the shortfall for the prior 2006 test year alone was over $40 million.

Q. DOES RUCO SUPPORT ARIZONA-AMERICAN'S REQUEST CONCERNING IMPUTED REGULATORY ADVANCES?

A. Yes. Mr. Rigby (Direct Testimony, page 10, lines 2-6) states:

> "RUCO believes that the amortization of the imputed AIAC is a known and measureable post-test year event and is in agreement with Arizona-American on this issue. Given the fact that the imputed AIAC has been fully amortized since July 14, 2008, RUCO believes that the Commission should approve Arizona-American's request."

B <u>COST OF CAPITAL</u>

Q. WHAT COMPONENTS OF COST OF CAPITAL ARE YOU REBUTTING?

A. Ms. Bente Villadsen rebuts both Staff and RUCO's recommended return on equity. I continue to rebut the inclusion by Staff of short-term debt in Arizona-American's capital structure. The parties agree on the cost of long-term debt.

Q. SHOULD SHORT-TERM DEBT BE INCLUDED IN THE CAPITAL STRUCTURE FOR RATEMAKING?

No. As I predicted in a recent prior rate case, Arizona-American's short-term debt has increased due to the on-going construction of the White Tanks project. This large project is in CWIP and is being financed in the interim by short-term debt. It is inappropriate to include this short term debt in our permanent capital structure, when it is financing CWIP. RUCO was earlier persuaded by Arizona-American's rationale on this point and continues to remain in agreement in this case.

Q. WHAT HAS BEEN THE RECENT TREND IN LONG-TERM INTEREST RATES?

A. Our affiliate American Water Capital Corporation ("AWCC") issues long-term debt for Arizona-American and other regulated affiliates. Just in recent months, AWCC's debt cost has risen by approximately 350 basis points. Attached is Rebuttal Exhibit TMB-R3, which is a copy of a recent debt issuance by AWCC for our affiliate Texas-American Water (the issuance also included several other state affiliates at the same interest rate). The interest rate is 10.0%, compared to just 6.5% not long ago. Fortunately, Arizona-American has not had to issue any new long-term debt during this period.

Q. HAS THIS RAPID RUN-UP IN LONG-TERM DEBT COSTS AFFECTED ARIZONA-AMERICAN'S REQUIRED RETURN ON EQUITY?

A. Yes. Dr. Bente Villadsen discusses this effect in her rebuttal testimony.

C <u>WATER USE DATA</u>

Q. STAFF'S MR. OLEA RECOMMENDS THAT THE COMMISSION ORDER STAFF TO AUTOMATICALLY DECLARE INSUFFICIENCY AND SUSPEND THE TIME CLOCK IF ARIZONA-AMERICAN SUBMITS INACCURATE WATER USE DATA IN THE NEXT RATE CASE. IS SUCH AN ADDITIONAL REQUIREMENT NECESSARY?

A. No. Mr. Olea's (Direct Testimony, page 8, lines 5-12) recommendation for an automatic insufficiency suspension requirement would be an overly harsh penalty on Arizona-American. These water-use errors had no impact on the original cost-of-service study or the original rate design. Arizona-American's cost-of-service witness, Mr. Paul Herbert, has re-visited his studies and has inserted the correct information, but this caused no changes to his cost-of-service studies.

Arizona-American's cost-of service studies have not been the primary determinates of rate designs accepted by the Commission in recently completed cases; rather, conservation goals have been the larger consideration. The only district where Arizona-American proposed rate design changes in this case was Paradise Valley, but the water-use data for that district was correct in the original application.

Staff already has adequate authority in the sufficiency process and does not need an automatic requirement which may not be appropriate, given the facts in the next rate case.

Arizona-American understands the concerns raised by Staff, and in future cases will do its best to address them. Arizona-American already has a strong incentive to avoid insufficiency and time clock suspension.

D <u>RATE DESIGN</u>

Q. STAFF WITNESS MR. MILLSAP RECOMMENDS THAT PARADISE VALLEY'S RESIDENTIAL RATE DESIGN NOT BE EXPANDED FROM THREE TO FIVE RATE BLOCKS. DO YOU HAVE ANY REACTION?

A. RUCO accepted Arizona-American's proposal. Staff's Mr. Millsap concluded there was inadequate water usage in the proposed five rate blocks to get customers' attention. The proposed third rate block ends at 65,000 gallons per month. If the price of a new fourth rate block is higher, it provides an incentive for those customers with one-acre lots to conserve to levels below 65,000 gallons per month. Residential customers consuming in

the proposed fifth block (in excess of 125,000 gallons per month) are consuming at a discretionary level far in excess of essential use under any standard of measurement applicable to Arizona's desert environment. If the Commission approves Arizona-American's request to terminate the high block surcharge and the Staff's recommendation to retain the existing three tiers, then those Paradise Valley residential customers consuming more than 80,000 gallons per month will receive a substantial rate reduction upon conclusion of this case.

E <u>WATER LOSS</u>

Q. STAFF'S MS. HAINS RECOMMENDS THAT ARIZONA-AMERICAN REDUCE ITS WATER LOSS TO BELOW 10 PERCENT IN SEVERAL DISTRICTS BY DECEMBER 31, 2009, OR BEFORE IT FILES ITS NEXT RATE INCREASE APPLICATION AND/OR CC&N APPLICATION AND/OR FINANCING APPLICATION, WHICHEVER COMES FIRST. DOES THIS RECOMMENDATION CONCERN YOU?

A. Yes. If adopted, I am very concerned how this would be stated in a final order and how it might later be interpreted. Arizona-American should not be precluded from submitting any applications at the Commission based on water-loss percentages exceeding ten percent (or any percentage for that matter) as a form of punishment of Arizona-American. Rather, it would make much more sense to require Arizona-American and Staff to work cooperatively together to derive a plan to further reduce water loss with the cost of the plan made transparent to all.

Other witnesses discuss Arizona-American's miserable financial condition and what is being done to address it. Timely rate relief is one key strategy. If the consequence of somewhat higher water losses for a district would be no rate relief, Arizona-American could be forced to cancel or defer other worthwhile capital projects in favor of addressing water losses.

Water losses can be reduced, but at a cost. Arizona-American has various on-going meter and other infrastructure replacement programs that, if appropriate, might be accelerated or augmented. But, these programs must compete in these difficult economic times with other worthy investments. It makes no sense to essentially force investment in one area, without examining all possible challenges and opportunities. By this request, Staff seeks to substitute its judgment, without any kind of analysis, for management's.

F HOOK-UP FEE COMPLIANCE

Q. STAFF'S MS. HAINS (DIRECT TESTIMONY, PAGE 13) STATES ARIZONA-AMERICAN IS NOT IN COMPLIANCE WITH REPORTING ON THE EXISTING MOHAVE WASTEWATER HOOK-UP FEE, BUT ELSEWHERE STATES ARIZONA-AMERICAN IS IN OVERALL COMPLIANCE. HOW DO YOU RESPOND?

A. I researched Arizona-American's compliance data base and cannot find any existing compliance requirement concerning the Mohave wastewater hook-up fee (Treatment Plant Availability Fee, existing amount $785 per new connection). Ms. Hains did not reference a Commission decision as authority for such compliance. However, Arizona-American does not oppose the new future compliance recommended by Ms. Hains.

IX REBUTTAL OF RUCO

A RATE CASE EXPENSE

Q. RUCO RECOMMENDS RATE CASE EXPENSE OF $425,265. DO YOU AGREE?

A. Not precisely, but we are close. As of January 28, 2009, Arizona-American had already spent and deferred $289,275 for the districts in this rate case. I estimate I will receive invoices totaling $ 132,000[1] from my outside witnesses, external counsel, plus invoices for the costs of analyzing rate consolidation requested by Commissioner Mayes. I

[1] Marks $72,000, Villadsen $35,000, Herbert $15,000 AND $10,000 to GDS for rate consolidation.

anticipate at least one more required letter to customers at the end of the case with postage costing of approximately $35,000. Therefore, Arizona-American's revised request for rate case expenses totals $456,275 which is down from $612,000 requested in the original application.

Q. MR. RIGSBY RECOMMENDS DENIAL OF THE REQUESTED EXTENSION OF THE WHITE TANKS ("WHU-1") HOOK-UP FEE UNTIL 2020. HOW DO YOU RESPOND?

A. RUCO simultaneously also recommends that Arizona-American stay the course and rely only on hook-up fees and never put the costs for the initial phase of White Tanks in rate base. In light of the real estate depression which has dramatically eroded hook-up fee proceeds, the consequence of these combined RUCO recommendations, if adopted, would be to permanently deny Arizona-American cost recovery of White Tanks. Arizona-American's requested extension to 2020 is reasonable and probably will need to be extended further.

X <u>REBUTTAL OF MAGRUDER</u>

A <u>RATE CASE EXPENSE</u>

Q. DO YOU ACCEPT MR. MAGRUDER'S RECOMMENDATION TO ELIMINATE WITNESS TRAINING EXPENSES FROM RATE CASE EXPENSES?

A. Yes. Arizona-American's revised request for rate case expense does not include any expense for witness training.

B <u>ARSENIC COST RECOVERY MECHANISM ("ACRM")</u>

Q. MR. MAGRUDER (DIRECT TESTIMONY PAGES 11-12) OPPOSES AN ARSENIC COST RECOVERY MECHANISM ("ACRM"), IN PART, BECAUSE THE ARSENIC FACILITY IS NOT UNDER CONSTRUCTION AND OUTSIDE THE TEST YEAR. IS THAT A REASON TO OPPOSE AN ACRM?

A. No. The ACRM concept was created precisely because arsenic facility costs occur after the test year end in a rate case and yet the costs – when incurred – are very significant and due to a federal mandate. The Commission has previously approved ACRMs for four other Arizona-American water districts. In each case, once the ACRMs were approved, construction commenced. By design, this occurred after the test year. Then, after the treatment facility entered service, Arizona-American made an ACRM Step I filing, including all the required schedules, exhibits and project invoices. The procedure Arizona-America is following for Tubac Water is completely consistent with this past practice and that of other water utilities, such as Arizona Water.

In my experience over the past several years, the ACRM procedure causes more – not less – scrutiny of an individual project than occurs in a rate case. I have observed Staff and RUCO personnel visiting each arsenic facility, sometimes several times, and these parties have extensively reviewed project invoices and accounting.

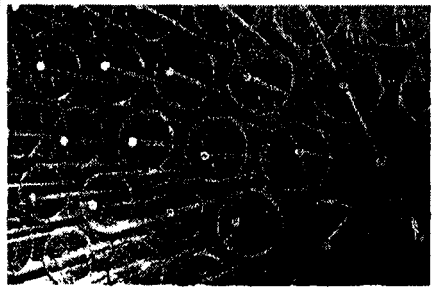
Q. MR. MAGRUDER WANTS THE THIRD PRICING BLOCK FOR TUBAC TO BE VERY EXPENSIVE. DO YOU AGREE?

A. No. Higher use water consumers in Tubac are price sensitive and drill private wells to fully or partially bypass our system. Even though these wells are expensive, we saw a number of new wells drilled several years ago when the topic of the cost of the arsenic facility first came up. Since most of our costs are fixed costs, such dramatic conservation only serves to raise rates later for the remaining customers.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

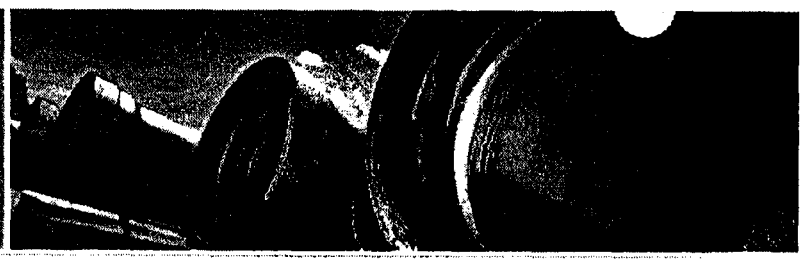
ARIZONA
AMERICAN WATER



Introductions

- **Arizona American Water**
  - Paul Townsley, President, Arizona American Water
  - Tom Broderick, Director, Rates & Regulation
  - Jeffrey Stuck, Director of Operations

ARIZONA AMERICAN WATER



Community Meeting Format

- 5:30p.m. -Arizona American Water Presentation
- Please hold all questions until presentation concludes, <u>Thank You!</u>
- Open house: Arizona American Water experts continue to answer questions on Rates, Engineering, Operations, Customer Service, Water Quality and Conservation.

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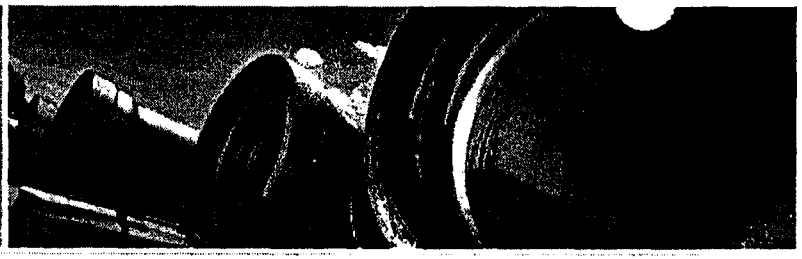


Today, we will talk about...

- Tubac Water System
- Water Rates – Current & Proposed Rate Components
- How rate increase proposals are formulated
- Investment in local infrastructure
- Arsenic Treatment Issues
- Rate Increase Application Timeline
- What's Next?

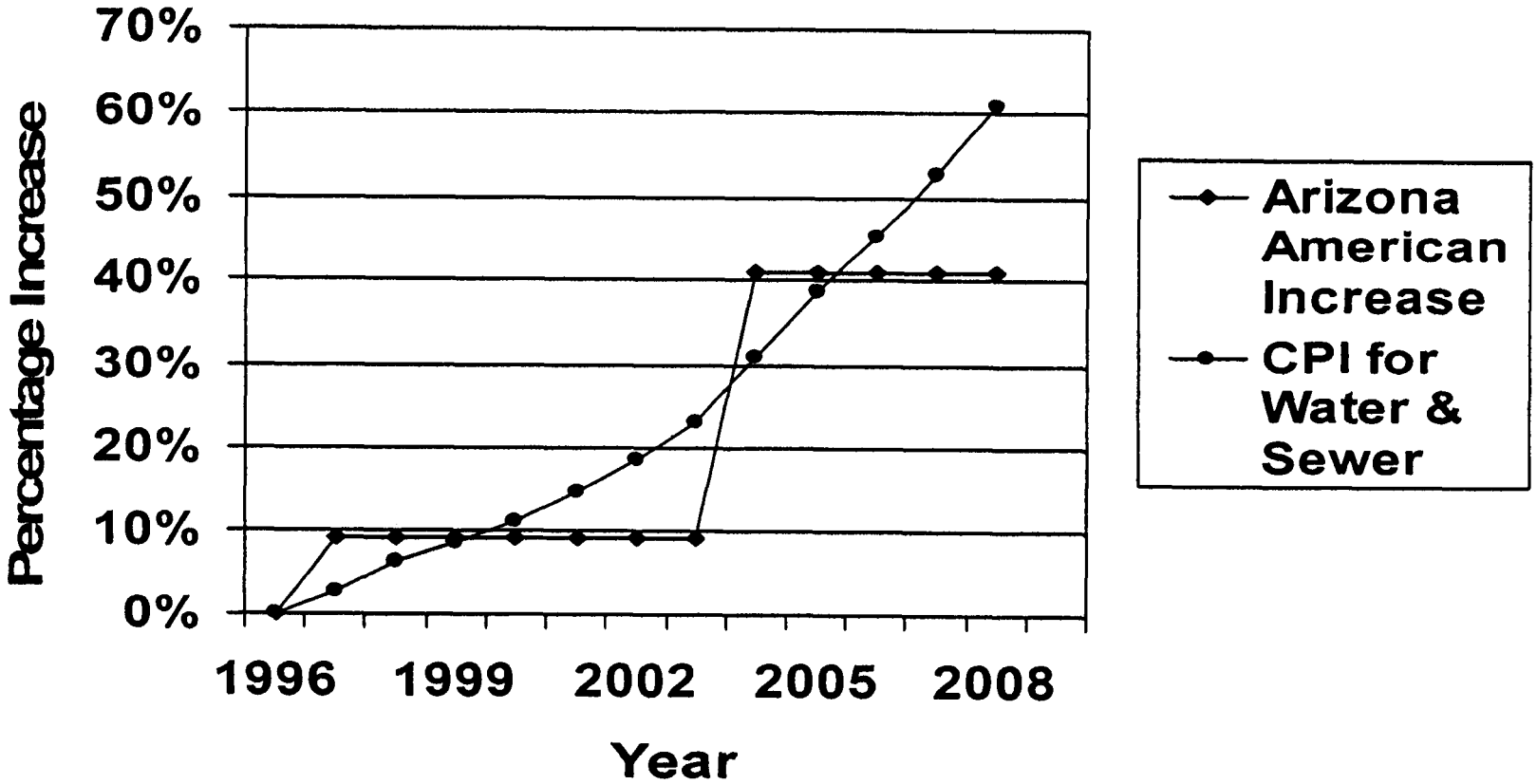
ARIZONA AMERICAN WATER

Tubac Water Facts

- In Tubac, Arizona American Water provides high-quality water utility services to 532 water customers
- Current water rates were effective July 2004 and are based on investment and operating expense at calendar year 2001
- Current rate case application is based on the amount of investment and operating expense at calendar year 2007
- New rates likely effective September 1, 2009

ARIZONA AMERICAN WATER

History of Tubac Rates



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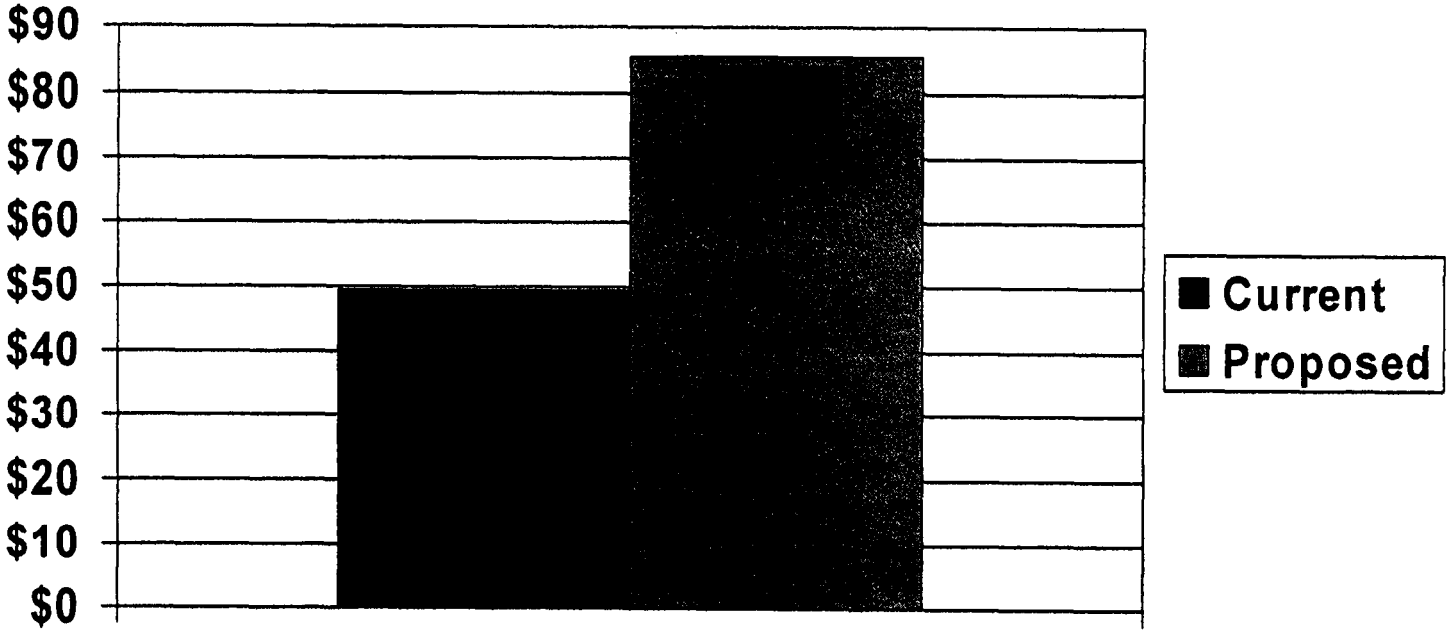
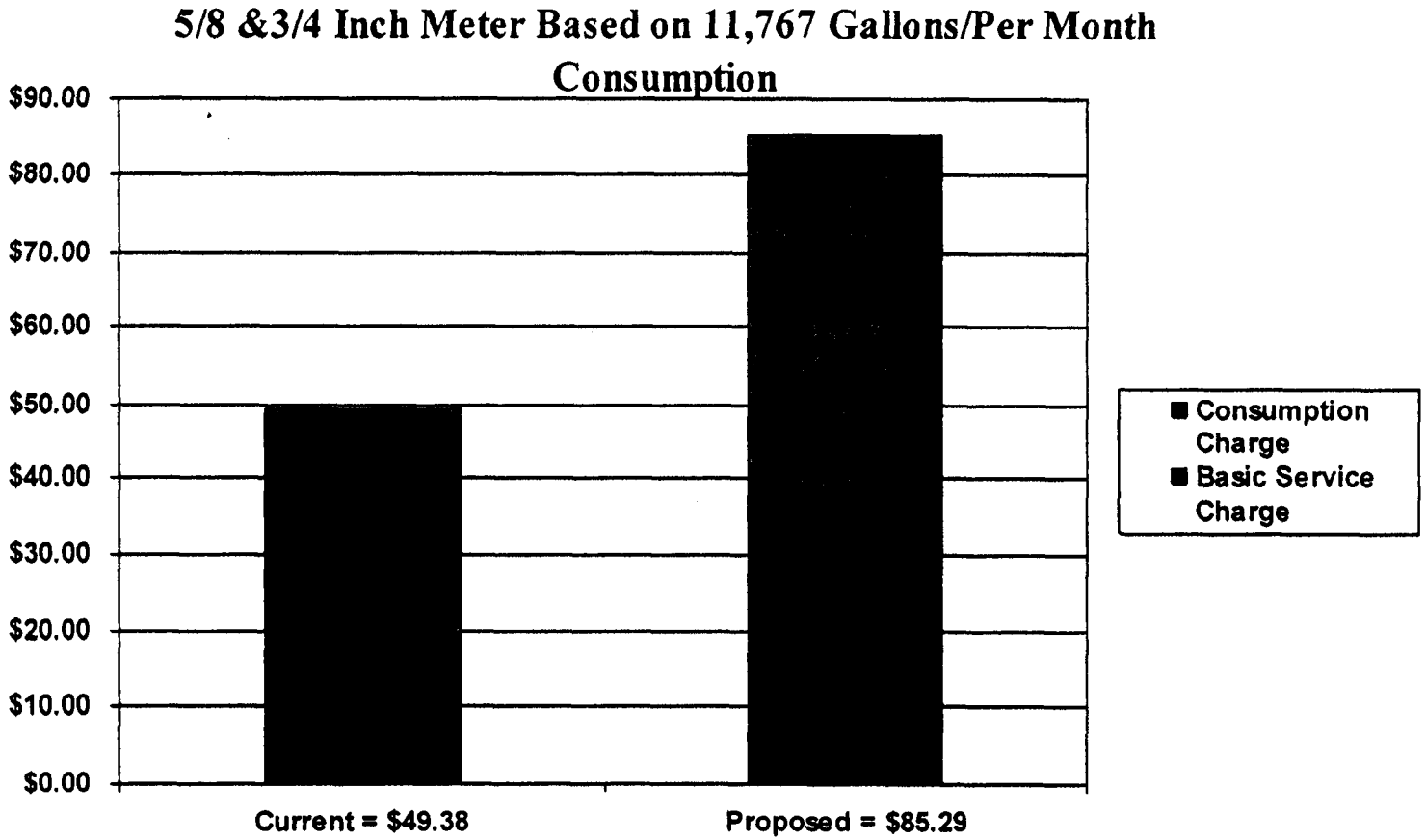
Proposed Increase = $1.20 per day



Average residential monthly bill based on monthly water usage of 11,767 gallons for 5/8" and 3/4" meters - 461 customers in Tubac

ARIZONA AMERICAN WATER

Rate Components – Basic and Consumption Charges



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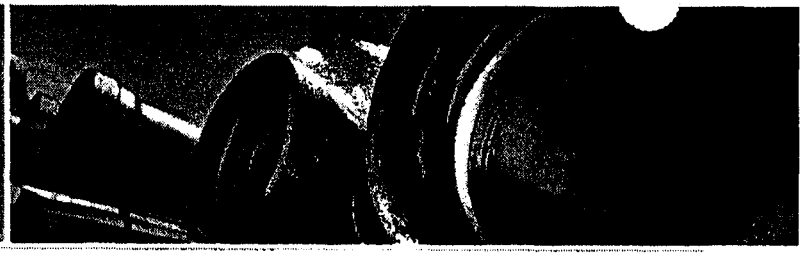
Residential Water Consumption Charges
Charge per 1,000 gallons for 5/8 & 3/4 inch meters

Gallons of Water (per month)	Current	Proposed
0- 4,000 gallons	$1.89	$3.78
4,001-20,000 gallons	$2.85	$4.85
20,001 + gallons	$3.41	$4.95

ARIZONA AMERICAN WATER



ACTUAL TUBAC BILL – Exact Proposed Changes

Customer Account Information

For Service To:

Account Number
Premise Number:

Billing Period & Meter Information

Billing Date: Nov 10, 2008
Billing Period: Oct 02 to Nov 05 (34 days)

Next reading on/about: Dec 04, 2008
Rate Type: Residential

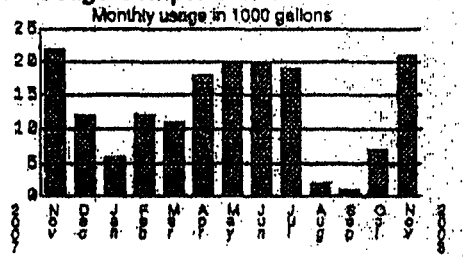
Meter readings in current billing period:
Meter Number S45786 is a 5/8-inch meter.

Present-actual	2143
Last-actual	2122
T-gal used	21

Billing Summary

——Prior Balance——			
Balance from last bill			$61.75
Payments as of Nov 10, 2008, Thanks!			-61.75
Total prior balance, Nov 10, 2008			.00
——Current Water Charges——			
Basic Service			19.68
Water Volume	($ 1.890 x	4.00)	7.56
	($ 2.850 x	16.00)	45.60
	($ 3.410 x	1.00)	3.41
Groundwater Withdrawal Fee			.21
Total Use Billed		21.00	76.46
——Other Current Charges——			
ACC Resid Reg Assmnt Fee			.15
Total other charges, Nov 10, 2008			.15
——Taxes——			
County Tax - TUBAC			.76
State Tax			4.28
Water Use Tax			.14
Total taxes, Nov 10, 2008			5.18
——TOTAL AMOUNT DUE——			$81.79

Water Usage Comparison



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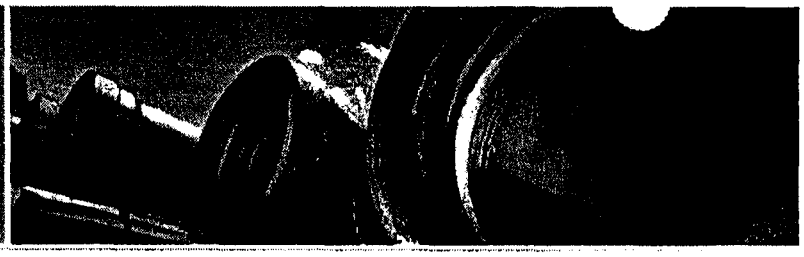

Basic Formula For Water Rates

2007 Total Invested Capital or "Rate Base"	$1,527,454
Requested Cost of Capital	$ 8.4 %
Required Annual Operating Income/(Loss)	$ 128,306
2007 Revenues	$ 426,900
2007 Expenses	$ 465,453
Actual Adjusted Operating Income/(Loss)	$ (38,553)
After Tax Operating Income Deficiency	$ 166,859
Additional Taxes	$ 111,355
Proposed Increase in Revenues	$ 278,214

ARIZONA AMERICAN WATER

New Infrastructure Investments

Key Infrastructure Investments = $1.4 million

1.) **Water Mains & Pipes** – New/replacement mains throughout Tubac

2.) **Wells** - Well 5 pump, motor replacement

3.) **Storage & Booster Tank** - Replace pumps & motors to maintain well sites

4.) **Back up Power/Tools** - Generator at Well

These investments benefit you by improving your water quality, water pressure and reliability.

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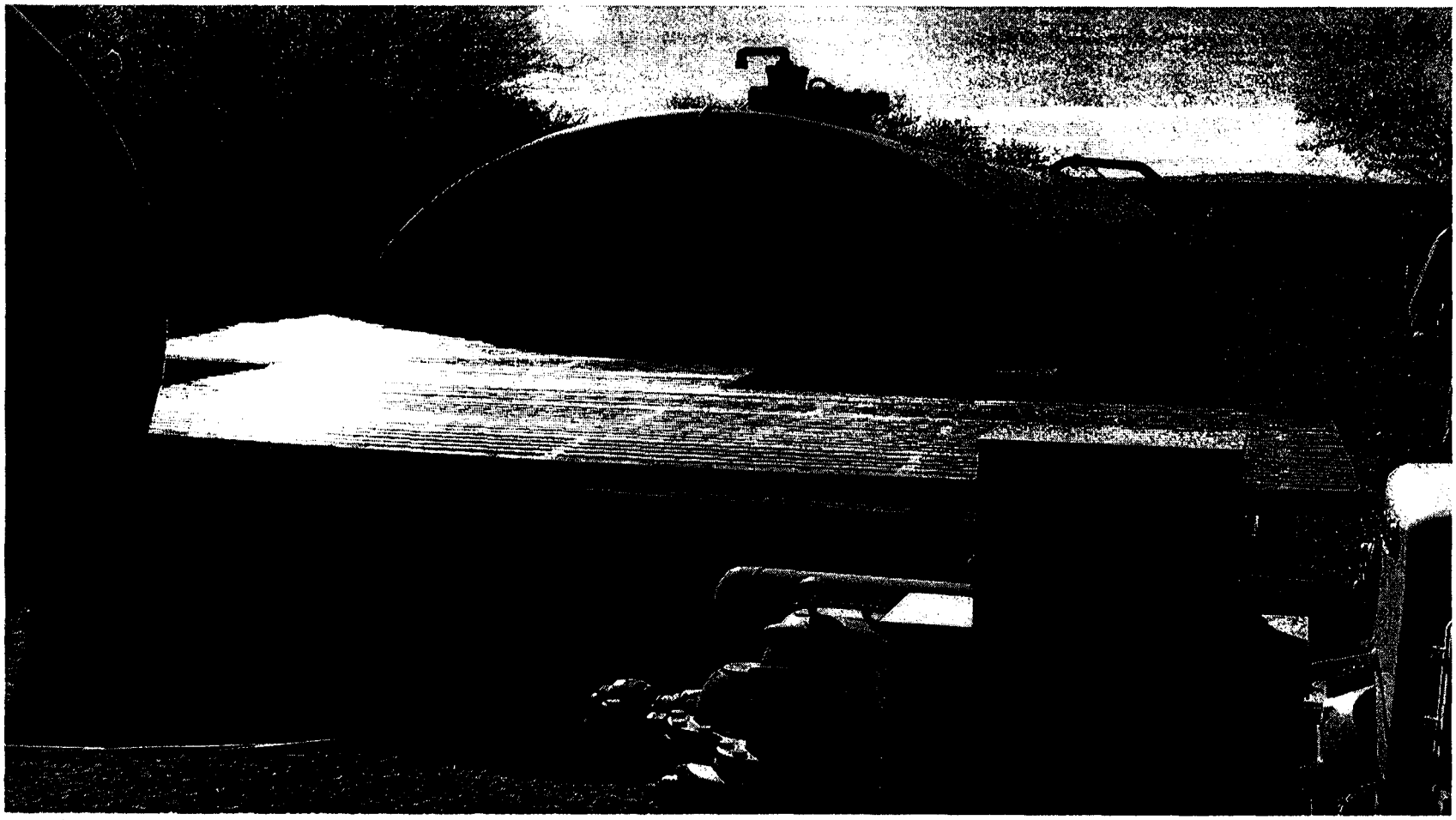
Palo Prado Storage Tank



www.arizonaamwater.com

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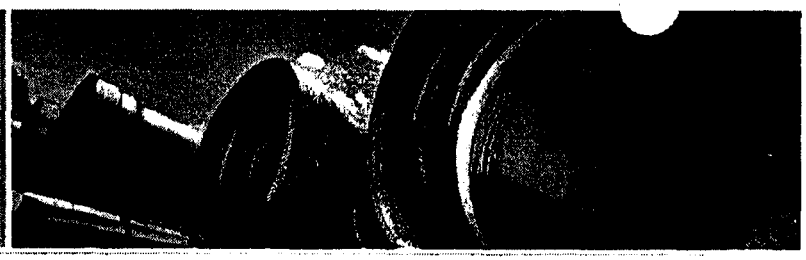
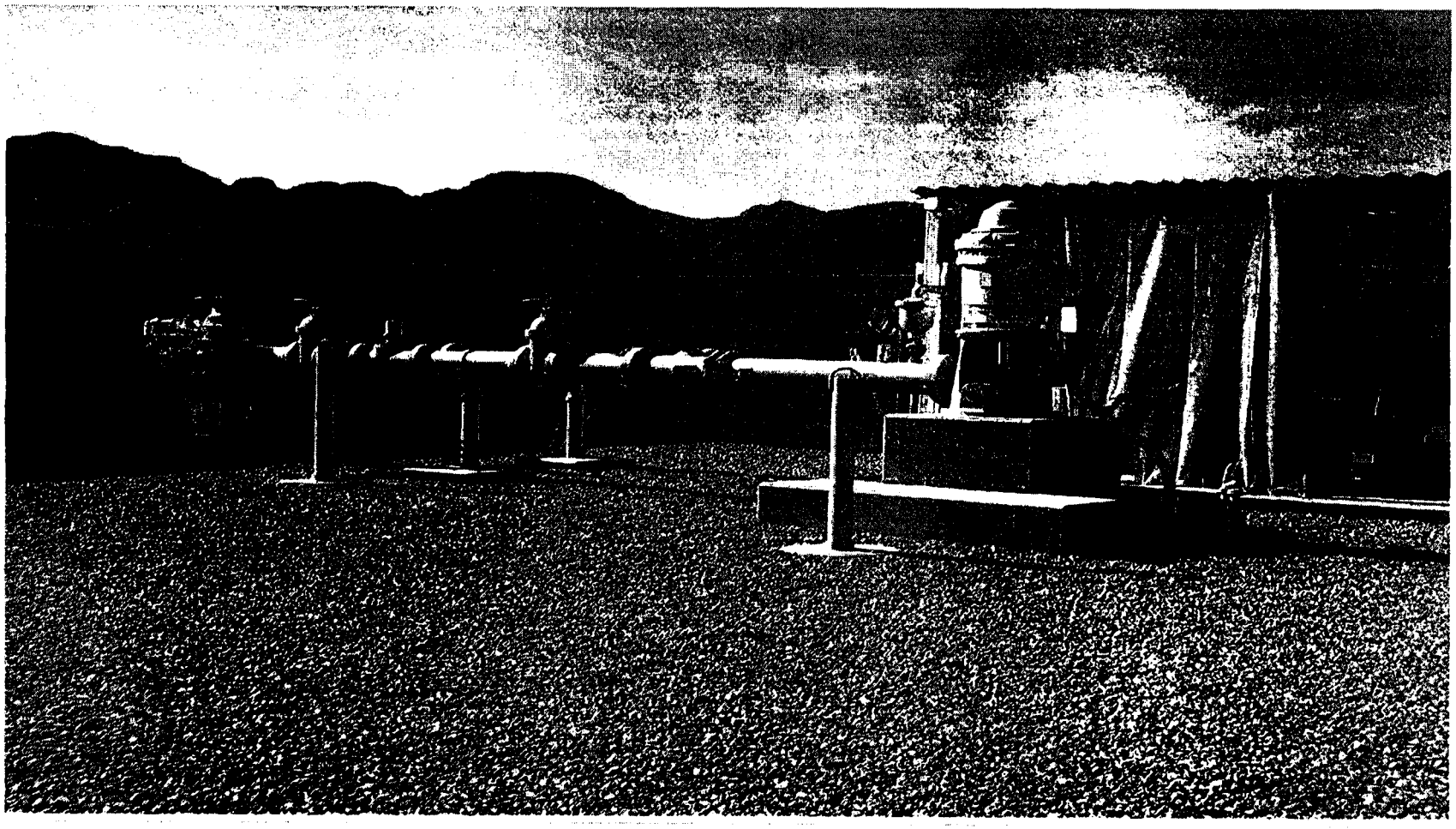


Tubac Well



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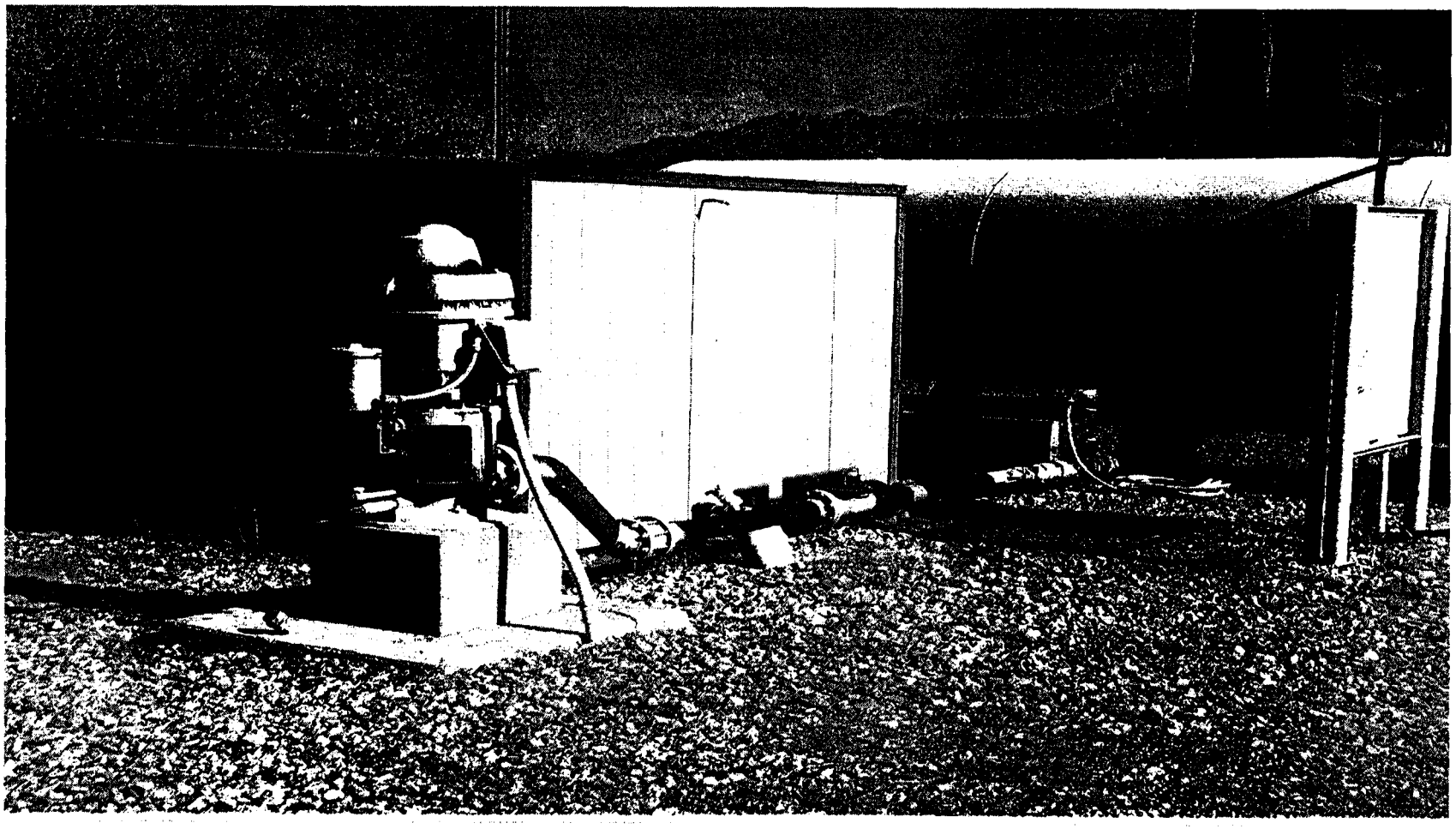
Tubac Well



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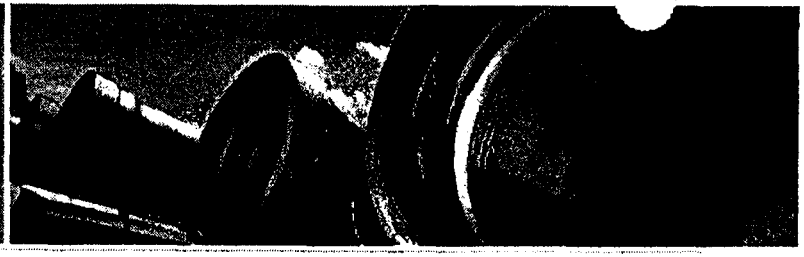
Tubac Water Expenses

- **2001 versus 2007**
  - **Total Operating and Maintenance Expense Allowed in Rates Increased $231,000**
- **Primary Reasons for Expense Increases are:**
  - **Shared corporate and support services, National call center and National laboratories and Reporting & compliance $74,000**
  - **Locally based labor, health insurance and pensions $53,000**
  - **Depreciation $46,000**
  - **Electricity & chemicals $7,000**

ARIZONA AMERICAN WATER

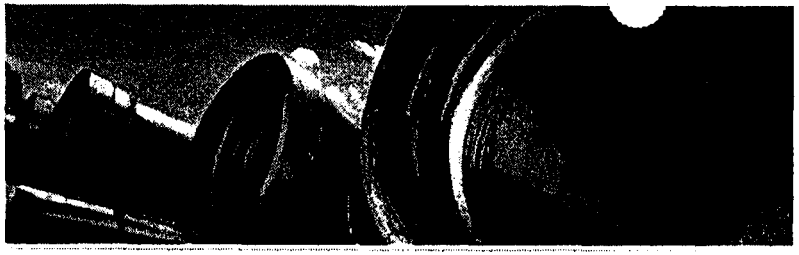


Arsenic Treatment Facility

Recovered Through Arsenic Surcharge on Future Bills

- Exemption from Federal Arsenic Standard denied by US EPA.
- Design of arsenic treatment facility commenced in Summer 2008.
- The construction starts in the summer of 2009.
  The estimated completion date is the summer of 2010.
- Arsenic facility costs not included in pending base rate proposal
- Requesting approval of an Arsenic Cost Recovery Surcharge Mechanism (ACRM) from the Arizona Corporation Commission
- Estimated cost of arsenic remediation facility: $2.3 million
- Estimated arsenic step 1 surcharge for 5/8" meter: $25.98 per month
- Estimated arsenic step 1 commodity surcharge: $3.14 per 1,000 gal

ARIZONA AMERICAN WATER



Rate Application Timeline:

• Rate Application Filed	May 1, 2008
• Community Meeting	December 8, 2008
• ACC Staff & Intervenor Recommendations	January 9, 2009
• Arizona Corporation Commission Hearings	March 19, 2009
• New Rates Effective	September 1, 2009

ARIZONA AMERICAN WATER

Contact Arizona American Water

Please contact Arizona American Water with any questions or concerns you have!

24- hour Call Center: 1-800-383-0834

We are located at:

Arizona American Water: Tubac
15 Burruel St.
Tubac, AZ 85646

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

Or email us at azrates@amwater.com for a calculation of the impact of the rate proposal on your account.

TARIFF SCHEDULE

UTILITY: _____ DECISION NO. _____
DOCKET NO. _____ EFFECTIVE DATE: _____

COMMON WATER FACILITIES HOOK-UP FEE WHU-1

I. Purpose and Applicability

The purpose of the Common Facilities hook-up fee payable to Arizona-American Water Company ("the Company") pursuant to this tariff is to equitably apportion the costs of constructing additional common water facility infrastructure, including the White Tanks Surface Water Treatment Facility, to provide water production, delivery, treatment, storage and pressure among all new service connections. These charges are applicable to all new service connections established after the effective date of this tariff. The charges are one-time charges and are payable as a condition to the Company's establishment of service, as more particularly provided below.

II. Definitions

Unless the context otherwise requires, the definitions set forth in R-14-2-401 of the Arizona Corporation Commission's ("Commission") rules and regulations governing water utilities shall apply interpreting this tariff schedule.

"Applicant" means any party entering into an agreement with the Company for the installation of water facilities to serve new service connections, and may include developers and/or builders of new residential subdivisions.

"Main Extension Agreement" means any agreement whereby an Applicant, Developer and/or Builder agrees to advance the costs of the installation of water facilities, which may include Common Facilities, to the Company to serve new service connections, or install water facilities to serve new service connections and transfer ownership of such water facilities to the Company, in either case which agreement shall require the approval of the Commission pursuant to A.A.C. R-14-2-406, and shall have the same meaning as "Water Facilities Agreement" or "Line Extension Agreement."

"Common Facilities" means wells, storage tanks, production, treatment, booster pumps, pressure tanks, transmission mains and related appurtenances, including engineering and design costs, constructed for the benefit of the entire water system and are not for the exclusive use of the Applicant's development.

"Service Connection" means and includes all service connections for single-family residential or other uses, regardless of meter size.

III. Common Facilities Water Hook-up Fee

For each new service connection, the Company shall collect a Common Facilities hook-up fee derived from the following table:

COMMON FACILITIES HOOK-UP FEE TABLE				
Meter Size	**Size Factor**	**Component A Offset Eligible**	**Component B Not Offset Eligible**	**Total Fee**
5/8" x 3/4"	1	$1,150.00	$2,130.00	**$3,280.00**
3/4"	1.5	$1,725.00	$3,195.00	**$4,920.00**
1"	2.5	$2,875.00	$5,325.00	**$8,200.00**
1-1/2"	5	$5,750.00	$10,650.00	**$16,400.00**
2"	8	$9,200.00	$17,040.00	**$26,240.00**
3"	16	$18,400.00	$34,080.00	**$52,480.00**
4"	25	$28,750.00	$53,250.00	**$82,000.00**
6" or larger	50	$57,500.00	$106,500.00	**$164,000.00**

IV. Terms and Conditions

(A) Assessment of One Time Common Facilities Hook-up Fee: The Common Facilities hook-up fee may be assessed only once per parcel, service connection, or lot within a subdivision (similar to meter and service line installation charge).

(B) Use of Common Facilities Hook-up Fee: Common Facilities hook-up fees may only be used to pay for capital items of Common Facilities, or for repayment of loans obtained for installation of Common Facilities. Common Facilities hook-up fees shall not be used for repairs, maintenance, or operational purposes.

(C) Time of Payment:

1) In the event that the Applicant that will be constructing improvements is required to enter into a Main Extension Agreement, payment of the Common Facilities hook-up fees required hereunder shall be made by the Applicant no later than within 15 calendar days after receipt of notification from the Company that the Utilities Division of the Arizona Corporation Commission has approved the Main Extension Agreement in accordance with R-14-2-406(M).

2) In the event that the Applicant for service is not required to enter into a Main Extension Agreement, the charges hereunder shall be due and payable at the time the meter and service line installation fee is due and payable.

(D) Common Facilities Construction By Developer: The Company and Applicant may agree to construction of Common Facilities necessary to serve a particular development by Applicant which facilities are then conveyed to the Company. In that event, Company shall credit the total cost of such Common Facilities as an offset to Component A of the Common

Facilities hook-up fees due under this Tariff. If the total cost of the Common Facilities constructed by Applicant and conveyed to Company is less than the applicable Component A of the Common Facilities hook-up fee due under this Tariff, Applicant shall pay the remaining amount of Component A of the Common Facilities hook-up fees owed hereunder. If the total cost of the Common Facilities contributed by Applicant, Developer or Builder and conveyed to Company is more than the applicable Component A of the Common Facilities hook-up fees under this Tariff, Applicant shall be refunded the difference upon acceptance of the Common Facilities by the Company. The Company and Applicant may agree to construction of additional facilities, whether on-site or off-site of the Applicant's development, that are required to serve only the Applicant's development, but which are not Distribution Mains under R14-2-401 and which are not subject to refund under R14-2-406(D). The Company may require the Applicant to construct and contribute such additional facilities to the Company, and any such contribution shall be a non-refundable contribution in aid of construction not subject to off-set under this paragraph IV.D.

(E) Failure to Pay Charges; Delinquent Payments: The Company will not be obligated to provide water service to any Applicant or other applicant for service in the event that such Applicant or other applicant for service has not paid in full all charges hereunder. Under no circumstances will the Company set a meter or otherwise allow service to be established if the entire amount of any payment has not been paid.

(F) Large Subdivision Projects: In the event that the Applicant is engaged in the development of a residential subdivision containing more than 150 lots, and is a party to a Main Extension Agreement with the Company for such development, the Company may, in its discretion, agree to payment of the Common Facilities hook-up fees in installments. Such installments may be based on the residential subdivision development's phasing, and should attempt to equitably apportion the payment of charges hereunder based on the Applicant's construction schedule and water service requirements.

(G) Common Facilities Hook-Up Fees Non-refundable: The amounts collected by the Company pursuant to the Common Facilities hook-up fee tariff shall be non-refundable contributions in aid of construction.

(H) Use of Common Facilities Hook-Up Fees Received: All funds collected by the Company as Common Facilities hook-up fees shall be deposited into a separate interest bearing trust account and used solely for the purposes of paying for the costs of the Common Facilities, including repayment of loans obtained for the installation of Common Facilities that will benefit the entire water system.

(I) Common Facilities Hook-up Fee in Addition to On-site Facilities: The Common Facilities hook-up fee shall be in addition to any costs associated with the construction of on-site facilities or other additional facilities under Paragraph IV.D, above, under a Main Extension Agreement.

(J) Disposition of Excess Funds: After all necessary and desirable Common Facilities are constructed utilizing funds collected pursuant to the Common Facilities hook-up fees, or if the Common Facilities hookup fee has been terminated by order of the Arizona Corporation Commission, any funds remaining in the trust shall be refunded. The

manner of the refund shall be determined by the Commission at the time a refund becomes necessary.

K) Fire Flow Requirements: In the event the Applicant has fire flow requirements that require additional facilities beyond those facilities whose costs were included in the Common Facilities hook-up fee, and which are contemplated to be constructed using the proceeds of the Common Facilities hook-up fee, the Company may require the Applicant to install such additional facilities as are required to meet those additional fire flow requirements, as a non-refundable contribution, in addition to paying the Common Facilities hook-up fee.

(L) Status Reporting Requirements to the Commission: The Company shall submit a calendar year Common Facilities hook-up fee status report each January 31st to Docket Control for the prior twelve (12) month period, beginning January 31, 20XX, until the Common Facilities hook-up fee tariff is no longer in effect. This status report shall contain a list of all customers that have paid the Common Facilities hook-up fee tariff, the amount each has paid, the amount of money spent from the account, the amount of interest earned on the tariff account, and a list of all facilities that have been installed with the tariff funds during the 12 month period.

PROMISSORY NOTE
FOR LONG-TERM BORROWINGS
10.00% Maturity - December 1, 2038

$3,000,000 November 26, 2008

FOR VALUE RECEIVED, Texas-American Water Company, a Texas corporation (herein "Borrower") hereby promises to pay to the order of American Water Capital Corp., a Delaware corporation ("Lender"), in same day funds at its offices at 1025 Laurel Oak Rd. Voorhees, NJ 08043 or such other place as Lender may from time to time designate, the principal sum of Three Million dollars **($3,000,000)**, together with interest thereon from the date hereof until paid in full. Interest shall be charged on the unpaid outstanding principal balance hereof at a rate per annum equal to the rate paid and to be paid by Lender with respect to the borrowings it made in order to provide funds to Borrower hereunder. Interest on borrowings shall be due and payable in immediately available funds on the same business day on which the Lender must pay interest on the borrowings it made in order to provide funds to the Borrower hereunder. The principal amount hereof shall be due and payable hereunder at such times and in such amounts and in such installments hereunder as the Lender must pay with respect to the borrowings it made in order to provide funds to the Borrower hereunder. Lender has provided Borrower with a copy of the documentation evidencing the borrowings made by Lender in order to provide funds to Borrower hereunder. In the absence of manifest error, such documentation and the records maintained by Lender of the amount and term, if any, of borrowings hereunder shall be deemed conclusive.

The occurrence of one or more of any of the following shall constitute an event of default hereunder:

(a) Borrower shall fail to make any payment of principal and/or interest due hereunder or under any other promissory note between Lender and Borrower within five business days after the same shall become due and payable, whether at maturity or by acceleration or otherwise;

(b) Borrower shall apply for or consent to the appointment of a receiver, trustee or liquidator of itself or any of its property, admit in writing its inability to pay its debts as they mature, make a general assignment for the benefit of creditors, be adjudicated a bankrupt or insolvent or file a voluntary petition in bankruptcy or a petition or an answer seeking reorganization or an arrangement with creditors or to take advantage of any bankruptcy, reorganization, insolvency, readjustment of debt, dissolution or liquidation of law or statute, or an answer admitting the material allegations of a petition filed against it in any proceeding under any such law, or if action shall be taken by Borrower for the purposes of effecting any of the foregoing; or

(c) Any order, judgment or decree shall be entered by any court of competent jurisdiction, approving a petition seeking reorganization of Borrower or all or a substantial part of the assets of Borrower, or appointing a receiver, trustee or liquidator of Borrower or any of its property, and such order, judgment or decree shall continue unstayed and in effect for any period of sixty (60) days.

Upon the occurrence of any event of default, the entire unpaid principal sum hereunder plus all interest accrued thereon plus all other sums due and payable to Lender hereunder shall, at the option of Lender, become due and payable immediately. In addition to the foregoing, upon the occurrence of any event of default, Lender may forthwith exercise singly, concurrently, successively or otherwise any and all rights and remedies available to Lender by law, equity, statute or otherwise.

Borrower hereby waivers presentment, demand, notice of nonpayment, protest, notice of protest or other notice of dishonor in connection with any default in the payment of, or any enforcement of the payment of, all amounts due hereunder. To the extent permitted by law, Borrower waives the right to any stay of execution and the benefit of all exemption laws now or hereafter in effect.

Following the occurrence of any event of default, Borrower will pay upon demand all costs and expenses (including all amounts paid to attorneys, accountants, and other advisors employed by Lender), incurred by Lender in the exercise of any of its rights, remedies or powers hereunder with respect to such event of default, and any amount thereof not paid promptly following demand therefore shall be added to the principal sum hereunder and will bear interest at the contract rate set forth herein from the date of such demand until paid in full. In connection with and as part of the foregoing, in the event that this Note is placed in the hands of an attorney for the collection of any sum payable hereunder, Borrower agrees to pay reasonable attorneys' fees for the collection of the amount being claimed hereunder, as well as all costs, disbursements and allowances provided by law.

If for any reason one or more of the provisions of this Note or their application to any entity or circumstances shall be held to be invalid, illegal or unenforceable in any respect or to any extent, such provisions shall nevertheless remain valid, legal and enforceable in all such other respects and to such extent as may be permissible. In addition, any such invalidity, illegality or unenforceability shall not affect any other provisions of this Note, but this Note shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

This Note inures to the benefit of Lender and binds Borrower and Lender's and Borrower's respective successors and assigns, and the words "Lender" and "Borrower" whenever occurring herein shall be deemed and construed to include such respective successors and assigns.

This Promissory Note is one of the promissory notes referred to in the Financial Services Agreement dated as of April 28, 2003 between Borrower and Lender to which reference is made for a statement of additional rights and obligations of Lender and Borrower.

IN WITNESS WHEREOF, Borrower has executed this Promissory Note the day and year first written above.

Texas-American Water Company

By: James M. Johns VP Finance
Name and Title

SCENARIO: ALL EIGHT DISTRICTS RATE CONSOLIDATION

RESIDENTIAL CUSTOMERS

	Meter Size	Anthem	Aqua Fria	Havasu	Mohave	Paradise Valley	Sun City	Sun City West	Tubac	Total
Avg gals 5/8"		9,022	7,400	9,705	8,073	20,493	8,269	6,704	11,767	
UNCONSOLIDATED RATES (BASED ON PROPOSED RATES ORIGINAL 5-1-08 FILING PLUS EXISTING SUN CITY)										
	5/8 & 3/4	$4,235,042	$13,040,648	$1,326,214	$4,442,597	$2,088,645	$3,389,239	$5,957,328	$466,587	$34,946,301
	1	$5,054,744	$4,271,558	$312	$47,776	$4,348,114	$127,597	$157,769	$38,921	$14,046,791
	1.5	$164,849	$945,122	$0	$0	$216,452	$1,788,716	$1,469,445	$0	$4,584,584
	2	$258,430	$1,781,218	$2,627	$106,464	$1,112,402	$825,185	$538,188	$12,982	$4,637,496
	3	$0	$6,307	$0	$0	$0	$14,350	$0	$1,949	$22,606
	4	$0	$0	$30,750	$0	$0	$0	$368,296	$0	$399,046
	6	$0	$610	$0	$0	$0	$6,185	$0	$0	$6,795
	8	$0	$0	$0	$0	$0	$0	$0	$0	$0
	TOTAL	$9,713,065	$20,045,463	$1,359,903	$4,596,838	$7,765,613	$6,151,273	$8,491,027	$520,438	$58,643,621
Avg Mo Bill 5/8"		$66.64	$38.21	$73.77	$24.50	$70.26	$13.91	$35.10	$85.29	
CONSOLIDATED RATES										
	5/8 & 3/4	$2,209,212	$10,537,998	$747,995	$6,067,816	$1,944,389	$7,947,897	$4,913,727	$240,554	$34,609,589
	1	$2,634,456	$3,603,402	$222	$69,040	$4,643,788	$291,799	$136,053	$24,105	$11,402,867
	1.5	$88,000	$825,982	$0	$0	$253,343	$4,243,195	$1,274,269	$0	$6,684,790
	2	$143,948	$1,564,455	$2,384	$170,798	$1,153,127	$1,976,152	$484,796	$8,111	$5,503,772
	3	$0	$5,812	$0	$0	$0	$35,472	$0	$2,359	$43,643
	4	$0	$0	$25,871	$0	$0	$0	$349,653	$0	$375,524
	6	$0	$780	$0	$0	$0	$22,656	$0	$0	$23,436
	8	$0	$0	$0	$0	$0	$0	$0	$0	$0
	TOTAL	$5,075,617	$16,538,429	$776,473	$6,307,654	$7,994,648	$14,517,171	$7,158,498	$275,130	$58,643,621
Avg Mo Bill 5/8"		$34.15	$30.09	$35.85	$31.77	$66.94	$32.26	$28.35	$41.01	
INCREASE/(DECREASE) IN RATES NEEDED TO CONSOLIDATE										
	5/8 & 3/4	$ (2,025,830)	$ (2,502,650)	$ (578,219)	$ 1,625,219	$ (144,256)	$ 4,558,658	$ (1,043,601)	$ (226,033)	$ (336,712)
	1	$ (2,420,288)	$ (668,155)	$ (90)	$ 21,263	$ 295,674	$ 164,202	$ (21,716)	$ (14,815)	$ (2,643,925)
	1.5	$ (76,849)	$ (119,139)	$ -	$ -	$ 36,891	$ 2,454,479	$ (195,176)	$ -	$ 2,100,206
	2	$ (114,482)	$ (216,763)	$ (243)	$ 64,334	$ 40,726	$ 1,150,967	$ (53,392)	$ (4,871)	$ 866,276
	3	$ -	$ (496)	$ -	$ -	$ -	$ 21,122	$ -	$ 410	$ 21,037
	4	$ -	$ -	$ (4,879)	$ -	$ -	$ -	$ (18,643)	$ -	$ (23,522)
	6	$ -	$ 189	$ -	$ -	$ -	$ 16,472	$ -	$ -	$ 16,641
	8	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	TOTAL	$ (4,637,449)	$ (3,507,034)	$ (583,430)	$ 1,710,816	$ 229,035	$ 8,365,899	$ (1,332,529)	$ (245,308)	$ (0)
	TOTAL	-47.74%	-17.50%	-42.90%	37.22%	2.95%	136.00%	-15.69%	-47.13%	0.00%
Change in Avg Mo Bill 5/8"		($32.49)	($8.12)	($37.92)	$7.27	($3.32)	$18.35	($6.75)	($44.28)	

Description	Meter Size in Inches	Base Charge	Volume Blocks (1,000 Gallons) 1 First	2 Next	Volume Charges (per 1,000 Gallons) 1 First	2 Next	3 Next
Residential	5/8 & 3/4	$15.59	4	11	1.5	2.5	3.25
Residential	1	$38.98	4	36	1.5	2.5	3.25
Residential	1.5	$77.96	75		2.5	3.25	
Residential	2	$124.74	120		2.5	3.25	
Residential	3	$233.89	225		2.5	3.25	
Residential	4	$389.81	375		2.5	3.25	
Residential	6	$779.62	750		2.5	3.25	
Residential	8	$1,247.39	1200		2.5	3.25	

EXHIBIT
A-13
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS AGUA FRIA WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT.	DOCKET NO. W-01303A-08-0227
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 MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227

REVISED DIRECT TESTIMONY
OF
BENTE VILLADSEN
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
JUNE 20, 2008

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TABLE OF CONTENTS

Section **Page #**

EXECUTIVE SUMMARY III
I. INTRODUCTION AND SUMMARY 1
II. THE COST OF CAPITAL AND RISK 5
A. The Cost of Capital and Risk 5
B. The Relationship Between Capital Structure and the Cost of equity 8
C. Implications for Analysis 10
III. THE COST OF CAPITAL FOR THE BENCHMARK SAMPLES 16
A. Preliminary Decisions 17
1. The Samples: Water Utilities and Gas Local Distribution Companies 17
2. Market-Value Capital Structure 20
3. Market Costs of Debt and Preferred Equity 21
B. Cost-of-Equity Estimation Methods 22
1. The Risk-Positioning Approach 23
a) Security Market Line Benchmarks 24
b) Relative Risk 26
c) Cost of Equity Capital Calculation 27
2. Discounted Cash Flow Method 29
C. The Samples and Results 36
1. The Water Utility Sample 36
2. Risk-Positioning Cost-of-Capital Estimates 37
a) Interest Rate Estimate 37
b) Betas and the Market Risk Premium 38
c) Risk-Positioning Results 39
3. The DCF Cost-of-Capital Estimates 42
a) Growth Rates 42
b) Dividend and Price Inputs 43
c) DCF Results 44
IV. ARIZONA-AMERICAN'S COST OF EQUITY 45

APPENDIX A RESUME

APPENDIX B SELECTING THE WATER AND GAS LDC SAMPLES AND USE OF MARKET VALUES

APPENDIX C RISK-POSITIONING METHODOLOGY AND EMPIRICAL RESULTS

APPENDIX D DISCOUNTED CASH FLOWS METHODOLOGY: DETAILED PRINCIPLES AND RESULTS

APPENDIX E EFFECT OF DEBT ON THE COST OF EQUITY

EXECUTIVE SUMMARY

Dr. Bente Villadsen, a Principal at *The Brattle Group*, files testimony on the cost of capital for Arizona-American districts (collectively, "Arizona-American").

Dr. Villadsen selects two benchmark samples, water utilities and gas local distribution companies ("LDC"). She estimates the sample companies' cost of equity, associated after-tax weighted-average cost of capital, and the corresponding cost of equity at 46.9 and 41.6 percent equity. She also reviews recent Arizona water and wastewater decisions. In undertaking her analysis, Dr. Villadsen notes that the overall cost of capital is constant within a broad middle range of capital structures although the distribution of costs and risks among debt and equity holders is not. Because Arizona-American's requested target of 46.9 percent equity is lower than the percentage equity among many utilities, its financial risk is higher and the return required by investors increases with the level of risk they carry. Should short-term debt be included for an equity percentage of 41.6 percent, Arizona-American's capitalization is further below that of the average water utility.

Based on the evidence from the samples, Dr. Villadsen estimates a cost of equity for the benchmark samples at Arizona-American's capital structure to be in the range of 11.0 to 12.5 percent, so that Arizona-American's request for 11.75 percent is equal to the midpoint. Dr. Villadsen also reviewed recent Arizona decisions and found that the decisions correspond to a cost of equity of approximately 11.0 and 12.25 percent when applied to an entity with 46.9 and 41.6 percent equity, respectively. She therefore finds that Arizona-American's request for 11.75 percent return on equity is reasonable and fully supported by her analysis.

I. INTRODUCTION AND SUMMARY

Q1. PLEASE STATE YOUR NAME AND ADDRESS FOR THE RECORD.

A1. My name is Bente Villadsen. My business address is *The Brattle Group*, 44 Brattle Street, Cambridge, MA 02138.

Q2. PLEASE DESCRIBE YOUR JOB AND EDUCATIONAL EXPERIENCE.

A2. I am a Principal of *The Brattle Group*, ("Brattle"), an economic, environmental and management consulting firm with offices in Cambridge, Washington, San Francisco, London and Brussels. My work concentrates on regulatory finance and accounting. I have previously prepared and presented cost-of-capital testimony before many regulatory bodies, including the Arizona Corporation Commission ("Commission"). I hold a B.S. and M.S. from University of Aarhus, Denmark and a Ph.D. from Yale University's School of Management.

Q3. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A3. I have been asked by Arizona-American Company ("Arizona-American" or the "Company") to estimate the cost of equity for Arizona-American's water and wastewater districts. The cost of equity is the return that the Commission should provide the Company an opportunity to earn on the portion of its rate base financed by equity.

To determine the cost of equity for Arizona-American, I first estimate the overall cost of capital for two samples of regulated companies using several versions of the discounted cash flow ("DCF") and risk-positioning models. Second, I determine the cost of equity that the estimated overall cost of capital gives rise to at Arizona-American's requested capital structure consisting of 46.9 percent equity. I also calculate the cost of equity at approximately 41.6 percent equity. Third, I evaluate the relative risk of Arizona-American and the sample companies to determine the recommended cost of equity for Arizona-American.

Q4. PLEASE SUMMARIZE ANY PARTS OF YOUR BACKGROUND AND EXPERIENCE THAT ARE PARTICULARLY RELEVANT TO YOUR TESTIMONY ON THESE MATTERS.

A4. Brattle's specialties include financial economics, regulatory economics, and the utility industry. I have worked extensively on cost of capital matters for electric, natural gas distribution, pipeline and water utilities in both state and federal jurisdictions. Additionally, I have significant experience in other areas of rate regulation, credit risk in the utilities industry, energy contracts, and accounting issues. I have previously prepared and presented cost-of-capital testimony before the Commission. I have also filed expert testimony and appeared before other regulatory bodies and arbitration tribunals concerning cost of capital, accounting questions, and damage issues. Appendix A contains more information on my professional qualifications.

Q5. PLEASE SUMMARIZE YOUR APPROACH TO ESTIMATING THE COST OF CAPITAL FOR ARIZONA-AMERICAN.

A5. To assess the cost of capital for Arizona-American, I select two benchmark samples, regulated water utilities and natural gas local distribution companies ("LDC"). These samples are selected to have risks characteristics comparable to those of Arizona-American's districts. I also report results for a subsample of the water companies with a high percentage of regulated revenues. I give greater weight to the results from the gas LDC sample, because the water sample suffers from numerous data issues that make the cost-of-equity estimates based on this sample not reliable at the present time. For each sample, I estimate the sample companies' cost of equity using several versions of the DCF method and of the risk-positioning model. Based on data availability and the current state of the water and gas distribution industries I assign the most weight to the risk-positioning models.

Next, based on the cost-of-equity estimates for each company and its market costs of debt and preferred stock, I calculate each firm's overall cost of capital, i.e., its after-tax weighted-average cost of capital ("ATWACC"), using the company market value capital structure. I then calculate the samples' average ATWACC and the cost of equity for a

capital structure with 46.9 percent equity. Thus, I present the cost of equity that is consistent with the samples' market information and Arizona-American's regulatory capital structure. (By "regulatory capital structure," I mean the capital structure that Arizona-American proposes in its application.)

Focusing on the overall cost of capital rather than its components avoids potential problems of inconsistency between the estimated cost of equity and the level of financial risk at the regulated company's capital structure.

Q6. PLEASE SUMMARIZE YOUR CONCLUSIONS REGARDING ARIZONA-AMERICAN'S COST OF EQUITY.

A6. The cost of equity for the water utility sample is about 13.5 percent for a range of 13.25 to 13.75 percent at 46.9 percent equity using the long-term risk-positioning method. The corresponding overall after-tax weighted-average cost-of-capital point estimate is a bit below 8.5 percent for a range of 8.25 to 8.75 percent. The gas LDC sample yields a cost-of-equity range from 11.5 to 12 percent with a midpoint of 11.75. The corresponding after-tax weighted-average cost-of-capital range from 7.25 to 7.75 percent. I specify a minimum of plus or minus .25 percent (25 basis point) range because it is not really possible to estimate the cost of capital or equity more precisely than that. The cost-of-equity estimates that result from the multi-stage discounted cash flow method are a bit lower for the water sample than for the gas LDC sample. Combined, the multistage DCF results imply a range of 10 to 11 percent. The Simple DCF results are comparable for the gas LDC sample at a little below 11 percent but much higher for the water sample at 15.5 to 16.5 percent – again at 46.9 percent equity.

Based on these results, and considering that I rely mostly on the gas LDC sample estimates due to numerous data problems associated with the water sample, the most reliable estimates for Arizona-American's cost of equity indicate a range of 11 to 12.5 percent with the most reliable results in the range of 11.5 to 12 percent. Arizona-American's request for an 11.75 percent return on equity is within this range and at the midpoint. It is also near the midpoint of my gas LDC risk-positioning estimates using the

long-term risk-positioning model. Including short-term debt in the capital structure reduces the equity percentage to 41.6 percent, so the cost-of-equity estimates increase 100 to 150 basis points. In my opinion, the request for an 11.75 percent return on equity is therefore very reasonable.

Q7. WHY DO YOU NEED TO CONSIDER ARIZONA-AMERICAN'S REGULATORY CAPITAL STRUCTURE?

A7. A firm's cost of equity is a function of both its business risk and its financial risk. The more leveraged a company is the higher its financial risk. Investors holding equity in companies with higher risk require a higher rate of return, so as a company adds debt, the cost of equity goes up at an ever increasing rate. The higher cost of equity offsets the lower cost of debt, so that the after-tax weighted-average overall cost of capital remains constant over a broad range of capital structures.

That is, the associated capital structure affects an estimated cost-of-equity estimate just as a life insurance applicant's age affects the required life-insurance premium. It is therefore necessary to calculate the cost of equity the sample companies would have had at Arizona-American's regulatory capital structure to report accurately the market evidence on the cost of equity.

Q8. HOW IS THE REST OF YOUR TESTIMONY ORGANIZED?

A8. The rest of my testimony is organized as follows:

Section II defines the cost of capital and discusses the principles relating the cost of capital and capital structure for a business.

Section III presents the methods used to estimate the cost of capital for the benchmark samples and the associated numerical analyses. This section also explains the basis of my conclusions for the benchmark samples' returns on equity and overall costs of capital.

Section IV summarizes the analysis and discusses the recommendation for Arizona-American.

Appendix A lists my qualifications.

Appendix B discusses in detail the selection procedure for each sample, and the methods used to derive the necessary capital structure market value information.

Appendix C details the risk-positioning method including the numerical analyses.

Appendix D details the DCF method, including the numerical analyses.

Appendix E discusses the impact of leverage on the cost of capital in more detail.

I repeat portions of my testimony in the appendices in order to give the reader the context of the issues before I present additional technical detail and further discussion.

II. THE COST OF CAPITAL AND RISK

A. The Cost of Capital and Risk

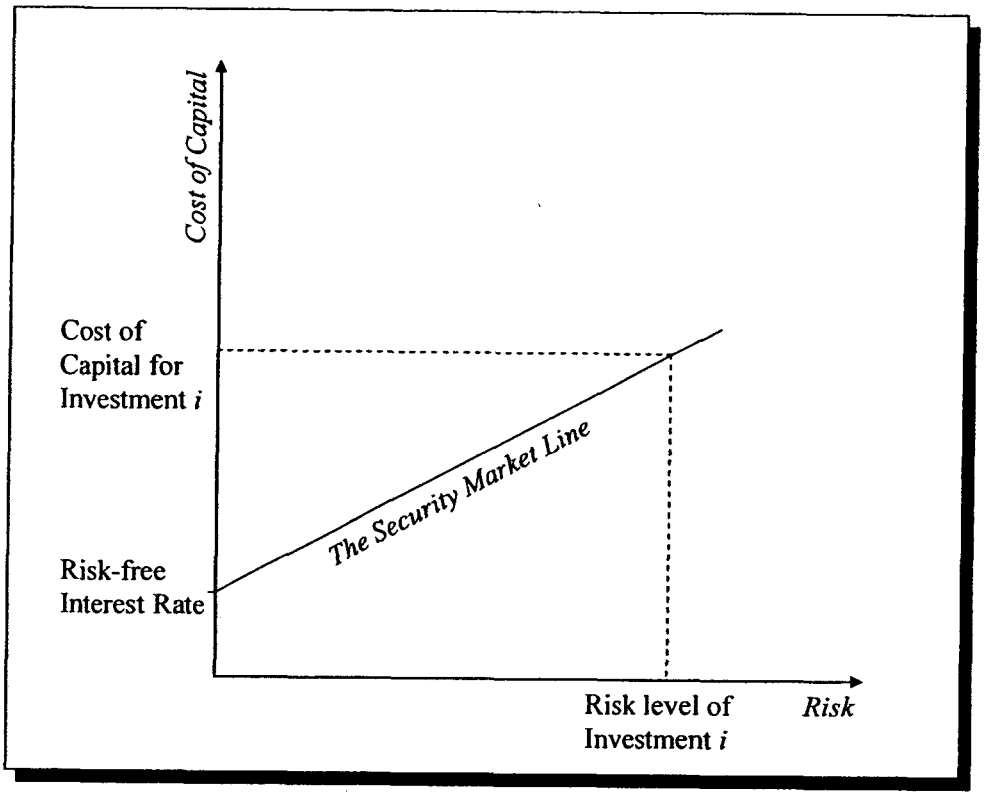
Q9. PLEASE FORMALLY DEFINE THE "COST OF CAPITAL."

A9. The cost of capital is the expected rate of return in capital markets on alternative investments of equivalent risk. In other words, it is the rate of return investors require based on the risk-return alternatives available in competitive capital markets. The cost of capital is a type of opportunity cost: it represents the rate of return that investors could expect to earn elsewhere without bearing more risk.[1]

The definition of the cost of capital recognizes a tradeoff between risk and return that is known as the "security market risk-return line," or "security market line" for short. This line is depicted in Figure 1. Figure 1 shows that the higher the risk, the higher the cost of capital. A version of Figure 1 applies for all investments. However, for different types of securities, the location of the line may depend on corporate and personal tax rates.

[1] "Expected" is used in the statistical sense: the mean of the distribution of possible outcomes. The terms "expect" and "expected" in this testimony, as in the definition of the cost of capital itself, refer to the probability-weighted average over all possible outcomes.

Figure 1: The Security Market Line



Q10. WHY IS THE COST OF CAPITAL RELEVANT IN RATE REGULATION?

A10. U.S. rate regulation accepts the "cost of capital" as the right expected rate of return on utility investment.[2] This practice is normally viewed as consistent with the U.S. Supreme Court's opinions in *Bluefield Waterworks & Improvement Co. v. Public Service Commission*, 262 U.S. 678 (1923), and *Federal Power Commission v. Hope Natural Gas*, 320 U.S. 591 (1944).

From an economic perspective, rate levels that give investors a fair opportunity to earn the cost of capital are the lowest levels that compensate investors for the risks they bear. Over the long run, an expected return above the cost of capital makes customers overpay for service. Regulatory authorities normally try to prevent such outcomes, unless there are offsetting benefits (e.g., from incentive regulation that reduces future costs). At the

[2] An early paper that links the cost of capital as defined by financial economics with the correct expected rate of return for utilities is Stewart C. Myers, "Application of Finance Theory to Public Utility Rate Cases," *The Bell Journal of Economics and Management Science*, 3:58-97 (Spring 1972).

same time, an expected return below the cost of capital does a disservice not just to investors but, importantly, to customers as well. In the long run, such a return denies the company the ability to attract capital, to maintain its financial integrity, and to expect a return commensurate with that of other enterprises characterized by commensurate risks and uncertainties.

More important for customers, however, are the economic issues an inadequate return raises for them. In the short run, deviations of the expected rate of return on the rate base from the cost of capital may seemingly create a "zero-sum game"-- investors gain if customers are overcharged, and customers gain if investors are shortchanged. But in fact, even in the short run, such action may adversely affect the utility's ability to provide stable and favorable rates because some potential efficiency investments may be delayed or because the company is forced to file more frequent rate cases. In the long run, inadequate returns are likely to cost customers – and society generally – far more than may be gained in the short run. Inadequate returns lead to inadequate investment, whether for maintenance or for new plant and equipment. The costs of an undercapitalized industry can be far greater than the short-run gains from shortfalls in the cost of capital. Moreover, in capital-intensive industries (such as the water industry),[3] systems that take a long time to decay cannot be fixed overnight. Thus, it is in the customers' interest not only to make sure that the return investors expect does not exceed the cost of capital, but also to make sure that it does not fall short of the cost of capital, either.

Of course, the cost of capital cannot be estimated with perfect certainty, and other aspects of the way the revenue requirement is set may mean investors expect to earn more or less than the cost of capital even if the allowed rate of return equals the cost of capital exactly. However, a commission that sets rates so investors expect to earn the cost of capital on average treats both customers and investors fairly, which is in the long-run interests of both groups.

---

[3] Capital expenditures among water utilities have in the last several years exceeded ~~30% of revenues.~~

3 times Earnings.

B. The Relationship Between Capital Structure and the Cost of equity

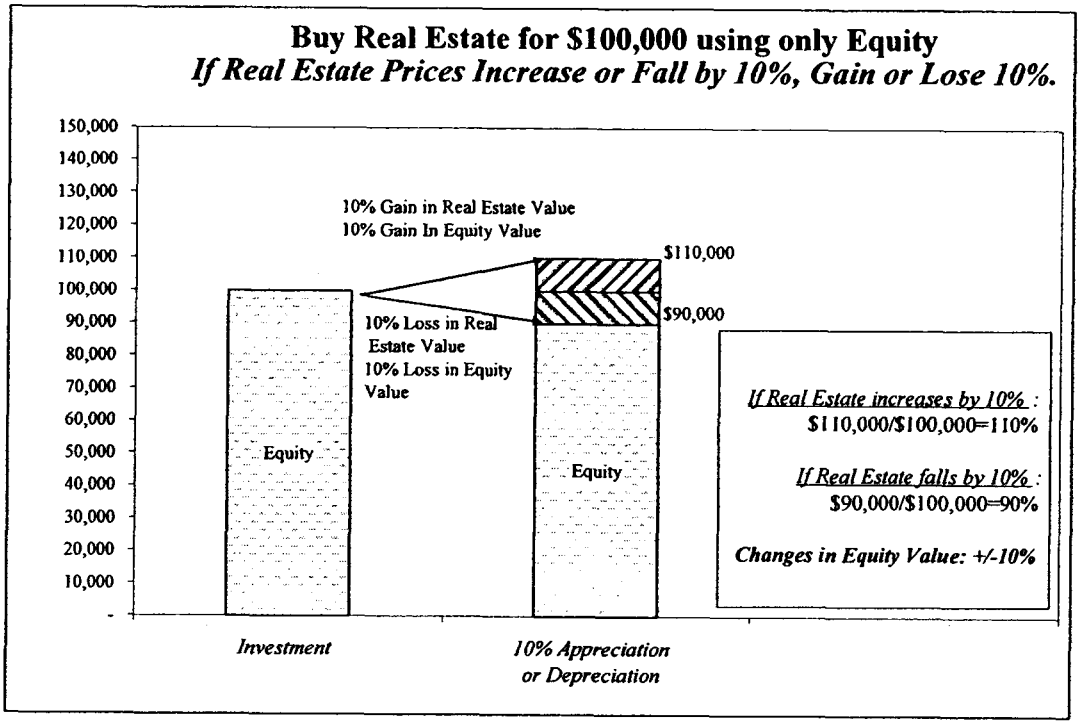
Q11. PLEASE EXPLAIN WHY IT IS NECESSARY TO REPORT THE COST OF EQUITY ADJUSTED FOR CAPITAL STRUCTURE.

A11. In most jurisdictions in North America, rate regulation focuses on the components of the rates. In other words, the focus of cost-of-capital estimation is usually on determining the "right" cost of equity, and to a lesser degree on setting the allowed capital structure. While the overall cost of capital depends primarily on the company's line of business, the distribution of the cost of capital among debt and equity depends on their share in total revenues. Debt holders' claim is usually a fixed amount (except in situations of default) while equity holders are residual claimants, meaning that equity holders get paid last. In other words, the use of debt imposes financial risk on the equity holders. Because a company's financial risk depends on its capital structure, the risk shareholders carry increases with the leverage of the company. As shareholders expect to be compensated for increased risk, the required rate of return increases with the company's leverage. The increased risk is caused by the fact that debt has a senior claim on a specified portion of earnings and in bankruptcy on assets. As common equity is the most junior security, it gets what's left after everyone else has been paid. In other words, common equity holders carry all residual risk. However, as explained in more detail in Appendix E, the overall cost of capital is constant within a broad middle range of capital structures, although the distribution of costs and risks among debt and equity holders is not.

Q12. PLEASE PROVIDE AN EXAMPLE ON HOW DEBT ADDS RISK TO EQUITY.

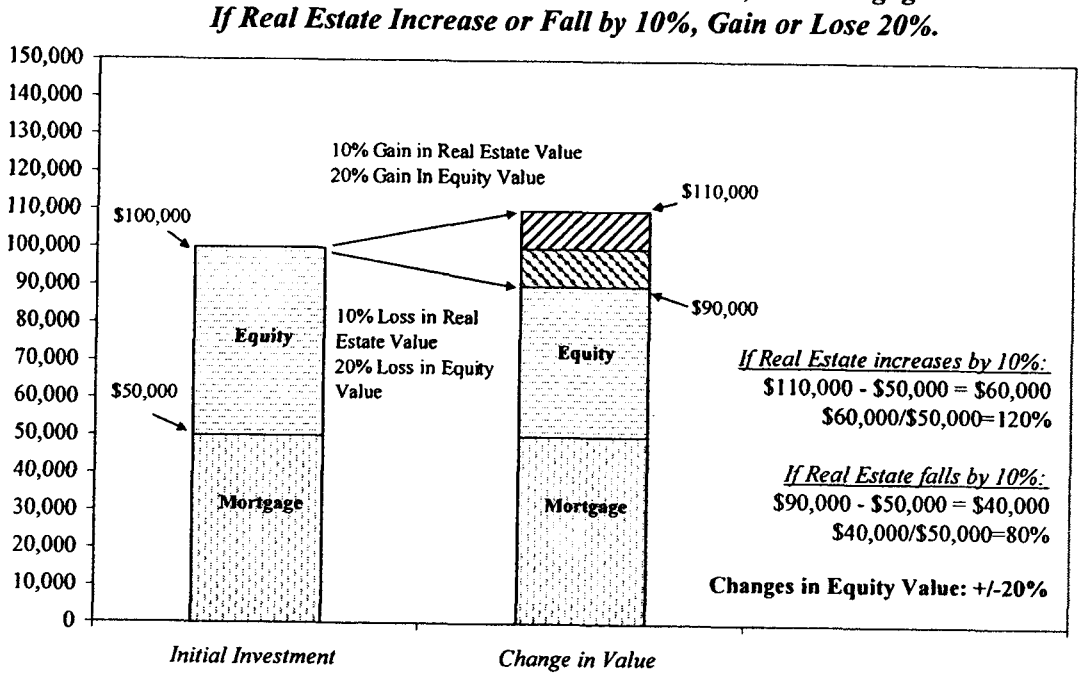
A12. As a simple example, think of an investor who takes money out of his savings account and invests $100,000 in real estate. The future value of the real estate is uncertain. If the real estate market booms, he wins. If the real estate market goes down, he loses. Figure 2 below illustrates this.

Figure 2. Financial risk example – equity financing



In the scenario above, the investor financed his real estate purchase through 100 percent equity. Suppose instead that the investor had financed 50 percent of his real estate investment with a mortgage of $50,000. The mortgage lender does not expect to share in any benefits from increases in real estate values. Neither does the mortgage lender expect to share in any losses from falling real estate values. As a result, the investor carries the entire risk of fluctuating real estate prices. Figure 3 illustrates this effect.

Figure 3. Financial risk example - debt and equity financing



In Figure 3, where the investor financed his purchase through 50 percent equity and 50 percent debt, the variability in the investor's equity return is two times greater than that of Figure 2. The entire fluctuation of 10 percent from rising or falling real estate prices falls on the investor's $50,000 equity investment. The lesson from the example is obvious: debt adds risk to equity.

C. Implications for Analysis

Q13. PLEASE EXPLAIN THE IMPLICATIONS OF THE RELATIONSHIP BETWEEN CAPITAL STRUCTURE AND THE COST OF EQUITY FOR RATE REGULATION.

A13. The risk equity holders carry, and therefore the cost of equity, depends on the capital structure. As illustrated in the example above, as leverage increases, the market risk increases and hence the required return on equity increases.

Q14. TO ASSESS THE MAGNITUDE OF FINANCIAL RISK FOR A RATE REGULATED COMPANY, SHOULD YOU USE THE MARKET-VALUE OR THE BOOK-VALUE CAPITAL STRUCTURE?

A14. The market-value capital structure is the relevant quantity for analyzing the cost-of-equity evidence, which is based on market information.[4]

Q15. PLEASE PROVIDE AN EXAMPLE THAT ILLUSTRATES WHY MARKET VALUES ARE RELEVANT.

A15. Suppose in the previous example that the investor has invested in real estate 10 years ago. Further assume that depreciation has reduced the book value of the real estate from $100,000 to $75,000 and assume the investor has paid off 40 percent of his $50,000 mortgage. Thus, the investor has a remaining mortgage of $30,000 (= 60% × $50,000). The book value of the investor's equity is therefore $45,000 (= $75,000 - $30,000).

What happens now if real estate prices rise or fall 20 percent? To answer that question, we need to know how real estate prices have developed over the past 10 years. If the market value of the real estate now is $200,000, then a 20-percent decrease in the price of real estate ($40,000) is almost equal to the investor's book value equity. However, his market value equity (or net worth) is equal to the value of the real estate minus what he owes on the mortgage. If we assume that the market value of the mortgage equals the unpaid balance ($30,000), then the investor's net worth is calculated as follows:

[4] The need to use market-value capital structures to analyze the effect of debt on the cost of equity has been recognized in the financial literature for a long time. For example, the initial reconciliation of the Modigliani-Miller theories of capital structure with the Capital Asset Pricing Model, in Robert S. Hamada, "Portfolio Analysis, Market Equilibrium and Corporate Finance," *The Journal of Finance* 24: 13-31 (March 1969) works with market-value capital structures. For a more recent presentation of the concept, see, for example, Richard A. Brealey, Stewart C. Myers, and Franklin Allen, *Principles of Corporate Finance*, New York: McGraw-Hill/Irwin 8th ed. (2006) pp. 503-06. Book values may be relevant for some issues, e.g., for covenants on individual bond issues, but as explained in the text, market values are the determinants of the impact of debt on the cost of equity.

Net Worth	=	Market Value of Real Estate	-	Remaining Mortgage
	=	$200,000	-	$30,000
	=	$170,000		

Therefore, the rate of return on equity due to a 20 percent decline in real estate prices is calculated as follows:

Table 1. Calculating the Rate of Return on Equity

Decline in Real Estate Value	$40,000
Market-Value Equity	$170,000
Rate of Return on Equity	- $40,000/$170,000 = -23.5%

Q16. PLEASE EXPLAIN THE IMPLICATIONS FOR RATE REGULATION AND YOUR TESTIMONY.

A16. Because the market risk, and therefore the cost of equity, depends on the market-value capital structures, one must base the estimation of the sample companies' cost of capital on market value capital structures. An approach that estimates the cost of equity for each of the sample firms without explicit consideration of the market value capital structure (i.e. the financial risk) underlying those costs risks material errors. The cost-of-equity estimates of the sample companies at their actual market-value capital structures are not necessarily reflected in the regulatory capital structure. Therefore, using book values could lead to an incorrect rate of return. I avoid this problem by calculating each sample company's ATWACC using its market value capital structure. I then use the sample companies' average overall cost of capital to determine the corresponding return on equity at Arizona-American's regulatory capital structure. This procedure ensures that the capital structure and the estimated cost of equity are consistent.

In my analyses, I estimate the cost of equity for each of the sample firms using traditional estimation methods (such as the DCF and Capital Asset Pricing Model ("CAPM")). I use

each company's estimated cost of equity along with Arizona-American's marginal tax rate and each company's market cost of debt and market-value capital structure to estimate the sample companies' overall cost of capital. I then calculate the sample average overall cost of capital for each equity estimation method for both of the samples. For each estimation method discussed above, I determine the cost of equity at Arizona-American's regulated capital structure, so that is consistent with the sample's overall cost-of-capital information.

Q17. IS THE USE OF MARKET VALUES TO CALCULATE THE IMPACT OF CAPITAL STRUCTURE ON THE RISK OF EQUITY INCOMPATIBLE WITH USE OF A BOOK-VALUE RATE BASE FOR A REGULATED COMPANY?

A17. No. Investors buy stock at market prices and expect a reasonable return on their investment. Market-based cost-of-equity estimation methods, such as DCF or CAPM which are frequently used in rate regulation, recognize this and rely on market data. That is, the cost of capital is the fair rate of return on regulatory assets for both investors and customers. Most regulatory jurisdictions in the U.S. measure the rate base using the net book value of assets, not current replacement value or historical cost trended for inflation. But the jurisdictions still apply market-derived measures of the cost of equity to that net book value rate base.

The issue here is "what level of risk is reflected in that cost-of-equity estimate?" That risk level depends on the sample company's market-value capital structure, not its book-value capital structure. *That risk level would be different if the sample company's market-value capital structure exactly equaled its book-value capital structure, so the estimated cost of equity would be different, too.*

Q18. PLEASE SUM UP THE IMPLICATIONS OF THIS SECTION.

A18. The market risk, and therefore the cost of equity depends directly on the market-value capital structure of the company or asset in question. It therefore is impossible to validly compare the measured costs of equity of different companies without taking capital structure into account. Capital structure and the cost of equity are unbreakably linked,

and any effort to treat the two as separate and distinct questions violates both everyday experience (e.g., with home mortgages) and basic financial principles.

Q19. HOW SHOULD A COST-OF-CAPITAL ANALYST IMPLEMENT THIS PRINCIPLE?

A19. As discussed further in Appendix E, there has been a great deal of financial research on the effects of capital structure on the value of the firm. One of the key conclusions that result from the research is that no narrowly defined optimal capital structure exists within industries, although the typical range of capital structures does vary among industries. Instead, there is a relatively wide range of capital structures within any industry in which fine-tuning the debt ratio makes little or no difference to the value of the firm, and hence to its overall after-tax cost of capital.

Accordingly, analysts should treat the market-value weighted average of the cost of equity and the after-tax current cost of debt, or the "ATWACC" for short, as constant. Sample evidence should be analyzed to determine the sample's average ATWACC, which can be compared across different firms or industries. The economically appropriate cost of equity for a regulated firm is the quantity that, when applied to the regulatory capital structure, produces the same ATWACC. That value is the cost of equity that the sample would have had, estimation problems aside, if the sample's market-value capital structure had been equal to the regulatory capital structure in question.

Q20. HOW DO YOU CALCULATE THE COST OF EQUITY CONSISTENT WITH THE MARKET-DETERMINED ESTIMATE OF THE SAMPLE'S AVERAGE COST OF CAPITAL?

A20. For simplicity assume that all sample companies have only common stock and debt. Then the ATWACC is calculated as:

$$ATWACC = r_D \times (1 - T_C) \times D + r_E \times E \qquad \textbf{(1)}$$

where r_D is the market cost of debt, r_E is the market cost of equity, T_C is the marginal corporate income tax rate, D is the percent debt in the capital structure, and E is the percent equity in capital structure. The cost of equity consistent with the overall cost-of-capital estimate (ATWACC), the market cost of debt and equity, the marginal corporate income tax rate and the amount of debt and equity in the capital structure can be determined by solving equation (1) for r_E.

Q21. CAN YOU PROVIDE AN EXAMPLE OF HOW THIS FORMULA IS USED TO DETERMINE THE COST OF EQUITY?

A21. Yes. Consider a company with a 40 percent marginal corporate income tax rate and a cost of debt equal to 6 percent. For simplicity, I assume there is no difference in the company's embedded cost of debt and the cost at which it currently can issue additional debt. Further, suppose that the ATWACC estimate based on a sample of companies with comparable business risk is 7.5 percent. If the company's capital structure has 50 percent debt and 50 percent equity, equation (1) above yields a cost-of-equity estimate of 11.4 percent. If the equity ratio is lower, for example 45 percent, the cost of equity would instead be 12.3 percent. Conversely, a higher equity ratio such as 55 percent would imply a lower cost-of-equity estimate of 10.7 percent. Table 2 below summarizes these calculations as well as the dollar amount customers have to pay for financing costs.

Table 2. Example of the effect of capital structure on the estimated cost of equity.

Marginal tax rate	40%		
Cost of debt	6%		
Estimated ATWACC	7.50%		
Rate Base	$ 1,000,000		
Regulatory Equity Ratio	45%	50%	55%
Regulatory Debt Ratio	55%	50%	45%
Estimated ATWACC	7.50%	7.50%	7.50%
Cost-of-equity	12.3%	11.4%	10.7%
After Tax Cost of Financing[1)]	$ 75,000	$ 75,000	$ 75,000
Before Tax Cost of Financing[2)]	$ 125,000	$ 125,000	$ 125,000

[1)] Estimated ATWACC × Rate Base.

[2)] Estimated ATWACC × Rate Base / (1 - Tax Rate).

The important point of this example is that the overall cost of capital does not depend on the company's capital structure, as long as the capital structure is in a wide middle range of values. Therefore, the cost to customers does not depend on the capital structure either. A higher equity ratio simply means that a higher percentage return is paid to equity investors, but the fraction of the rate base to which this higher return applies is lower. The equity investors are compensated appropriately for the higher risk, but that has no effect on the overall cost borne by customers. As long as equity investors are correctly compensated for the risk of their investment, the only effect that a higher equity ratio has is on how the return is divided between debt holders and equity holders, and not on how much customers end up paying.

Q22. BUT IS IT NOT THE CASE THAT IF THE ALLOWED RATE OF RETURN ON EQUITY IS LOWER, THEN ALL ELSE EQUAL RATEPAYERS PAY LESS?

A22. Yes, for a given equity percentage. However, it comes at a cost: if the rate of return on equity appropriate for a capital structure with 55 percent equity were applied to a company whose equity ratio is 45 percent, the company's equity investors would not be appropriately compensated for the risk of their investment. In particular, in this situation the expected return on equity would be set too low. Such a result would impair the company's ability to attract investors, since they can expect higher returns elsewhere for the same risk level. This may well have negative consequences for the utility's ability to sustain an appropriate level of investment. Ultimately, this translates into a lower quality of the services that the utility can provide to its customers. Alternatively, the company could reduce its equity percentage with possibly negative effects on the cost of debt or other credit factors.

III. THE COST OF CAPITAL FOR THE BENCHMARK SAMPLES

Q23. HOW IS THIS SECTION OF YOUR TESTIMONY ORGANIZED?

A23. As noted in *Section II*, I estimate the cost of capital using two samples of comparable risk companies. This section first covers preliminary matters such as sample selection, market-value capital structure determination, and the sample companies' costs of debt. It

then covers estimation of the cost of equity for the sample companies and the resulting estimates of the sample's overall after-tax cost of capital.

A. Preliminary Decisions

Q24. WHAT PRELIMINARY DECISIONS ARE NEEDED TO IMPLEMENT THE ABOVE PRINCIPLES?

A24. I must select the benchmark samples, calculate the sample companies' market-value capital structures, and determine the sample companies' market costs of debt and preferred equity.

1. The Samples: Water Utilities and Gas Local Distribution Companies

Q25. WHY DO YOU USE TWO SAMPLES?

A25. The overall cost of capital for a part of a company depends on the risk of the business in which the part is engaged, not on the overall risk of the parent company on a consolidated basis.

Estimating the cost of capital for Arizona-American's regulated assets is the subject of this proceeding. The ideal sample would be a number of companies that are publicly traded "pure plays" in the water production, storage, treatment, transmission, distribution and wastewater lines of business.[5] "Pure play" is an investment term referring to companies with operations only in one line of business. Publicly traded firms, firms whose shares are freely traded on stock exchanges, are ideal because the best way to infer the cost of capital is to examine evidence from capital markets on companies in the given line of business.

Therefore, for this case, a sample of companies whose operations are concentrated solely in the regulated portion of the water industry would be ideal. Unfortunately, the available

[5] Most of the water utilities in *Value Line* have operations in the water as well as wastewater business.

sample of "water" utility companies in the U.S. is relatively small and has serious data deficiencies. See *Section III.C.1* for a description of these deficiencies.

To select my sample of comparable water and gas LDC companies, I start with those companies that are listed as a water utility or natural gas utility in *Value Line*.[6] Usually, I would apply several selection criteria to delete companies with unusual circumstances that may bias the cost-of-capital estimation and companies whose risk characteristics differ from those of the filing entity. However, the application of such criteria would eliminate almost all the water utilities listed in *Value Line*. Therefore, I do not apply selection criteria to the water utility sample although I do apply my standard criteria to the gas LDC sample. Specifically, if I eliminate all water utilities with annual revenues below $300 million, less than 50 percent regulated revenues, lack of growth rates (from Bloomberg or *Value Line*), or lack of a bond rating, I would be left with at most two companies (Aqua America and California Water Services). A two company sample is simply too small to provide reliable results. Therefore, I keep all water utilities with data in my water utility sample, but I do report results for a subsample of companies that earn a large percentage of revenues from regulated activities.[7]

Q26. WHAT DO YOU DO TO OVERCOME THE WEAKNESSES OF THE WATER UTILITY SAMPLE?

A26. To overcome the weaknesses of the water sample, I select a second sample of regulated utilities: gas local distribution companies. Gas LDCs, like water utilities, are regulated by state regulatory bodies, have large distribution investments, and serve a mix of residential, industrial, and commercial customers.

One reason for using the gas LDC sample is to generate a sample of regulated companies whose primary source of revenues is in the regulated portion of the natural gas industry to provide a check for the results of the water sample. Therefore, I start with *Value Line*'s

[6] To select the samples I include both the Standard, the Small and Mid-Cap Editions of *Value Line Investment Survey* and *Value Line Investment Survey - Plus Edition*.

[7] The only company listed as a water utility in *Value Line* that I do not include is Sun Hydraulics. This company's main line of business is the production of industrial equipment, not the water utility business.

universe of natural gas utilities, and eliminate those companies whose percentage of assets attributed to regulated activities is less than 50 percent. In addition, I only include companies with an investment grade bond rating, no recent sizable mergers or acquisitions, no recent dividend cuts, and no other activity that could cause the estimation parameters to be biased. Additionally, I require the companies to have necessary data available. The final sample includes ten companies. Additional details of the sample selection process for each sample and subsample are described below as well as in Appendix B.

Q27. IF THE BUSINESS RISK OF THE GAS LDC SAMPLE DIFFERS FROM THE WATER SAMPLE, CAN YOU STILL RELY ON THE COST OF EQUITY ESTIMATED FOR THE GAS LDC SAMPLE?

A27. Yes. If the business and financial risk of the two samples differ, then a cost-of-capital analyst can still make use of the information from the more reliable sample to evaluate the reliability of the estimates from the water sample. The inference would be based on information about the relative risk of the two industries.

Q28. PLEASE ELABORATE ON THE WAY TWO SAMPLES WITH DIFFERENT BUSINESS AND FINANCIAL RISKS CAN BE COMPARED.

A28. As mentioned above, the overall cost of capital for a part of a company depends on the risk of the business in which the part is engaged, not on the overall risk of the parent company on a consolidated basis. According to financial economics, the overall risk of a diversified company equals the market value weighted-average of the risks of its components.

Calculating the overall after-tax weighted average cost of capital for each sample company as described above allows the analyst to estimate the average overall cost of capital for the sample. The ATWACC captures both the business risk and the financial risk of the sample companies in one number. This allows comparison of the cost of capital between two samples on a much more informed basis. If the alternative (more reliable) sample is judged to have slightly different risk than the water sample, but the

results show wide differences in the ATWACC estimates, the analyst should carefully consider the validity of the water sample estimates, whether they are materially higher or lower than the alternative sample's estimates. Of course, the alternative sample could be the source of the error, but that is less likely because the alternative sample has been selected precisely because of its expected reliability.

Q29. PLEASE COMPARE THE CHARACTERISTICS OF THE WATER UTILITY SAMPLE AND THE GAS LDC SAMPLE.

A29. The two samples differ primarily in that they operate in two different (regulated) industries, but they are very similar in terms of the percentage of revenues from regulated operations and the customers they serve. On average, both samples earn a large percentage of their revenue from regulated activities and serve a mix of residential, industrial, and other customers. In addition, both industries are characterized by large capital investment and both are operating a large distribution system. However, the gas LDC sample has fewer of the data and estimation issues identified above for the water sample. Please refer to Appendix B for additional details on the two samples.

2. Market-Value Capital Structure

Q30. WHAT CAPITAL STRUCTURE INFORMATION DO YOU REQUIRE?

A30. For reasons discussed below and in Appendix E, explicit evaluation of the market-value capital structures of the sample companies is vital for a correct interpretation of the market evidence on the return on equity. This requires estimates of the market values of common equity, preferred equity and debt, and the current market costs of preferred equity and debt.

Q31. PLEASE DESCRIBE HOW YOU CALCULATE THE MARKET VALUES OF COMMON EQUITY, PREFERRED EQUITY AND DEBT.

A31. I estimate the capital structure for each sample company by estimating the market values of common equity, preferred equity and debt from the most recent publicly available data. The details are in Appendix B.

Briefly, the market value of common equity is the price per share times the number of shares outstanding. For the risk-positioning approach, I use the last 15 trading days of each year to calculate the market value of equity for the year. I then calculate the average capital structure over the corresponding five-year period used to estimate the "beta" risk measures for the sample companies. This procedure matches the estimated beta to the degree of financial risk present during its estimation period. In the DCF analyses, I use the average stock price over 15 trading days ending on the release date of the BEst growth rate forecasts utilized.[8]

The market value of debt is estimated at its book value adjusted by the difference between the "estimated fair (market) value" and the "carrying cost" of long-term debt reported in each company's 10-K.[9] The market value of preferred stock for the samples is set equal to its book value.[10]

3. Market Costs of Debt and Preferred Equity

Q32. HOW DO YOU ESTIMATE THE CURRENT MARKET COST OF DEBT?

A32. The fifteen-day average market cost of debt for each company is set equal to the yield on an index of public utility bonds that have the same credit rating, as reported by Bloomberg. The DCF analyses use the current credit rating whereas the risk-positioning analyses use the current yield of a utility bond that corresponds to the five-year average debt rating of each company so as to match consistently the horizon of information used by *Value Line* to estimate each company's beta. Bond rating information was obtained from Bloomberg which reports Standard & Poor's bond ratings. I calculate the after-tax cost of debt using the Company's estimated marginal income tax rate of 38.6 percent.

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[8] BEst is Bloomberg's name for its earnings growth rate information. BEst growth rate forecasts are as of February 7, 2008.

[9] The book value of debt from Bloomberg includes all interest-bearing financial obligations that are not current and includes capitalized leases and mandatory redeemable preferred and trust preferred securities in accordance with FASB 150 effective June 2003. See Bloomberg's definition of long-term debt for additional details.

[10] This is unlikely to affect the results as the average percentage of preferred is less than .25 percent for both the water and gas sample.

Q33. HOW DO YOU ESTIMATE THE MARKET COST OF PREFERRED EQUITY?

A33. For all sample companies, the preferred rating was assumed equal to the company's bond rating. The cost of a company's preferred equity was set equal to the yield on an index of preferred utility stock with the same rating. The data were obtained from the Mergent Bond Record.[11]

B. Cost-of-Equity Estimation Methods

Q34. HOW DO YOU ESTIMATE THE COST OF EQUITY FOR YOUR SAMPLE COMPANIES?

A34. Recall that the cost of capital is the expected rate of return in capital markets on alternative investments of equivalent risk. This definition leads me to address three key points in my estimation procedures. First, the cost of capital is an expected rate of return – it cannot be directly observed, but must be inferred from available evidence. Second, the cost of capital is determined in capital markets (such as the New York Stock Exchange). Therefore, capital market data provide the best evidence from which to draw inferences. Third, the cost of capital depends on the return offered by alternative investments of equivalent risk. Consequently, measures of risk that matter in capital markets are part of the evidence that I need to examine.

Q35. HOW DOES THE ABOVE DEFINITION HELP YOU ESTIMATE THE COST OF CAPITAL?

A35. The definition of the cost of capital recognizes a tradeoff between risk and expected return; this is the security market line plotted above in Figure 1 above. Cost-of-capital estimation methods usually take one of two approaches: (1) they establish the location of the security market line and estimate the relative risk of the security, which jointly determine the cost of capital, or (2) they try to identify a comparable-risk sample of companies and estimate the cost of capital directly. Looking at Figure 1, the first

[11] Published monthly, Mergent's Bond Record offers a comprehensive review of over 68,000 bond issues including coverage of corporate, government, municipal, industrial development/environmental control revenue and international bonds, plus structured finance and equipment trust issues, medium-term notes, convertible issues, preferred stocks and commercial paper issues.

approach focuses directly on the vertical axis, while the second focuses both on the security's position on the horizontal axis and on the position of the security market line.

The first type of approach is more direct, but ignores the wealth of information available on securities not thought to be of precisely comparable risk. The "discounted cash flow" or "DCF" model is an example. The second type of approach, sometimes known as "equity risk premium approach," requires an extra step – positioning the security market line. Using the second approach allows me to use information from all traded securities rather than just those included in my sample. The capital asset pricing model ("CAPM") is an example. While both approaches can work equally well if conditions are right, one may be preferable to the other under certain circumstances. In particular, approaches that rely on the entire security market line are less sensitive to deviations from the assumptions that underlie the model, all else equal. In this case, I examine both DCF and risk-positioning approach evidence for the water utility and gas LDC sample.

1. The Risk-Positioning Approach

Q36. PLEASE EXPLAIN THE RISK-POSITIONING METHOD.

A36. The risk-positioning method estimates the cost of equity as the sum of a current interest rate and a risk premium. It is therefore sometimes also known as the "risk premium" approach. This approach may sometimes be applied more or less formally. As an example of an informal application, an analyst may estimate the spread between interest rates and what is believed to be a reasonable estimate of the cost of capital at a specific time, and then apply that spread to current interest rates to get a current estimate of the cost of capital.

More formal applications of the risk-positioning approach take full advantage of the security market line depicted in Figure 1: they use information on a large number of traded securities to identify the security market line and derive the cost of capital for the individual security based on that security's relative risk. This reliance on the entire security market line makes the method less vulnerable to the kinds of problems that arise from using one stock at a time (such as the DCF method). The risk-positioning approach

is widely used and underlies much of the current research published in academic journals on the nature, determinants and magnitude of the cost of capital. The most commonly used version of the formal risk-positioning models is the Capital Asset Pricing Model ("CAPM"). The equation for the CAPM is:

$$k_s = r_f + \beta_s \times MRP \qquad (2)$$

where k is the cost of capital, r_F is the risk-free interest rate, MRP is the market risk premium, and β is the measure of relative risk.

Section I of Appendix C to this testimony provides more detail on the principles that underlie the risk-positioning approach. Section II of Appendix C provides the details of the risk-positioning approach empirical estimates I obtain.

Q37. HOW ARE THE "MORE FORMAL" APPLICATIONS OF THE RISK-POSITIONING APPROACH IMPLEMENTED?

A37. The first step is to specify the current values of the benchmarks that determine the security market line. The second is to determine the security's, or investment's, relative risk. The third is to specify exactly how the benchmarks combine to produce the security market line, so the company's cost of capital can be calculated based on its relative risk.

a) Security Market Line Benchmarks

Q38. WHAT BENCHMARKS ARE USED TO DETERMINE THE LOCATION OF THE SECURITY MARKET LINE?

A38. The essential benchmarks that determine the security market line are the risk-free interest rate and the premium that a security of average risk commands over the risk-free rate. This premium is commonly referred to as the "market risk premium" ("MRP"), i.e., the excess of the expected return on the average common stock over the risk-free interest rate. In the risk-positioning approach, the risk-free interest rate and MRP are common to all securities. A security-specific measure of relative risk (beta) is estimated separately and combined with the MRP to obtain the company-specific risk premium.

Q39. WHAT BENCHMARK DO YOU USE FOR THE MRP?

A39. I estimate two versions of the risk-positioning model. The first version measures the market risk premium as the risk premium of average-risk common stocks over long-term Government bonds. The second version measures the market risk premium over short-term Treasury bills, which is the usual measure of the MRP used in capital market theories.

Q40. HOW DO YOU ESTIMATE THE MRP?

A40. Appendix C summarizes academic and empirical research on the MRP. However, as discussed in the appendix, there is currently little consensus on the "best practice" for estimating the MRP. (Note: this is not the same as saying that all practices are equally good). For example, the leading graduate textbook in corporate finance expresses the view that a range between 5 to 8 percent is reasonable for the U.S.[12] Morningstar data from 1926 to 2006, the longest period reported, show an MRP average premium of stocks over Treasury bills is 8.6 percent.[13] At the same time, Dimson, Marsh and Stauton (2008) estimate the arithmetic market risk premium for the U.S. over the 1900 to 2007 period at 6.5%.[14] In a regulatory setting, the Surface Transportation Board ("STB") recently decided to rely on the Capital Asset Pricing Model ("CAPM") when determining the cost of capital for major railroads in the U.S. As part of its methodology, the STB decided to rely on the long-term market risk premium reported by Morningstar/Ibbotson in its implementation of the CAPM.[15] Currently, this approach would result in a long-term MRP of 7.1%.

My testimony considers both the historical evidence and the results of scholarly studies of the factors that affect the risk premium for average-risk stocks in order to estimate the benchmark risk premium investors currently expect.

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[12] Richard A. Brealey, Stewart C. Myers, and Franklin Allen, *Principles of Corporate Finance*, McGraw-Hill, 8th edition, 2006, pp. 151-154.

[13] Morningstar, *Stocks, Bonds, Bills, and Inflation: Valuation Edition 2007 Yearbook.*

[14] Dimson, Marsh and Staunton, *Global Investment Returns Yearbook 2008*, p. 48.

[15] *STB Ex Parte No. 664*, Issued January 17, 2008, pp. 8-9.

Considering all the evidence, I conclude that S&P 500 stocks of average risk today command a premium of 8.0 percent over the short-term risk-free rate and 6.5 percent over the long-term Government rate. The estimation of the MRP is discussed in greater detail in Appendix C.

Q41. HOW DO YOU DETERMINE THE RISK-FREE RATE YOU USE?

A41. Ideally, the risk-free rate is the estimated risk-free rate over the period where rates will be in effect. For this proceeding, I use the current yield on long-term Government bonds and 30-day T-bills as an estimate for the long-term and short-term risk-free rate, respectively. Using an average of 15 trading days ending February 7, 2008, I obtain a short-term risk-free rate of 2.2 percent and a long-term risk-free rate of 4.3 percent, respectively.[16]

b) Relative Risk

Q42. WHAT MEASURE OF RELATIVE RISK DO YOU USE?

A42. I examine the "beta" of the stocks in question. Beta is a measure of the "systematic" risk of a stock — the extent to which a stock's value fluctuates more or less than average when the market fluctuates.

The basic idea behind beta is that risks that cannot be diversified away in large portfolios matter more than those that can be eliminated by diversification. Beta is a measure of the risks that cannot be eliminated by diversification. This concept is explored further in Appendix C.

Q43. WHAT DOES A PARTICULAR VALUE OF BETA MEAN?

A43. By definition, a stock with a beta equal to 1.0 has average non-diversifiable risk: it goes up or down by 10 percent on average when the market goes up or down by 10 percent.

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[16] See Table No. BV-9. Throughout the first part of 2008, short-term interest rates have been dropping rapidly as the Federal Reserve has cut interest rates and undertaken other measures to avoid more financial market distress. For example, on March 18, the Federal Reserve dropped the federal funds rate by .75 percent (Federal Reserve, Press Release, March 18, 2008) and on March 14, 2008, the Federal Reserve effectively became creditors of the financially distressed Bear Stearns bank (Craig Torres, Bernanke Discards Monetary History with Bear Stearns Bailout, *Bloomberg*, March 15, 2008).

Stocks with betas above 1.0 exaggerate the swings in the market. A stock with a beta of 2.0 tends to fall 20 percent when the market falls 10 percent, for example. Stocks with betas below 1.0 understate the swings in the market. A stock with a beta of 0.5 tends to rise 5 percent when the market rises 10 percent.

Q44. HOW DO YOU ESTIMATE BETA?

A44. I use beta estimates reported in the *Value Line* for the sample companies.

c) Cost of Equity Capital Calculation

Q45. HOW DO YOU COMBINE THE PRECEDING STEPS TO ESTIMATE THE COST OF EQUITY?

A45. The most widely used approach to combine a risk measure with the benchmark market risk premium on common stocks to find a risk premium for a particular firm or industry is the Capital Asset Pricing Model. However, the CAPM is only one risk-positioning technique.

In addition to the CAPM, I rely on an empirical variety of the model. Empirical research has long shown that the CAPM tends to overstate the actual sensitivity of the cost of capital to beta: low-beta stocks tend to have higher risk premia than predicted by the CAPM and high beta stocks tend to have lower risk premia than predicted. A number of variations on the original CAPM theory have been proposed to account for this finding.

This finding can be used directly to estimate the cost of capital, using beta to measure relative risk, without simultaneously relying on the CAPM. Here I examine results from both the CAPM and a version of the security market line based on the empirical finding that risk premia are related to beta, but are not as sensitive to beta as the CAPM predicts, to convert the betas into a risk premium. I refer to this latter model as the "ECAPM," where ECAPM stands for Empirical Capital Asset Pricing Model. The formula for the ECAPM is

$$k_s = r_f + \alpha + \beta_s \times (MRP - \alpha) \qquad (3)$$

where as before k is the cost of capital, r_f is the risk-free interest rate, MRP is the market risk premium, β is the measure of relative risk, and α is the empirical adjustment factor.

Research supports values for α ranging from one to seven percent when using a short-term interest rate. I use baseline values of α of 2 percent for the short-term risk-free rate and 0.5 percent for the long-term risk-free rate. I also conduct sensitivity tests for different values of α. For the short-term risk-free rate I use values for α of 1, 2 and 3 percent. For the long-term risk-free rate I use values for α of 0, 0.5 and 1.5 percent. See Appendix C for a more detailed discussion of the ECAPM model and Table C-1 for a summary of the empirical evidence on the size of the required adjustment.

Q46. WHY IS IT APPROPRIATE TO USE THE ECAPM MODEL?

A46. Empirical tests of the CAPM have repeatedly shown that an investment's return is related to systematic risk, but that the increase in return for an increase in risk is less than is predicted. The empirical tests have also shown that the theoretical intercept, as measured by the return on Treasury bills, is too low to fit the data. In other words, the empirical tests indicate that the slope of the CAPM is too steep and the intercept is too low. The empirical data support the ECAPM. The ECAPM recognizes the consistent empirical observation that the CAPM underestimates (overestimates) the cost of capital for low (high) beta stocks. The ECAPM corrects the predictions of the CAPM to more closely match the results of the empirical tests. Ignoring the results of CAPM tests would lead to an estimate of the cost of capital that is likely to be less accurate than is possible.

Q47. IS THE USE OF THE ECAPM EQUIVALENT TO ADJUSTING THE ESTIMATED BETAS FOR THE SAMPLE COMPANIES?

A47. No. Fundamentally, this is not an adjustment (increase) in beta. This can easily be seen by the fact that the expected return on high beta stocks is lower with the ECAPM than when estimated by the CAPM. The ECAPM model is a recognition that the actual slope of the risk-return tradeoff is flatter than predicted and the intercept higher based upon

repeated empirical tests of the model.[17] Even if the beta of the sample companies were estimated accurately, the CAPM would still underestimate the required return for low beta stocks. Even if the ECAPM were used, the costs of equity would be underestimated if the betas were underestimated.

2. Discounted Cash Flow Method

Q48. PLEASE DESCRIBE THE DISCOUNTED CASH FLOW APPROACH.

A48. The DCF model takes the first approach to cost-of-capital estimation, i.e., to attempt to estimate the cost of capital in one step. The method assumes that the market price of a stock is equal to the present value of the dividends that its owners expect to receive. The method also assumes that this present value can be calculated by the standard formula for the present value of a cash flow stream:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T}{(1+k)^T} \qquad (4)$$

where "P" is the market price of the stock; "D_t" is the dividend cash flow expected at the end of period t (i.e., subscript period 1, 2, 3 or T in the equation); "k" is the cost of capital; and "T" is the last period in which a dividend cash flow is to be received. The formula just says that the stock price is equal to the sum of the expected future dividends, each discounted for the time and risk between now and the time the dividend is expected to be received.

Most DCF applications go even further, and make very strong (i.e., unrealistic) assumptions that yield a simplification of the standard formula, which then can be rearranged to estimate the cost of capital. Specifically, if investors expect a dividend stream that will grow forever at a steady state, the market price of the stock will be given by a very simple formula,

[17] Many investment firms make an adjustment to the beta. A commonly used adjustment is the Merrill Lynch adjustment, which adjusts betas 1/3 toward one. This type of adjustment is intended to compensate for sampling errors in the beta estimation, not for the empirical fact that CAPM tends to overestimate the sensitivity of the cost of capital to beta. See Appendix C for a more detailed explanation.

$$P = \frac{D_1}{(k-g)} \tag{5}$$

where "D_1" is the dividend expected at the end of the first period, "g" is the perpetual growth rate, and "P" and "k" are the market price and the cost of capital, as before. Equation (5) is a simplified version of Equation (4) that can be solved to yield the well known "DCF formula" for the cost of capital:

$$\begin{aligned} k &= \frac{D_1}{P} + g \\ &= \frac{D_0 \times (1+g)}{P} + g \end{aligned} \tag{6}$$

where "D_0" is the current dividend, which investors expect to increase at rate g by the end of the next period, and the other symbols are defined as before. Equation (6) says that if Equation (5) holds, the cost of capital equals the expected dividend yield plus the (perpetual) expected future growth rate of dividends. I refer to this as the simple DCF model. Of course, the "simple" model is simple because it relies on very strong, unrealistic, assumptions.

Q49. ARE THERE OTHER VERSIONS OF THE DCF MODELS BESIDES THE "SIMPLE" ONE?

A49. Yes. There are many variations on the DCF models that may rely on less strong (more realistic) assumptions in that they allow growth rates to vary over time. I consider a variant of the DCF model that uses the companies' individual growth rates during the first five years, converges to a perpetual growth rate in years 6-10 and then uses the GDP growth rate as the perpetual growth rate after year 10 for all companies. This is a variant of the "multi-stage" DCF method. The DCF models are described in detail in Section I of Appendix D. (Section II of Appendix D provides the details of my empirical DCF results.)

Q50. WHAT ARE THE MERITS OF THE DCF APPROACH?

A50. The DCF approach is conceptually sound if its assumptions are met, but can run into difficulty in practice because those assumptions are so strong, and hence so unlikely to

correspond to reality. Two conditions are well known to be necessary for the DCF approach to yield a reliable estimate of the cost of capital: the variant of the present value formula that is used must actually match the variations in investor expectations for the dividend growth path; and the growth rate(s) used in that formula must match current investor expectations. Less frequently noted conditions may also create problems. (See Appendix D for details.)

Q51. WHAT IS THE MOST DIFFICULT PART OF IMPLEMENTATING THE DCF APPROACH?

A51. Finding the right growth rate(s) is the usual "hard part" of a DCF application. The original approach to estimation of the growth rate, *g*, relied on average historical growth rates in observable variables, such as dividends or earnings, or on the "sustainable growth" approach, which estimates *g* as the average book rate of return times the fraction of earnings retained within the firm. But it is highly unlikely that these historical averages over periods with widely varying rates of inflation and costs of capital will equal current growth rate expectations. This is particularly true for the water sample as many companies in the industry are growing fast, engaged in mergers, acquisitions or other restructuring activities.

Moreover, the constant growth rate DCF model requires that dividends and earnings grow at the same rate for companies that on average earn their cost of capital.[18] It is inconsistent with the theory on which the model is based to have different growth rates in earnings and dividends over the period when growth is assumed to be constant. If the growth in dividends and earnings were expected to vary over some number of years before settling down into a constant growth period, then it would be appropriate to

[18] Why must the two growth rates be equal in a steady-growth DCF model? Think of earnings as divided between reinvestment, which funds future growth, and dividends. If dividends grow faster than earnings, there is less investment and slower growth each year. Sooner or later dividends will equal earnings. At that point, growth is zero because nothing is being reinvested (dividends are constant). If dividends grow slower than earnings, each year a bigger fraction of earnings are reinvested. That makes for ever faster growth. Both scenarios contradict the steady-growth assumption. So if you observe a company with different expectations for dividend and earnings growth, you know the company's stock price and its dividend growth forecast are inconsistent with the assumptions of the steady-growth DCF model.

estimate a multistage DCF model. In the multistage model, earnings and dividends can grow at different rates, but must grow at the same rate in the final, constant growth rate period. A difference between forecasted dividend and earnings rates therefore is a signal that the facts do not fit the assumptions of the simple DCF model.

Q52. HOW DO YOU ESTIMATE THE GROWTH RATES YOU USE IN YOUR DCF ANALYSIS?

A52. I use earnings growth rate forecasts from Bloomberg and *Value Line*. Analysts' forecasts are superior to using single variables in time series forecasts based upon historical data as has been documented and confirmed extensively in academic research. Please see Section I in Appendix D for a detailed discussion on this issue.

Q53. ARE YOU AWARE THAT THE COMMISSION STAFF TYPICALLY RELIES ON AN AVERAGE OF HISTORICAL GROWTH RATES OF EARNINGS AND DIVIDENDS, ALONG WITH FORECASTS OF EARNINGS AND DIVIDEND GROWTH RATES, TO ESTIMATE THE GROWTH RATE FOR THE DCF MODEL?

A53. Yes, but I do not believe that this is the best way to estimate the growth rate for use in the DCF model for the following reasons. First, as mentioned above, the model requires that dividends and earnings grow at the same rate at some point in the future in order to apply the model. The data on historical growth rates do not confirm this condition. Second, analysts have access to historical information and include that information in their forecast of earnings growth rates. In other words, using historical data provides no additional information than that captured in analyst forecasts.

Finally, averaging wildly different growth rate estimates in the hopes of having the extremes cancel out calls into question whether the DCF model is applicable at this time to the sample companies.

Q54. ARE YOU AWARE OF EVIDENCE THAT ANALYSTS' FORECASTS OF EARNING GROWTH HAVE HISTORICALLY OVER-ESTIMATED EARNINGS AND DIVIDEND GROWTH?

A54. Yes. Although analyst forecasts have historically been too optimistic, this problem is less acute for regulated companies.[19] Further, according to a recent joint report by NASD and the NYSE,

A55. ... the SRO Rules have been effective in helping restore integrity to research by minimizing the influences of investment banking and promoting transparency of other potential conflicts of interest. Evidence also suggests that investors are benefiting from more balanced and accurate research to aid their investment decisions.[20]

A56. In addition, the use of a two-stage DCF model, which substitutes the forecast growth of GDP, mitigates analyst optimism by substituting the GDP growth rate for the potentially optimistic (or pessimistic) earnings forecasts of analysts.

Q55. HOW WELL ARE THE CONSTANT-GROWTH RATE CONDITIONS NECESSARY FOR THE RELIABLE APPLICATION OF THE DCF LIKELY TO BE MET FOR THE SAMPLE COMPANIES AT PRESENT?

A57. The requisite conditions for the sample companies are not fully met at this time, particularly for the water sample. Of particular concern for this proceeding is the uncertainty about what investors truly expect the long-run outlook for the sample companies to be. The longest time period available for growth rate forecasts of which I am aware is five years. The long-run growth rate (i.e., the growth rate after the water industry settles into a steady state, which may be beyond the next five years for this industry) drives the actual results one gets with the DCF model. Unfortunately, this implies that unless the company or industry in question is stable – so there is little doubt

[19] See, for example, L. K.C. Chan, J. Karceski, and J. Lakonishok (2003), "The Level and Persistence of Growth Rates," *Journal of Finance* 58(2), pp. 643-684.

[20] Joint Report by NASD and NYSE on the Operation and Effectiveness of the Research Analyst Conflict of Interest Rules, December 2005, p. 44.

as to the growth rate investors expect – DCF results in practice can end up being driven by the subjective judgment of the analyst who performs the work.

Of the eight companies in the water sample, only four have growth forecasts from both Bloomberg and *Value Line,* and two have only one analyst following them.[21] The average long-term earnings forecasts vary from a low of 0.6 percent to a high of 13.1 percent. Additionally, the analysts' forecasts for individual companies range widely. For example, the median BEst growth forecast for Southwest Water Co is 9.7 percent while the *Value Line* forecast is 23.6 percent. The lack of sufficient analyst following and the large variation in growth forecasts indicate that these forecasts are less reliable than ideal. The growth rates for gas LDC sample vary less from an average of 3.0 to 7.1 percent, and are more consistent with the GDP growth forecast of 4.9 percent. Of the ten companies in the gas LDC sample, one has only two analysts providing a forecast (one *Value Line* and one BEst). Thus, the available data are far from being ideal. As discussed above, the two-stage DCF model adjusts for any overly optimistic (or pessimistic) growth rate forecasts by adjusting the 5-year growth rate forecasts of the analysts toward the long-term GDP growth rate in the years after year 5. See Appendix D, *Section I* for a discussion of the two-stage model.

The DCF growth rates, whether estimated from historical data or from analyst forecasts, have likely been affected by several factors: many mergers and acquisitions in the water industry in recent years, significant growth in many parts of the country, and a trend towards consolidation. The industry appears to be moving towards a larger degree of consolidation – at least among the privately held water utilities. The consolidation of the industry may well increase as the industry needs significant infrastructure investments to comply with EPA water purification rules, maintain or replace old infrastructure, and deal with increased threats towards the water systems.[22] The American Society of Civil Engineers estimated in 2005 that the drinking water infrastructure required "$11 billion annually to replace aging infrastructure [...] and to comply with safe drinking water

[21] See Table BV-5 for details.

[22] See, for example, *Value Line*, Water Utility Industry, January 25, 2008.

regulations," while the wastewater segment required $390 billion in investments over the following 20 years.[23] Coupled with the rising construction costs of utility infrastructure, this creates uncertainty about future conditions and diverging expectations. The uncertainty associated with these factors increases the industry's business risk. Additionally, environmental regulations impact the industry as standards for water quality evolve over time, and there is potential for new safety and security requirements in the future. The industry has no federal regulator (other than for environmental and health issues), and state public utility commissions regulate most investor owned water utilities. Different regulatory bodies may lead to differing regulatory requirements for companies operating in adjacent parts of the country. Taken together, these factors mean that it may be some time before the water industry settles into anything investors will see as a stable equilibrium necessary for the reliable application of the DCF model.

Such circumstances imply that a commission may often be faced with a wide range of DCF estimates, none of which can be well grounded in objective data on true long-run growth expectations, *because no such objective data now exist*. DCF for firms or industries in flux is *inherently* subjective with regard to the most important parameter, the long-run growth rate that drives the answer.

In short, the unavoidable questions about the DCF model's strong assumptions cause me to view the DCF method as *inherently* less reliable than the risk-positioning approach described above. This is particularly true for the water sample, because of the data problems discussed above. However, because the DCF method has been widely used in the past, I submit DCF evidence in this case. DCF estimates also serve as a check on the values provided by the risk-positioning methods.

In this proceeding, I give little weight to the DCF results. However, I use the results as a check on the reasonableness of my risk-positioning estimates.

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[23] *Report Card for America's Infrastructure*, The American Society of Civil Engineers, 2005, pp. 15, 55.

C. THE SAMPLES AND RESULTS

1. The Water Utility Sample

Q56. EARLIER YOU SAID THAT THE SAMPLE OF WATER UTILITIES HAD SERIOUS DATA WEAKNESSES. PLEASE ELABORATE ON THESE WEAKNESSES.

A58. In attempting to apply the DCF model to the sample, four companies had no *Value Line* growth forecasts. The size of the companies in the water sample also makes cost-of-capital estimation difficult. Currently, only four companies have more than $500 million in market value of equity. More important, however, is the fact that the stock of these companies trades relatively infrequently. For example, three of the eight water utilities traded an average of less than 20,000 shares per trading day since January of 2007. In percentage terms, these companies traded less than 0.2 percent of their shares outstanding.[24] By contrast, each of the gas LDC sample companies had an average trading volume of at least 107,000 shares per day (greater than 180,000 if Laclede Group were excluded), which in percentage terms represented more than 0.45 percent of shares outstanding for each company. Low trading volume causes concern because there may be a delay between the release of important information and the time that this information is reflected in prices. Such delay is well known to cause beta estimates to be statistically insignificant and possibly biased.

In addition to lack of data and the small size of the companies, there are firm-specific events that render the water utility sample less reliable than would be ideal. First, Aqua America (the largest of the companies) has gone through several mergers and acquisitions in recent years. Normally, I would not include companies with significant merger or acquisition activity in a sample because the individual information about the progress of the proposed merger is so much more important for the determination of the company's stock price than day-to-day market fluctuations. In practice, beta estimates for such companies tend to be too low. The growth rates for such companies may also be affected.

[24] The three companies are Connecticut Water Service Co., Middlesex Water Co., and York Water Co.

Second, Southwest Water Co. earns only 41 percent of its revenue from regulated activities.[25] I therefore report my results for both the full sample and a subsample of companies that do not include Southwest Water Co.

It is because of these weaknesses in the water sample that I also utilize a sample of natural gas LDCs. The selection procedure for this sample was summarized earlier and details are provided in Appendix B.

2. Risk-Positioning Cost-of-Capital Estimates

Q57. HOW IS YOUR TESTIMONY ORGANIZED CONCERNING THE RISK–POSITIONING METHOD TO ESTIMATE COST OF CAPITAL?

A59. This section first describes the input data used in the CAPM and ECAPM models, then reports the resulting cost-of-equity estimates for the samples. The second section of Appendix C details the empirical analysis.

a) Interest Rate Estimate

Q58. HOW DID YOU DETERMINE THE EXPECTED RISK-FREE INTEREST RATE?

A60. I reviewed current constant maturity U.S. Government bond yield data available from the St. Louis Federal Reserve Bank. For the period January 17 to February 7, 2008, the average yield on 30-day Treasury bills was 2.16 percent and the average yield on long-term government bonds was 4.33 percent.[26]

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[25] However, the majority of the company's property, plant and equipment belongs to its regulated utilities. See Southwest Water Co. 2006 10-K p. 93.

[26] See Table No. BV-9.

b) Betas and the Market Risk Premium

Q59. WHAT BETA ESTIMATES DID YOU USE IN YOUR ANALYSIS FOR THE SAMPLES?

A61. I rely upon the most recent betas estimated by *Value Line* for both the water sample and for the gas LDC sample.

Q60. ARE THE BETA VALUES REPORTED BY *VALUE LINE* ADJUSTED BETAS?

A62. Yes. *Value Line* reports betas that are adjusted about 1/3 towards one. For this proceeding, I reverse the *Value Line* adjustment. *Value Line* and many investment firms adjust the estimated betas. This type of adjustment is intended to compensate for sampling errors in the beta estimation, not for the empirical fact that the CAPM tends to overestimate the sensitivity of the cost of capital to beta. I use adjusted betas when the sample companies display statistically significant sensitivity to interest rate changes or likely would do so short of measurement errors. For this proceeding I use unadjusted betas as I have in past appearances before the Commission concerning water and wastewater utilities.

Q61. PLEASE SUMMARIZE THE BETA ESTIMATES YOU RELY ON.

A63. After reversing the *Value Line* adjustment procedure, the average estimated *Value Line* beta for the water sample is about .84 while the average for the gas LDC sample is about .80. These beta estimates are reported in Workpaper #1 to Tables No. BV-10 and BV-22.

Q62. WHAT VALUE DO YOU USE FOR THE MARKET RISK PREMIUM?

A64. For the premium over the short-term risk-free interest rate I use 8.0 percent, while for the premium over the long-term risk-free interest rate I use 6.5 percent, for the reasons discussed before and in Appendix C.

Q63. PLEASE EXPLAIN THE METHOD TO ADJUST FOR DIFFERENCES IN CAPITAL STRUCTURE.

A65. Starting with the ATWACC, the cost of equity for any capital structure within a broad range of capital structures can be determined by the following formula:

$$\text{Return on equity} = \frac{\text{ATWACC - Return on debt} \times \text{\% debt in capital structure} \times (1\text{- tax rate})}{\text{\% equity in capital structure}}$$

This is the calculation that is displayed in Tables No. BV-12 and BV-24.[27] The tables display the result of converting the sample average ATWACC to a return on equity for a specific capital structure. It is straightforward to use this method to determine the cost of equity consistent with the capital structure.

c) Risk-Positioning Results

Q64. WHAT ARE THE COST-OF-EQUITY ESTIMATES DERIVED FROM THE RISK-POSITIONING APPROACH FOR THE WATER SAMPLE?

A66. Using the long-term interest rate in the two risk-positioning models (CAPM and ECAPM), with two values of the ECAPM parameter (0.5% and 1.5%), I obtain three estimates of each sample company's cost of equity (Tables No. BV-10 and BV-22). The cost-of-equity estimates are combined with the estimates of the company's cost of debt and preferred to calculate the company's ATWACC (Tables No. BV-11 and BV-23). Tables No. BV-12 and BV-24 combine the sample average ATWACC with Arizona-American's capital structure, cost of debt, and tax rate to obtain the cost of equity at Arizona-American's 46.9 percent equity. Panel A of Table No. BV-12 shows the cost of equity and ATWACC value for all water sample companies, while Panel B shows the results for the subsample of companies with significant revenue from regulated water utility activities. The cost-of-equity results are summarized below in Table 3 below.

[27] For companies that have preferred equity, an additional term equal to (Return on preferred equity x % preferred in capital structure) is subtracted from the numerator of this fraction.

Table 3. Cost-of-Equity Estimates

Regulatory Capital Structure: *46.9% Equity / 0.0% Preferred / 53.1% Debt* *2008 Tax Rate:* *38.6%*

	METHODS								
	RISK POSITIONING (using Long-Term Risk-Free Rate)			RISK POSITIONING (using Short-Term Risk-Free Rate)				DCF	
	CAPM	α = 0.5%	α = 1.5%	CAPM	α = 1%	α = 2%	α = 3%	Simple	Multi-stage
[1] **Water Sample***									
Full Sample									
Cost of Equity	13.6%	13.6%	13.7%	12.6%	12.6%	12.7%	12.8%	16.5%	10.2%
Average ATWACC	8.3%	8.4%	8.4%	7.9%	7.9%	7.9%	8.0%	9.7%	6.8%
Sub-sample									
Cost of Equity	13.5%	13.5%	13.6%	12.5%	12.6%	12.7%	12.8%	15.5%	10.2%
Average ATWACC	8.3%	8.3%	8.4%	7.8%	7.9%	7.9%	8.0%	9.3%	6.8%
[2] **Gas LDC Sample****									
Cost of Equity	11.5%	11.6%	11.9%	10.3%	10.6%	10.8%	11.1%	10.8%	10.9%
Average ATWACC	7.4%	7.4%	7.6%	6.8%	6.9%	7.1%	7.2%	7.1%	7.1%

[3] Risk Positioning Security Market Line Parameters:

Long-Term		*Short-Term*		Multi-Stage DCF Parameter:	
Risk Free Rate Estimate:	4.3%	Risk Free Rate Estimate:	2.2%	GDP Growth Estimate:	4.9%
Estimated MRP:	6.5%	Estimated MRP:	8.0%		

Sources and Notes:

* For the Water Sample, Risk Positioning data from Table No. BV-12 and DCF data from Table No. BV-8.

** For the Gas LDC Sample, Risk Positioning data from Table No. BV-22 and DCF data from Table No. BV-19.

[1] The full water sample consists of American States Water Co, Aqua America Inc, California Water Service Group, Connecticut Water Service Inc, Middlesex Water Co, SJW Corp, Southwest Water Co, and York Water Co. The subsample excludes Southwest Water Co. Results exclude companies whose estimated cost of equity is less than their cost of debt plus 25 basis points.

[2] The gas LDC sample consists of AGL Resources, Atmos Energy Corp, Laclede Group, New Jersey Resources, Nicor Inc., Northwest Natural Gas, Piedmont Natural Gas, South Jersey Industries, Southwest Gas, and WGL Holdings.

[3] See Appendices C and D for details on Risk Positioning and DCF parameters used in estimates.

Using the short-term interest rate in the two risk-positioning models (CAPM and ECAPM) and using different values for the ECAPM parameter, α, I obtain four estimates of each sample companies' cost of equity. These estimates are also displayed in Tables No. BV-12 and BV-24. As for the long-term interest rate, I summarize the cost-of-equity results above in Table 3.

Q65. PLEASE SUMMARIZE YOUR FINDINGS FROM THE RISK-POSITIONING MODEL.

A67. Focusing on the middle ECAPM (α = .50%) for the long-term risk-positioning model, I find that the water sample's cost of equity of about 13.5 percent. I do not rely on the short-term models for reasons discussed below. However, it is more correct to say that the sample results indicate a range of values from about 13.25 to 13.75 percent for the long-term model. Looking at the gas LDC sample, the results are lower, for a range of approximately 11.5 to 12.0 percent for the long-term risk-positioning model. Because

short-term interest rates have been repeatedly driven down by the Federal Reserve in an effort to prevent the economy from sliding into a recession and to provide liquidity in the credit markets in the wake of the subprime mortgage crisis,[28] I assign no weight to the short-term model in this proceeding. This is consistent with, for example, a recent decision by the Surface Transportation Board that decided to rely on the CAPM using 20-year Treasury bonds for the risk-free rate, 5-year weekly beta estimates, and Ibbotson's reported long-term market risk premium when determining railroads' cost of equity.[29] Additionally, as discussed previously, I place very little weight on the water sample results because of numerous data problems. Therefore, I conclude that the risk-positioning model provides cost-of-equity estimates in the range of 11.5 to 12.0 percent. I discuss the assessment of Arizona-American's cost of equity in the concluding section.

Q66. DID YOU PERFORM ANY ADDITIONAL ANALYSIS USING THE RISK-POSITIONING MODEL?

A68. Yes. I repeated the analysis incorporating Arizona-American's short-term debt into the capital structure, which results in a 41.6 percent equity ratio. More specifically, using the same overall cost-of-capital estimates from each of the two samples (Tables No. BV-11 and BV-23), I included the short-term debt percentage and the corresponding cost of short-term debt in the calculation of Arizona-American's cost of equity. The calculations are shown in Tables No. BV-14 and BV-26 for the water and gas LDC sample respectively. The results, which are summarized in Table 4 below, show that the risk-positioning model yields estimates that are, on average, approximately 100 to 150 basis points higher than those obtained using only long-term debt in the capital structure.

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[28] As recently as on March 18, 2008, the Federal Reserve cut the Federal Funds rate by .75 percent, so that it now (March 18, 2008) stands at 2.25 percent. Also, on March 14, 2008 the Federal Reserve joined forces with JPMorgan to bail out the failing Bear Stearns bank. See, for example, Craig Torres, Bernanke Discards Monetary History with Bear Stearns Bailout, *Bloomberg*, March 15, 2008. See also, *Business Week*, A Sweeter Bear Bid May Sour the Fed, March 24, 2008.

[29] *STB Ex Parte No. 664*, Issued January 17, 2008.

Table 4. Cost-of-equity Estimates Computed Including Short-Term Debt in the Capital Structure

Regulatory Capital Structure: *41.6% Equity / 47.4% LT Debt / 11% ST Debt* *2008 Tax Rate:* *38.6%*

	METHODS								
	RISK POSITIONING (using Long-Term Risk-Free Rate)			RISK POSITIONING (using Short-Term Risk-Free Rate)				DCF	
	CAPM	α = 0.5%	α = 1.5%	CAPM	α = 1%	α = 2%	α = 3%	Simple	Multi-stage
[1] **Water Sample***									
Full Sample									
Cost of Equity	15.1%	15.1%	15.2%	14.0%	14.1%	14.1%	14.2%	18.4%	11.3%
Average ATWACC	8.3%	8.4%	8.4%	7.9%	7.9%	7.9%	8.0%	9.7%	6.8%
Sub-sample									
Cost of Equity	15.0%	15.1%	15.2%	13.9%	14.0%	14.1%	14.2%	17.3%	11.3%
Average ATWACC	8.3%	8.3%	8.4%	7.8%	7.9%	7.9%	8.0%	9.3%	6.8%
[2] **Gas LDC Sample****									
Cost of Equity	12.8%	12.9%	13.2%	11.4%	11.7%	12.0%	12.3%	12.0%	12.1%
Average ATWACC	7.4%	7.4%	7.6%	6.8%	6.9%	7.1%	7.2%	7.1%	7.1%

[3] Risk Positioning Security Market Line Parameters:

Long-Term		*Short-Term*		Multi-Stage DCF Parameter:	
Risk Free Rate Estimate:	4.3%	Risk Free Rate Estimate:	2.2%	GDP Growth Estimate:	4.9%
Estimated MRP:	6.5%	Estimated MRP:	8.0%		

Sources and Notes:

* For the Water Sample, Risk Positioning data from Table No. BV-14 and DCF data from Table No. BV-13.

** For the Gas LDC Sample, Risk Positioning data from Table No. BV-26 and DCF data from Table No. BV-25.

[1] The full water sample consists of American States Water Co, Aqua America Inc, California Water Service Group, Connecticut Water Service Inc, Middlesex Water Co, SJW Corp, Southwest Water Co, and York Water Co. The subsample excludes Southwest Water Co. Results exclude companies whose estimated cost of equity is less than their cost of debt plus 25 basis points.

[2] The gas LDC sample consists of AGL Resources, Atmos Energy Corp, Laclede Group, New Jersey Resources, Nicor Inc., Northwest Natural Gas, Piedmont Natural Gas, South Jersey Industries, Southwest Gas, and WGL Holdings.

[3] See Appendices C and D for details on Risk Positioning and DCF parameters used in estimates.

3. The DCF Cost-of-Capital Estimates

Q67. WHAT STEPS DO YOU TAKE IN YOUR DCF ANALYSES?

A69. Given the above discussion of DCF principles, the steps are to collect the data, estimate the sample companies' costs of equity at their current capital structures, and then to adjust the sample's estimates to Arizona-American's 46.9 percent equity ratio.

a) Growth Rates

Q68. WHAT GROWTH RATE INFORMATION DO YOU USE?

A70. For reasons discussed above and in Appendix D, historical growth rates today are not as relevant as forecasts of current investor expectations for these samples. I therefore use rates forecast by security analysts.

The ideal in a DCF application would be a detailed forecast of future dividends, year by year well into the future until a true steady state (constant) dividend growth rate was reached, based on a large sample of investment analysts' expectations. I know of no source of such data. Dividends are ultimately paid from earnings, however, and earnings forecasts from a number of analysts are available for a few years. Investors do not expect dividends to grow in lockstep with earnings, but for companies for which the DCF approach can be used reliably (*i.e.*, for relatively stable companies whose prices do not include the option-like values described in Appendix D), they do expect dividends to track earnings over the long-run. Thus, use of earnings growth rates as a proxy for expectations of dividend growth rates is a common practice.

Accordingly, the first step in my DCF analysis is to examine a sample of investment analysts' forecast earnings growth rates from Bloomberg and *Value Line* to the degree such forecasts are available. The details are in Appendix D. At present, *Value Line* data run through a 2010-2012 horizon, representing an average of about four years from the current earning forecasts available for 2007. Bloomberg also provides a long-term earnings growth rate estimate. The longest-horizon forecasted growth rates from these sources underlie the simple DCF model (*i.e.*, the standard perpetual-growth model associated with the "DCF formula," dividend yield plus growth). Unfortunately, the longest growth forecast data only go out four to five years, which is too short a period to make the DCF model completely reliable.

b) Dividend and Price Inputs

Q69. WHAT VALUES DO YOU USE FOR DIVIDENDS AND STOCK PRICES?

A71. Dividends are either for the 4th quarter of 2007, or for the first quarter of 2008, depending on the most recent dividend information available at the time of estimation for each company.[30] This dividend is grown at the estimated growth rate and divided by the price described below to estimate the dividend yield for the simple DCF model.

[30] The dividend information was obtained from Bloomberg.

Stock prices are an average of closing stock prices for the 15-day trading period ending on the day the BEst forecast was obtained from Bloomberg. A 15-day stock price average is used to guard against anomalous price changes in any single day.

c) DCF Results

Q70. WHAT ARE THE DCF ESTIMATES FOR THE SAMPLES?

A72. The data are used in the two versions of the DCF method to get sample company estimates at the sample company's capital structure. The resulting cost of equity at Arizona-American's 46.9 percent equity estimates are shown in Table 3 above. There is a very large difference between the simple and multi-stage DCF results for the water sample (16.5 versus 10.2 percent), confirming the conclusion drawn above that the water industry is not in a stable equilibrium. As a result, DCF results from the water sample are unreliable, and I therefore do not put any weight on them in arriving at my final estimate. However, for the gas LDC sample both DCF models yields similar results (10.8 and 10.9 percent), suggesting that the gas LDC sample is indeed of better quality than the water sample at this time. In addition, DCF estimates for the gas LDC sample are not too different from risk-positioning results, albeit on average lower than them. As with the risk-positioning model, I repeated the analysis including short-term debt in the Company's capital structure. The calculations for the DCF analysis are shown in Tables No. BV-13 and BV-25 for the water and gas LDC sample respectively. The results are summarized in Table 4 above, and are about 120 basis points higher in the case of the gas LDC sample, and between 110 and 190 basis points higher in the case of the water sample.

IV. ARIZONA-AMERICAN'S COST OF EQUITY

Q71. WHAT CONCLUSIONS DO YOU DRAW FROM THE ABOVE DATA REGARDING EACH SAMPLE'S COST OF EQUITY AT ARIZONA-AMERICAN'S 46.9 PERCENT EQUITY RATIO?

A73. For the gas LDC sample, the estimated costs of equity from the risk-positioning model and from the DCF model are reasonably in line. For the water sample, estimates vary more significantly between different methods, and the DCF results are particularly variable. Although I do not rely upon the DCF model results for the water sample, I believe that DCF cost-of-capital estimates provide a useful check on the risk-positioning results for the gas LDC sample. The consistency of the multi-stage DCF and the risk-positioning cost-of-equity estimates for the gas LDC sample indicate that those estimates are reasonable.

Q72. DO YOU HAVE ANY COMMENTS REGARDING THE RESULTS OF THE RISK-POSITIONING MODELS?

A74. The estimated cost of equity displayed in Panel B of Table No. BV-12 compared to Table No. BV-24 is significantly higher on average for the water sample. The risk-positioning results are summarized above in Table 3. Of those results, the CAPM values deserve the least weight, because this method does not adjust for the empirical finding that the cost of capital is less sensitive to beta than predicted by the CAPM (which my testimony considers by using the ECAPM). Conversely, the ECAPM numbers deserve the most weight, because this method adjusts for the empirical findings.

Additionally, the estimates based upon the short-term risk-free rate are currently not very reliable for reasons discussed above. If the Fed believes further action is necessary, short-term rates are likely to fall further. On the other hand, if inflation becomes a concern, as it appears to be the case,[31] then short-term rates could remain constant or even start increasing. Because of this uncertainty, I give more weight to the estimates

[31] "Rising Inflation Limits the Fed as Growth Lags," *The New York Times*, February 21, 2008.

using the long-term risk-free rate at this time, because long-term interest rates are generally less responsive to Fed actions than short-term rates.

Q73. DID YOU CONSIDER ANY OTHER EVIDENCE WHEN ASSESSING THE REASONABLENESS OF ARIZONA-AMERICAN'S REQUESTED 11.75 PERCENT RETURN ON EQUITY?

A75. Yes. I reviewed recent water utility decisions from the Arizona Corporation Commission and compared the rates of return on equity and the capital structures to Arizona-American's regulatory capital structure.

Q74. PLEASE EXPLAIN THIS PROCEDURE.

A76. I obtained data on seventeen recent Arizona decisions on water and wastewater utilities from the Company. This data is summarized in Table 5 below.

Table 5. Capital Structure and Allowed Rate of Return on Equity in Recent Arizona Water Decisions

Company	Decision [1]	Date [2]	Common Equity [3]	Allowed Rate of Return on Equity [4]
Bella Vista Water Company	65350	11/1/2002	68.1%	9.1%
Clearwater Utilities	66782	2/13/2004	100.0%	9.1%
Arizona Water Company	66849	3/19/2004	66.2%	9.2%
Arizona-American Water Co. (Formerly Citizens)	67093	6/30/2004	39.9%	9.0%
Rio Rico Utilities	67279	10/5/2004	100.0%	8.7%
Las Quintas Serenas Water Co.	67455	1/4/2005	100.0%	8.1%
Forest Highlands	67983	7/18/2005	100.0%	8.1%
Pineview Water Co.	67989	7/18/2005	51.0%	8.9%
Chaparral City Water	68176	9/30/2005	58.8%	9.3%
Arizona Water Company	68302	11/14/2005	73.4%	9.1%
Arizona-American Water Co. (PV)	68858	7/28/2006	36.7%	10.4%
Black Mountain Sewer	69164	12/5/2006	100.0%	9.6%
Far West Water & Sewer Co.	69335	2/20/2007	56.0%	9.3%
Goodman Water Co.	69404	4/16/2007	100.0%	9.3%
Arizona-American Water Co. (Mohave W&WW)	69440	5/1/2007	40.0%	10.7%
Gold Canyon Sewer Company	69664	6/28/2007	100.0%	9.2%
Utility Source	70140	1/23/2008	100.0%	8.9%
Average			75.9%	9.2%
Average *			62.2%	9.2%

Sources and Notes:
[1]-[4]: Provided by Arizona-American Water Company.
Key: * Excluding Companies with 100% of common equity and Arizona-American Water Co.

Arizona-American's requested target regulatory capital structure consists of 46.9 percent equity which is significantly lower than that of all companies in the table (excluding Arizona-American itself). Therefore, Arizona-American's equity has more financial risk than most of the companies listed in Table 5. Consequently, the allowed return on equity for Arizona-American should be higher. To determine exactly how much higher, I calculate the ATWACC that corresponds to the capital structures and cost of equity in Table 5 using Arizona-American's current cost of debt and tax rate. I then determine the cost of equity that corresponds to the calculated ATWACC at Arizona-American's 46.9 percent equity, as well as at 41.6 percent equity, the value obtained if short-term debt is included in the calculation.[32] The result of this calculation is shown in Table 6 below.

Q75. WHAT ARE THE IMPLICATIONS OF TABLE 6 BELOW?

A77. Ignoring companies with no debt and Arizona-American, the average rate of return on equity was 11.1 percent when measured at 46.9 percent equity, and 12.3 percent when measured at 41.6 percent equity. The average for all water utilities was substantially higher.

[32] In performing this calculation, I assume that the rate base equals net book value. I understand that this in not true in Arizona but believe rates are calculated in a manner that produces similar results.

Table 6. Rate of Return on Equity that Provides the Same Cost to Customers at Arizona-American's Equity Ratio as Allowed in Recent Arizona Water Decisions

Decision [1]	Date [2]	Common Equity [3]	Allowed Rate of Return on Equity [4]	Implied ATWACC [5]	Implied Rate of Return at 46.9% Equity [6]	Implied Rate of Return at 41.6% Equity [7]
65350	11/1/2002	68.1%	9.1%	7.4%	11.5%	12.7%
66782	2/13/2004	100.0%	9.1%	9.1%	15.2%	16.9%
66849	3/19/2004	70.1%	9.2%	8.0%	12.8%	14.3%
67093	6/30/2004	39.9%	9.0%	5.4%	7.2%	7.9%
67279	10/5/2004	100.0%	8.7%	8.7%	14.3%	15.9%
67455	1/4/2005	100.0%	8.1%	8.1%	13.0%	14.5%
67983	7/18/2005	100.0%	8.1%	8.1%	13.0%	14.5%
67989	7/18/2005	51.0%	8.9%	6.2%	8.9%	9.9%
68176	9/30/2005	58.8%	9.3%	6.8%	10.2%	11.3%
68302	11/14/2005	73.4%	9.1%	8.1%	12.9%	14.4%
68858	7/28/2006	36.7%	10.4%	5.9%	8.4%	9.3%
69164	12/5/2006	100.0%	9.6%	9.6%	16.2%	18.1%
69335	2/20/2007	56.0%	9.3%	6.8%	10.2%	11.3%
69404	4/16/2007	100.0%	9.3%	9.3%	15.6%	17.4%
69440	5/1/2007	40.0%	10.7%	6.4%	9.4%	10.4%
69664	6/28/2007	100.0%	9.2%	9.2%	15.4%	17.1%
70140	1/23/2008	100.0%	8.9%	8.9%	14.7%	16.4%
Average		76.1%	9.2%	7.8%	12.3%	13.7%
Average*		62.9%	9.2%	7.2%	11.1%	12.3%

Sources and Notes: Columns [1] through [4] - provided by Arizona-American. Column [5] was computed using Arizona-American's current cost of debt and tax rate. Columns [6] and [7] were calculated using the ATWACC in column [5] and Arizona-American's cost of debt, tax rate, and regulatory capital structure, excluding and including short-term debt respectively.
Key: * Excludes the eight companies with 100% equity, and Arizona-American decisions (67093, 68858 and 69440).

Q76. BASED ON THE EVIDENCE WHAT IS YOUR CONCLUSION REGARDING ARIZONA-AMERICAN'S REQUEST 11.75 PERCENT RETURN ON EQUITY?

A78. Based on the results from my cost-of-capital estimation procedures and recent Arizona decision on water utilities' cost of equity, I conclude that an 11.75 percent return on equity is reasonable.

Q77. DOES THIS CONCLUDE YOUR TESTIMONY?

A79. Yes.

APPENDIX A

RESUME OF DR. BENTE VILLADSEN

Bente Villadsen's work concentrates in the areas of accounting and regulatory finance. She has extensive experience in cost of capital and credit issues in the utility industry as well the impact of regulatory initiatives. Further, Dr. Villadsen works on issues related to accounting disclosure and principles. Her recent work has included cost-of-capital analysis, energy efficiency issues, accounting issues pertaining to contract disputes in the petroleum, energy, and materials industries. Her work has included valuation, accounting disclosure and principles including impairment testing, leases, mark-to-market accounting, accounting for hybrid securities, accounting for equity investments, cash flow estimation etc. She has testified on accounting issues, cost of capital, and damages.

Dr. Villadsen holds a Ph.D. from Yale University's School of Management with a concentration in accounting. She has a joint degree in mathematics and economics (BS and MS) from University of Aarhus in Denmark. Prior to joining *The Brattle Group*, she was a Professor of Accounting at the University of Iowa, University of Michigan, and at Washington University in St. Louis where she taught financial and cost accounting. Dr. Villadsen also worked as a consultant for Risoe National Laboratories in Denmark.

REPRESENTATIVE EXPERIENCE

ENERGY AND PUBLIC UTILITY FINANCE

- Dr. Villadsen has filed several cost-of-capital testimonies and appeared at hearings for water and wastewater utilities in connection with rate hearings before state regulatory commissions. She has also filed testimony on cost of capital for electric utilities.

- She has considerable experience in estimating the cost of capital for major U.S. and Canadian utilities, pipelines, and railroads. The work has been used in connection with the companies' rate hearings before the Federal Energy Regulatory Commission, the Canadian National Energy Board, the Surface Transportation Board, and state and provincial regulatory bodies. The work has been performed for pipelines, integrated electric utilities, non-integrated electric utilities, gas distribution companies, water utilities, railroads and other parties.

- In connection with rate hearings for electric utilities, Dr. Villadsen has estimated the impact of power purchase agreements on the company's credit ratings and calculated appropriate compensation for utilities that sign such agreements to fulfill, for example, renewable energy requirements.

- Dr. Villadsen has been part of a team assessing the impact of conservation initiatives, energy efficiency, and decoupling of volumes and revenues on electric utilities financial performance. Specifically, she has estimated the impact of specific regulatory proposals on the affected utilities earnings and cash flow.

- For a large integrated utility in the U.S., Dr. Villadsen participated in all aspects of the company's rate filing, including the company's cost of capital, incentive based rates, and certain regulatory accounting issues.

- Dr. Villadsen has been involved in several projects evaluating the impact of credit ratings on electric utilities. She was part of a team evaluating the impact of accounting fraud on an energy company's credit rating and assessing the company's credit rating but-for the accounting fraud.

- For a large electric utility, Dr. Villadsen modeled cash flows and analyzed its financing decisions to determine the degree to which the company was in financial distress as a consequence of long-term energy contracts.

- For a large electric utility without generation assets, Dr. Villadsen assisted in the assessment of the risk added from offering its customers a price protection plan and being the provider of last resort (POLR).

ACCOUNTING AND CORPORATE FINANCE

- In a recent international arbitration matter, Dr. Villadsen filed expert testimony on the allocation of corporate overhead costs and damages in the form of lost profit.

- Dr. Villadsen has provided expert reports and testimony on several accounting issues in international and domestic arbitrations or court proceedings. In a recent international arbitration, she testified on the proper application of US GAAP in determining shareholders' equity. Among other topics, she testified regarding impairment of long-lived assets, lease accounting, the equity method of accounting, and the measurement of investing activities. In a U.S. arbitration, she provided expert reports on the equity method of accounting, the classification of debt versus equity and the distinction between categories of liabilities in a contract dispute between two major oil companies.

- In U.S. District Court, Dr. Villadsen filed testimony regarding the information required to determine accounting income losses associated with a breach of contract and cash flow modeling.

- She has worked extensively on litigation matters involving the proper application of mark-to-market and derivative accounting in the energy industry. The work relates to the proper valuation of energy contracts, the application of accounting principles, and disclosure requirements regarding derivatives.

- Dr. Villadsen evaluated the accounting practices of a mortgage lender and the mortgage industry to assess the information available to the market and ESOP plan administrators prior to the company's filing for bankruptcy. A large part of the work consisted of comparing the company's and the industry's implementation of gain-of-sale accounting.

- On behalf of senior management, Dr. Villadsen evaluated the performance of segments of regulated entities. In addition, she has reviewed and evaluated the methods used for in overhead allocation.

- She has worked on accounting issues in connection with several tax shelter cases. The focus of her work has been the application of accounting principles to evaluate intra-company transactions, the accounting treatment of security sales, and the classification of debt and equity instruments.

- Dr. Villadsen has modeled the cash flows of several companies to estimate the impact of specific (energy) contracts or to determine the impact of specific loans.

- For a company in the energy sector, she modeled cash flows to evaluate the company's need for additional funds over time and to assess its viability.

- She assisted in the estimation of net worth of individual segments for firms in the consumer product industry. Further, she built a model to analyze the segment's vulnerability to additional fixed costs and its risk of bankruptcy.

- For a large integrated oil company, Dr. Villadsen estimated the company's cost of capital and assisted in the analysis of the company's accounting and market performance.

- In connection with commercial litigation, Dr. Villadsen estimated the cost of capital for companies in the chemical industry and for companies in the cement industry.

RECENT PUBLICATIONS

"Building Sustainable Efficiency Businesses: Volume I – Approaches and Models," (with Joe Wharton and Peter Fox-Penner, and with "*The Brattle Group*" listed as author), *Edison Electric Institute*, forthcoming, Spring 2008.

"Measuring Return on Equity Correctly: Why current estimation models set allowed ROE too low," *Public Utilities Fortnightly*, August 2005 (with A. Lawrence Kolbe and Michael J. Vilbert).

"The Effect of Debt on the Cost of Equity in a Regulatory Setting," (with A. Lawrence Kolbe and Michael J. Vilbert, and with "*The Brattle Group*" listed as author), *Edison Electric Institute*, April 2005.

"Communication and Delegation in Collusive Agencies," *Journal of Accounting and Economics*, Vol. 19, 1995.

"Beta Distributed Market Shares in a Spatial Model with an Application to the Market for Audit Services" (with M. Hviid), *Review of Industrial Organization*, Vol. 10, 1995.

REPRESENTATIVE PRESENTATIONS

"Evaluating Alternative Business / Inventive Models," (with Joe Wharton). *EEI Workshop, Making a Business of Energy Efficiency: Sustainable Business Models for Utilities*, Washington DC, December 2007.

"Deferred Income Taxes and IRS's NOPR: Who should benefit?", *NASUCA Annual Meeting*, Anaheim, CA, November 2007.

"Current Issues in Cost of Capital," (with M.J. Vilbert). *EEI Electric Rates Advanced Course*, Madison, 2005.

"Issues for Cost of Capital Estimation," (with M.J. Vilbert). *EEI Cost of Capital Conference*, Chicago, 2004.

"Discussion of 'Are Performance Measures Other Than Price Important to CEO Incentives?'" *Annual Meeting of the American Accounting Association*, 2000.

"Contracting and Income Smoothing in an Infinite Agency Model: A Computational Approach," (with R.T. Boylan) *Business and Management Assurance Services Conference*, Austin 2000.

TESTIMONY

Direct Testimony on cost of capital and carrying charge on damages, U.S. Department of Energy, Bonneville Power Administration, BPA Docket No. WP-07, March 2008.

Expert Report and Supplemental Expert Report on the allocation of corporate overhead and damages from lost profit. The International Centre for the Settlement of Investment Disputes, Case No. ARB/03/29, February and April 2008 (*Confidential*).

Expert Report on accounting information needed to assess income. United States District Court for the District of Maryland (Baltimore Division), Civil No. 1:06cv02046-JFM, June 2007 (*Confidential*)

Expert Report, Rebuttal Expert Report, and Hearing Appearance regarding investing activities, impairment of assets, leases, shareholder' equity under U.S. GAAP and valuation. International Chamber of Commerce (ICC), Case No. 14144/CCO, May 2007, August 2007, September 2007. (Joint with Carlos Lapuerta, *Confidential*)

Direct Testimony, Rebuttal Testimony, and Hearing Appearance on cost of capital before the Arizona Corporation Commission on behalf of Arizona-American Water in Docket No. W-01303A-06-0491, July 2006, July 2007, August 2007.

Direct Testimony, Rebuttal Testimony, Rejoinder Testimony, Supplemental Rejoinder Testimony and Hearing Appearance on cost of capital before the Arizona Corporation Commission on behalf of Arizona-American Water in Docket No. W-01303A-06-0403, June 2006, April 2007, May 2007.

Direct Testimony, Rebuttal Testimony, Rejoinder Testimony, and Hearing Appearance on cost of capital before the Arizona Corporation Commission on behalf of Arizona-American Water in Docket No. W-01303A-06-0014, January 2006, October 2006, November 2006.

Expert report, rebuttal expert report, and deposition on behalf of a major oil company regarding the equity method of accounting and classification of debt and equity, August 2004 and November 2004. (*Confidential*).

APPENDIX B

SELECTING THE WATER AND GAS LDC SAMPLES AND THE USE OF MARKET VALUES

I. SAMPLE SELECTION AND THE CHARACTERISTICS OF EACH SAMPLE 2

A. THE WATER SAMPLE 2

B. THE GAS LOCAL DISTRIBUTION COMPANIES SAMPLE 4

II. MARKET VALUE CAPITAL STRUCTURE, COSTS OF DEBT & COSTS OF PREFERRED EQUITY 7

I. SAMPLE SELECTION AND THE CHARACTERISTICS OF EACH SAMPLE

A. The Water Sample

Q1. How did you select your sample of water utilities?

A1. The goal was to create a sample of companies whose primary business is as a regulated water utility with business risk generally similar to that of Arizona-American Water. To construct this sample, I started with the universe of nine water utility companies listed as such in the *Value Line Investment Survey - Plus Edition*. I then eliminated Sun Hydraulics because, although listed as a water utility, its operations consist mainly of producing industrial equipment.[1]

Normally, I would apply several additional selection criteria to eliminate companies with unique circumstances that may affect the cost of capital estimates. For example, I would normally eliminate companies with annual revenues lower than $300 million in 2006,[2] no or low bond ratings, lack of growth estimates or Bloomberg data, and all companies with announced dividend cuts or that were involved in significant merger activity over the last five years (2003 to today). However, applying these procedures to the eight water utilities followed by *Value Line* would result in a sample of at most two companies. (The areas of concern associated with the companies included in the sample are detailed below.) I try to balance my standard criteria against the need to have a reasonable sample size. This results in the use of all eight companies to form a full sample, as well as the use of seven companies to form a subsample with a high percentage of regulated revenues.[3] The eight companies that form the full sample of water utilities are American States Water Co., Aqua America Inc., California Water Service Group, Connecticut

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[1] Bloomberg lists it in the "metal fabricate/hardware" industry group, which is a subset of the "industrial" sector.

[2] Table No. BV-2 and its associated workpapers report the share of operating revenues from different lines of business in 2006 for these companies. (Table No. BV-1 provides an index to the other tables.)

[3] Southwest Water Company is dropped from the subsample because it only earns an estimated 41 percent of its 2006 revenues from regulated activities. The remaining companies in the subsample earn at least an estimated 89 percent of their 2006 revenues through regulated activities.

Water Service Inc., Middlesex Water Co., SJW Corp., Southwest Water Co., and York Water Co.

Q2. Why do you usually eliminate companies currently involved in a merger from your samples?

A2. The stock prices of companies involved in mergers are often more affected by news relating to the merger than to movements in the stock market. In other words, the stock price "decouples" from its normal relationship to the stock market (the economy) which is the basis upon which a company's relative risk is calculated. Instead the stock price of a merger candidate is more affected by the latest speculation on the terms and probability of the merger.

Q3. What are some of the water sample's data problems?

A3. First, of the eight water utilities followed by *Value Line*, three companies (Connecticut Water, Middlesex Water, and York Water) have 2006 revenues below $100 million. If I were to consider the threshold of $300 million I usually rely on, then six of the eight companies would fall under it. The stocks of small companies frequently exhibit "thin trading" which means that their stock trades infrequently. Indeed, since January of 2007, the three companies listed above have traded an average of less than 20,000 shares per trading day. In percentage terms, these companies traded less than 0.2 percent of their shares outstanding. By contrast, each of the gas LDC sample companies had an average trading volume of at least 107,000 shares per day (180,000 if Laclede Group were excluded), which in percentage terms represented more than 0.45 percent of shares outstanding for each company. Greater trading volume gives the expert more confidence in the estimates since there is less likelihood of a delay between the release of important information and the time that this information is reflected in prices. Such delay is well known to cause beta estimates to be statistically insignificant and possibly biased.

Second, four companies lack long-term earnings forecasts from *Value Line*, and two companies only have one analyst providing BEst growth rate forecasts. In addition, the existing growth rates estimates are highly variable, ranging from a low of 0.6 percent to a high of 13.1 percent. Such highly variable growth rates are not indicative of an industry

that is stable and cast doubt on the applicability of the DCF model to this industry at this time.

Third, only two companies have significant revenue, have stocks with substantial trading, have a bond rating and have more than one long-term growth forecast from BEst.

Fourth, many companies have significant merger activity over the last five years, leading *Value Line* to note that "mergers and acquisitions activity has remained at a feverishly high pace."[4] For example, Aqua America acquired more than two dozen smaller companies in 2007, while Southwest Water Co. completed six small acquisitions in the last three years, the most recent of which in February 2008.[5] The large number of mergers and acquisitions is an indication of an industry in flux which will certainly affect the DCF estimates and perhaps the risk positioning estimates as well.

These factors may all potentially affect the cost of equity estimates in ways not completely predictable. Because of the substantial data problems and the lack of a large number of publicly traded water utilities, without considering the gas LDC sample I would be forced to rely either on a sample with significant data problems, or on a sample with at most two companies (Aqua America Inc., and California Water Services Group).[6]

B. The Gas Local Distribution Companies Sample

Q4. How do you select your gas local distribution company sample?

A4. To select this sample, I started with the universe of publicly traded natural gas utilities covered by *Value Line Investment Survey – Plus Edition.* This resulted in an initial group of 20 companies. I then eliminated companies by applying additional selection criteria

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[4] *Value Line Investment Survey*, Water Utility Industry, January 25, 2008.

[5] Sources: *Value Line Investment Survey*, January 25, 2008, Bloomberg mergers and acquisitions historical search, performed February 5, 2008.

[6] Several companies have multiple problems. For example, Connecticut Water has revenues below $100 million, exhibits thin trading and lacks *Value Line* long-term earnings growth forecasts. Middlesex Water has revenues below $100 million and no long-term *Value Line* earnings forecast. York Water has revenues below $100 million, exhibits thin trading and has no long-term *Value Line* earnings forecast.

designed to eliminate companies with unique circumstances which may bias the cost of capital estimates.

Q5. What are the selection criteria you applied?

A5. I eliminated all companies whose regulated assets are not greater than 50 percent of their total assets as reported in each company's 2006 10-K form, because one goal for this sample was for the companies to derive the majority of their revenues from regulated activities. I also eliminated all companies whose bond rating was less than BBB- as rated by S&P, and companies that had a large merger during the period February 2003 to February 2008.[7] Merger activity is obtained from Bloomberg, which provides a history of past acquisitions and divestitures for each company, and also the size of each transaction, if such information is available.[8] To guard against measurement bias caused by "thin trading," I also restricted the sample to companies with total operating revenues greater than $300 million in 2006.

Finally, I required that the companies have historical data available from Bloomberg and that they had no dividend cuts or restatement of financial statements in the past five years, since the latter can be signs of financial distress.

The final sample consists of ten gas LDC companies: AGL Resources Inc., Atmos Energy Corp., Laclede Group Inc., Nicor Inc., New Jersey Resources Corp., Northwest Natural Gas Co., Piedmont Natural Gas Co., South Jersey Industries Inc., Southwest Gas Corp., and WGL Holdings Inc.

Q6. What companies did you eliminate before arriving at the final sample?

A6. I eliminated three companies because they had no bond rating and their annual revenues were less than $300 million (Chesapeake Utilities Corp., EnergySouth Inc., and RGC Resources Inc.), one company because it had no bond rating available (Energy West Inc.), four companies because their credit ratings were below investment grade (Amerigas

[7] One company included in the sample (Atmos Energy Corp.) did undertake an acquisition in 2004. I discuss below the reasons for keeping it in the sample.

[8] For purposes of sample selection, a sizeable merger is defined to be one which would exceed 30 percent of the total capitalization of the company at the time of the merger announcement.

Partners LP, Ferrellgas Partners LP, Markwest Hydrocarbon Inc., and Star Gas Partners LP), and lastly two companies because they had significant M&A activity in the last five years (Southern Union Co. and UGI Corp.).

Q7. Are there any issues with the remaining companies in your sample?

A7. Possibly. Atmos Energy acquired TXU Gas Company in 2004 for $1.925 billion, making it a candidate for exclusion from the sample because of significant M&A activity. In balancing the goal to have a larger sample with the desire to have a problem-free sample, I decided to include Atmos in the gas LDC sample because the acquisition occurred relatively close to the five-year threshold that I consider relevant for this criterion. However, excluding Atmos Energy from the sample would raise cost of equity estimates by approximately 10 basis points. As a result, my estimates are conservative, and the inclusion of Atmos Energy is not a source of concern about sample quality.

Q8. Please compare the characteristics of the water utility sample and the gas LDC sample.

A8. Both samples consist of companies with substantial capital investments in distribution facilities. Also, companies in both samples earn a large percentage of their revenue from regulated activities and serve a mix of residential, industrial, and other customers. The water subsample includes only those companies with a higher percent of their revenues from regulated utilities and fewer data problems which was at least 89 percent of revenues from regulated activities in 2006. Companies in the gas LDC sample had at least 65 percent of their assets attributable to regulated activities. (See Table No. BV-2 and Table No. BV-13).[9] All companies in the water utility sample and the gas LDC sample are regulated by one or more states.

[9] Water utilities often do not report the percentage of assets subject to regulatory activities, while gas LDCs do. Both measures are likely to be good indicators of the relative magnitude of regulated activities, which is relevant to gauge the risk of the entities. Therefore, Table No. BV-2 and its associated workpapers report the share of operating revenues from different lines of business in 2006 for water utilities while Table No. BV-13 reports the share of regulated assets for gas LDC companies. (Table No. BV-1 provides an index to the other tables.)

For both the water/wastewater industry and the gas distribution industry, environmental compliance costs and infrastructure investments are of importance. Many gas LDC companies discuss environmental clean-up requirements in their 10-K. Similarly, the companies in the water industry also face regulatory requirements from federal and local authorities through, for example, the Clean Water Act of 1974 and EPA enforcement, which will likely require the water industry to invest substantial amounts in infrastructure going forward.[10]

Q9. What do you conclude from the comparison of the water utility and the gas LDC samples?

A9. The two samples differ primarily in that they operate in two different (regulated) industries, but they are very similar in terms of the percentage of revenues from regulated operations and the customers they serve. The gas LDC sample provides a reasonable comparison sample for the water utility industry but without the substantial data issues.

II. MARKET VALUE CAPITAL STRUCTURE, COSTS OF DEBT & COSTS OF PREFERRED EQUITY

Q10. What capital structure information do you require?

A10. For reasons discussed in my written evidence and explained in detail in Appendix E, explicit evaluation of the market-value capital structures of the sample companies versus the capital structure used for rate making is vital for a correct interpretation of the market evidence. This requires estimates of the market values of common and preferred equity and debt, and the current market costs of preferred equity and debt.

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[10] The *Value Line Investment Survey* (Water Utility Industry, January 25, 2008) mentions "elevated infrastructure costs that should persist for years to come." More specifically, Value Line analysts "[...] suspect that many systems are still outdated and require additional renovations. That observation, coupled with more stringent water purification standards due to greater fear of bioterrorism, will result in high costs for the foreseeable future."

Q11. How do you calculate the market-value capital structures of the sample companies?

A11. I estimate the capital structure for each company by estimating the market values of common equity, preferred equity and debt from publicly available data. The calculations are in Panels A to H of Table No. BV-3 and Panels A to J of Table No. BV-16 for the water and gas LDC sample, respectively.

The market value of equity is straightforward: the price per share times the number of shares outstanding. The market value of preferred equity is set equal to its book value because the portion of the capital structure financed with preferred equity is generally small. The market value of debt is estimated at the book value of debt reported by Bloomberg plus or minus the difference in the estimated fair (market) value and book value of long-term debt as reported in the companies' 10-Ks or annual reports.[11]

For purposes of assessing financial risk to common shareholders, I add an adjustment for short-term debt to the debt portion of the capital structure. This adjustment is used only for those companies whose short-term (current) liabilities exceed their short-term (current) assets. I add an amount equal to the minimum of the difference between short-term liabilities and short-term assets or the amount of short-term debt. The reason for this adjustment is to recognize that when current liabilities exceed current assets, a portion of the company's long-term assets are being financed, in effect, by short-term debt.

The market value capital structure is calculated to be consistent with the time period over which the cost of capital is estimated for each sample. The capital structure is determined over the historical period over which the relevant risk positioning parameters were determined and as of the date analysts provide forward looking growth forecasts. Therefore, Tables No. BV-3 and BV-16 report the market value capital structure at year

[11] See Panels A through H in Table No. BV-3 and Panels A through J in Table BV-16 for details. The adjustment relies on the difference between the companies' self-reported fair value of long-term debt and the carrying value of the same line items. This information was obtained from the sample companies' annual reports.

end for the years ending 2002 – 2006, and the third quarter of 2007.[12] The output of each of these tables is the market equity-to-value, debt-to-value, and preferred equity-to-value ratios. The overall cost of capital calculation for the risk positioning estimates rely on the average of the market value capital structure computed for the years 2002 through third quarter of 2007, as shown in Tables No. BV-4 and BV-17, respectively. The results in columns [1]-[3] are used in the DCF model calculations, while columns [4]-[6] are for the risk positioning models.

Q12. How do you estimate the current market cost of preferred equity?

A12. For companies with preferred equity, the cost of preferred equity for each company was set equal to the yield on an index of preferred stock as reported in the *Mergent Bond Record* corresponding to the S&P rating of that company's debt. The yields from *Mergent Bond Record* were as of January 2008. In general, the average amount of preferred equity in the sample companies' capital structures is very small and frequently zero. No company in either sample has more than one percent on average.

Q13. How do you estimate the current market cost of debt?

A13. The market cost of debt for each company in the DCF analysis is the current yield reported by Bloomberg for a public utility company bond corresponding to the sample company's current debt rating as classified by S&P. The risk positioning analysis, on the other hand, uses the current yield of a utility bond that corresponds to the five-year average debt rating of each company so as to match consistently the horizon of information used by *Value Line* to estimate company betas. The current S&P debt ratings were obtained from Bloomberg.[13]

The fifteen day average yield on A-rated Public Utility bonds was 6.09 percent as of February 7, 2008, and 6.31 percent on average for BBB-rated Public Utility bonds. (See Panel A of Workpaper #1 to Table No. BV-11 for the yields on utility bonds and

[12] This was the most current information on the capital structures for the sample companies at the time this testimony was prepared.

[13] Southwest Water Co.'s debt rating was not available. I used a rating of A, which is the same as that of all other water utilities in the sample.

preferred stock by credit rating.) Calculation of the after-tax cost of debt uses the marginal tax rate 38.6 percent provided by the company.

APPENDIX C

RISK POSITIONING METHODOLOGY AND EMPIRICAL RESULTS

I. EQUITY RISK PREMIUM METHODOLOGY 2

A. THE BASIC EQUITY RISK PREMIUM MODEL 2

B. MARKET RISK PREMIUM 3

C. RELATIVE RISK 10

D. INTEREST RATE ESTIMATE 14

E. COST OF CAPITAL MODELS 14

II. EMPIRICAL EQUITY RISK PREMIUM RESULTS 16

A. RISK-FREE INTEREST RATE 16

B. BETAS AND THE MARKET RISK PREMIUM 17

1. Beta Estimation Procedures 17

2. Market Risk Premium Estimation 18

C. COST OF CAPITAL ESTIMATES 18

Q1. What is the purpose of this appendix?

A1. This appendix reviews the principles behind the risk positioning methodologies, describes the estimation of the parameters used in the models, and details the cost of capital estimates obtained from these methodologies. This appendix intentionally repeats portions of my direct testimony, because I want the reader to be able to have a full discussion of the issues addressed here, rather than having to continually turn back to the corresponding section of the testimony.

I. EQUITY RISK PREMIUM METHODOLOGY

Q2. How is this section of the appendix organized?

A2. It first reviews the basic nature of the equity risk premium approach. It then discusses the individual components of the model: the benchmark risk premium, the relative risk of the company or line of business in question, the appropriate interest rate, and the combination of these elements in a particular equity risk premium model.

A. THE BASIC EQUITY RISK PREMIUM MODEL

Q3. How does the equity risk premium model work?

A3. The equity risk premium approach estimates the cost of equity as the sum of a current interest rate and a risk premium. (It therefore is sometimes also known as the "risk premium" or the "risk positioning" approach.)

This approach may sometimes be applied informally. For example, an analyst or a commission may check the spread between interest rates and what is believed to be a reasonable estimate of the cost of capital at one time, and then apply that spread to changed interest rates to get a new estimate of the cost of capital at another time.

More formal applications of the equity risk premium method implement theoretical finance models of cost of capital. They use information on all securities to identify the security market line (Figure 1 in the body of the testimony) and derive the cost of capital for the individual security based on that security's relative risk. This equity risk premium

approach is widely used and underlies most of the current scholarly research on the nature, determinants and magnitude of the cost of capital.

Q4. How are "more formal applications" put into practice?

A4. The essential benchmarks that determine the security market line are the risk-free interest rate and the premium that a security of average risk commands over the risk-free rate. This premium is commonly referred to as the "market risk premium" ("MRP"), i.e., the excess of the expected return on the average common stock over the risk-free interest rate. In the equity risk premium approach the risk-free interest rate and MRP are common to all securities. A security-specific measure of relative risk (beta) is estimated separately and combined with the MRP to obtain the company-specific risk premium.

In principle, there may be more than one factor affecting the expected stock return, each with its own security-specific measure of relative risk and its own benchmark risk premium. For example, the "arbitrage pricing theory" and other "multi-factor" models have been proposed in the academic literature. These models estimate the cost of capital as the sum of a risk-free rate and several security-specific risk premia. However, none of these alternative models has emerged in practice as "the" improvement to use instead of the original, single-factor model. I use the traditional single-factor model in this testimony.

Accordingly, the required elements in my formal equity risk premium approach are the market risk premium, an objective measure of relative risk, the risk-free rate that corresponds to the measure of the market risk premium, and a specific method to combine these elements into an estimate of the cost of capital.

B. MARKET RISK PREMIUM

Q5. Why is a risk premium necessary?

A5. Experience (e.g., the U.S. market's October Crash of 1987) demonstrates that shareholders, even well diversified shareholders, are exposed to enormous risks. By investing in stocks instead of risk-free Government bills, investors subject themselves not

only to the risk of earning a return well below those they expected in any year but also to the risk that they might lose much of their initial capital. This is why investors demand a risk premium.

I estimate and show two versions of the Capital Asset Pricing Model ("CAPM"). The first version measures the market risk premium as the risk premium of average risk common stocks over the long-term risk-free rate. Because short-term risk-free rates currently are influenced substantially by monetary policy, I do not rely on the numbers from this version of the CAPM. Specifically, the short-term risk-free rates are unusually low and likely driven by the Federal Reserve's recent interest rate cuts.[1] It is also noteworthy that the Surface Transportation Board ("STB") in a recent decision decided to rely exclusively on long-term risk-free rates in the implementation of the CAPM.[2]

Q6. Please discuss some of the issues involved in selecting the appropriate MRP.

A6. To determine the cost of capital in a regulatory proceeding, the MRP should be used with an estimate of the same interest rate used to calculate the MRP (i.e., the short-term Treasury bill rate or the long-term Government rate). For example, it would be inconsistent to utilize a short-term risk-free with an estimate of the MRP derived from comparisons to long-term interest rates. In addition, the appropriate measure of the MRP should be based upon the arithmetic mean not the geometric mean return.[3] The arithmetic mean is the simple average while the geometric mean is the compound rate of return between two periods.

Q7. How do you estimate the MRP?

A7. There is presently little consensus on "best practice" for estimating the MRP, which does not mean that each approach is equally valid. For example, the latest edition of the leading graduate textbook in corporate finance, after recommending use of the arithmetic

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[1] According to the Federal Reserve Board: *Monetary Policy, Open Market Operations*, March 25, 2008, the Federal Reserve has cut interest rates 6 times for a total of 250 basis points since September 2007, so that the Federal Funds Rate now (March 25, 2008) stands at 2.25%.

[2] See, *STB Ex Parte No. 664*, issued January 17, 2008, p. 7.

[3] See, for example, Morningstar, *Stocks, Bonds, Bills, and Inflation: Valuation Edition 2007 Yearbook*, pp. 75-77.

average realized excess return on the market for many years (which for a while was noticeably over 9 percent), now reviews the current state of the research and expresses the view that the a range between 5 to 8 percent is reasonable for the U.S.[4,5] At the same time, Dimson, Marsh, and Staunton 2008 estimate that the average arithmetic risk premium of stocks over bonds in the U.S. was 6.5% for the period 1900 to 2007.[6] In a recent proceeding the Surface Transportation Board ("STB") decided to switch from a DCF model to the CAPM model when estimating the cost of equity for U.S. railroads. The STB further decided to rely on the arithmetic risk premium of stocks over long-term bonds as reported in Morningstar / Ibbotson.[7]

My written testimony considers both the historical evidence and the results of scholarly studies of the factors that affect the risk premium for average-risk stocks in order to estimate the benchmark risk premium investors currently expect. I consider the historical difference in returns between the Standard and Poor's 500 Index ("S&P 500") and the risk-free rate, recent academic literature on the MRP and the results of recent surveys to estimate the market risk premium.

Q8. Please summarize the recent literature on the MRP and the conclusions you draw from it.

A8. Some recent research based upon U.S. data challenges the conventional wisdom of using the arithmetic average historical excess returns to estimate the MRP. However, after reviewing the issues in the debate, I remain skeptical for several reasons that the market risk premium has declined in the U.S. as much as is claimed in some of the literature.

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[4] Richard A. Brealey, Stewart C. Myers, and Franklin Allen, *Principles of Corporate Finance*, McGraw-Hill, 8th edition, 2006, pp. 151-154.

[5] In past editions, the authors expressed the view that they are "most comfortable" with values toward the upper end of that range, but this language does not appear in the 8th edition. Although Professor Myers still holds this view, this language and other sections were dropped to accommodate a request to reduce the length of the text.

[6] Dimson, Marsh and Staunton, *Global Investment Returns Yearbook 2008*, p. 48.

[7] *STB Ex Parte No. 664*, Issued January 17, 2008, pp. 8-9.

First, despite eye-catching claims like "equity risk premium as low as three percent,"[8] and "the death of the risk premium,"[9] not all recent research arrives at the same conclusion. In his presidential address to the American Finance Association in 2001, Professor Constantinides seeks to estimate the unconditional equity premium based on average historical stock returns.[10] (Note that this address was based upon evidence just before the major fall in market value.) He adjusts the average returns downward by the change in price-earnings ratio because he assumes no change in valuations in an unconditional state. His estimates for 1926 to 2000 and 1951 to 2000 are 8.0 percent and 6.0 percent, respectively, over the 3-month T-bill rate. In another published study in 2001, Professors Harris and Marston use the DCF method to estimate the market risk premium for the U.S. stocks.[11] Using analysts' forecasts to proxy for investors' expectation, they conclude that over the period 1982-1998 the MRP over the *long-term* risk-free rate is 7.14 percent. As yet another example, the paper by Drs. Ibbotson and Chen (2003) adopts a supply side approach to estimate the forward looking long-term sustainable equity returns and equity risk premium based upon economic fundamentals. Their equity risk premium over the *long-term* risk-free rate is estimated to be 3.97 percent in geometric terms and 5.90 percent on an arithmetic basis. They conclude their paper by stating that their estimate of the equity risk premium is "far closer to the historical premium than being zero or negative."[12] Morningstar has in recent years updated part of the Ibbotson and Chen analysis and found in the 2007 edition that the arithmetic MRP was approximately 6.35 percent over government bonds.[13]

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[8] Claus, J. and J. Thomas, (2001), "Equity Risk Premium as Low as Three Percent: Evidence from Analysts' Earnings Forecasts for Domestic and International Stocks," *Journal of Finance* 56:1629-1666.

[9] Arnott, R. and R. Ryan, (2001), "The Death of the Risk Premium," *Journal of Portfolio Management* 27(3):61-84.

[10] Constantinides, G.M. (2002), "Rational Asset Prices," *Journal of Finance* 57:1567-1591.

[11] Robert S. Harris and Felicia C. Marston, "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," *Journal of Applied Finance* 11 (1) 6-16, 2001.

[12] Ibbotson, R. and P. Chen (2003), "Stock Market Returns in the Long Run: Participating in the Real Economy," *Financial Analyst Journal*, 59(1):88-98. Cited figures are on p. 97.

[13] Morningstar, Morningstar, SBBI Valuation Edition 2007 Yearbook, p. 97.

Second, Professor Ivo Welch surveyed a large group of financial economists in 1998 and 1999. The average of the estimated MRP was 7.1 percent in Prof. Welch's first survey and 6.7 percent in his second survey which was based on a smaller number of individuals. A subsequent survey[14] by Prof. Welch reported only a 5.5 percent MRP.[15] In characterizing these results Prof. Welch notes that "[T]he equity premium consensus forecast of finance and economics professors seems to have dropped during the last 2 to 3 years, a period with low realized equity premia."[16]

The above quotation from Prof. Welch emphasizes the caution that must attend survey data even from knowledgeable survey participants: the outcome is likely to change quickly with changing market circumstances. Regulatory commissions should not, in my opinion, attempt to keep pace with such rapidly changing opinions.

Third, some of the evidence for negative or close to zero market risk premium simply does not make sense. Despite the relatively high valuation levels, stock returns remain much more volatile than Treasury bond returns. I am not aware of any empirical or theoretical evidence showing that investors would rationally hold equities and not expect to earn a positive risk premium for bearing their higher risk.

Fourth, I am unaware of a convincing theory for why the future MRP should have substantially declined. At the height of the stock market bubble in the U.S., many claimed that the only way to justify the high stock prices would be if the MRP had declined dramatically,[17] but this argument was heard less frequently after the market declined substantially from its tech bubble high. All else equal, a high valuation ratio such as price-earnings ratio implies a low required rate of return, hence a low MRP. However, there is considerable debate about whether the high level of stock prices

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[14] Ivo Welch (2000), "Views of Financial Economists on the Equity Premium and on Professional Controversies," *Journal of Business*, 73(4):501-537. The cited figures are in Table 2, p. 514.

[15] Ivo Welch (2001), "The Equity Premium Consensus Forecast Revisited," School of Management at Yale University working paper. The cited figure is in Table 2.

[16] *Ibid*, p. 8.

[17] See Robert D. Arnott and Peter L. Bernstein, "What Risk Premium is 'Normal'?," *Financial Analysts Journal* 58:64-85, for an example.

(despite the burst of the internet bubble from its high in the summer of 2000) represents the transition to a new economy or is simply an "irrational exuberance," which cannot be sustained for the long term. If the former case is true, then the MRP may have decreased permanently. Conversely, the long-run MRP may remain the same even if expected market returns in the short-term are smaller.

Another common argument for a lower expected MRP is that the U.S. experienced very remarkable growth in the 20th century that was not anticipated at the start of the century. As a result, the average realized excess return is overestimated meaning the standard method of estimating the MRP would be biased upward. However, one recent study by Professors Jorion and Goetzmann finds, under some simplifying assumptions, that the so-called "survivorship bias" is only 29 basis points.[18] Furthermore, "[I]f investors have overestimated the equity premium over the second half of the last century, Constantinides (2002) argues that 'we now have a bigger puzzle on our hands' Why have investors systematically biased their estimates over such a long horizon?"[19]

To sum up the above, I cite two passages from Profs. Mehra and Prescott's review of the theoretical literature on equity premium puzzle:[20]

> Even if the conditional equity premium given current market conditions is small, and there appears to be general consensus that it is, this in itself does not imply that it was obvious either that the historical premium was too high or that the equity premium has diminished.
>
> In the absence of this [knowledge of the future], and based on what we currently know, we can make the following claim: over the long horizon the equity premium is likely to be similar to what it has been in the past and the returns to investment in equity will continue to substantially dominate that in T-bills for investors with a long planning horizon.

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[18] Jorion, P., and W. Goetzmann (1999), "Global Stock Markets in the Twentieth Century," *Journal of Finance* 54:953-980. Dimson, Marsh, and Staunton (2003) make a similar point when they comment on the equity risk premia for 16 countries based on returns between 1900 and 2001: "While the United States and the United Kingdom have indeed performed well, compared to other markets there is no indication that they are hugely out of line." p.4.

[19] Mehra, R., and E.C. Prescott (2003), "The Equity Premium in Retrospect," in *Handbook of the Economics of Finance*, Edited by G.M. Constantinides, M. Harris and R. Stulz, Elsevier B.V, p. 926

[20] *Ibid*, p. 926.

Q9. Is there other scholarly support for the conclusion?

A9. Yes. Another line of research was pursued by Steven N. Kaplan and Richard S. Ruback. They estimate the market risk premium in their article, "The Valuation of Cash Flow Forecasts: An Empirical Analysis."[21] Professors Kaplan and Ruback compare published cash flow forecasts for management buyouts and leveraged recapitalization over the 1983 to 1989 period against the actual market values that resulted from these transactions. One of their results is an estimate of the market risk premium over the long-term Treasury bond yield that is based on careful analysis of actual major investment decisions, not realized market returns. Their median estimate is 7.78 percent and their mean estimate is 7.97 percent.[22] This is considerably higher than my estimate of 6.5 percent. Even if the maturity premium of Treasury bonds over Treasury bills were only 1 percent, well below the best estimate of 1.5 percent the resulting estimate of the market risk premium over Treasury bills is higher than my estimate of 8.0 percent.

Q10. In addition to the scholarly articles and survey evidence you discussed in Section I of your Direct Testimony, what other evidence do you consider to estimate the MRP?

A10. I also consider the long-run realized equity premia reported in Morningstar *SBBI Valuation Edition 2007 Yearbook*. The data provided cover the period 1926 through 2006. The results are discussed below.

Q11. What is the "long-run realized risk premium" in the U.S.?

A11. From 1926 to 2006, the full period reported, Morningstar's data show that the average premium of stocks over Treasury bills is 8.6 percent. I also examine the "post-War" period. The risk premium for 1947-2006 is 8.4 percent.[23] (I exclude 1946 because its economic statistics are heavily influenced by the War years; e.g., the end of price controls yielded an inflation rate of 18 percent. It is not really a "post-War" year, from an

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[21] *Journal of Finance*, 50, September 1995, pp. 1059-1093.

[22] *Ibid*, p. 1082.

[23] Morningstar, *SBBI Valuation Edition 2007 Yearbook*, Appendix A.

economic viewpoint.) These averages often change slightly when another year of data is added to the Ibbotson series. The average premium of stocks over the income returns on long-term Government bonds is 7.1 percent for the 1926 to 2006 period and 7.1 for the 1947 to 2006 period.

Recently there has been a great deal of academic research on the MRP. This research has put practitioners in a dilemma: there is nothing close to a consensus about how the MRP should be estimated, but a general agreement in the academic community seems to be emerging that the old approach of using the average realized return over long periods gives too high an answer.

Q12. What is your conclusion regarding the MRP?

A12. Estimation of the MRP remains controversial. There is no consensus on its value or even how to estimate it. Given a careful review of all of the information, I estimate the risk premium for average risk stocks to be 8.0 percent over Treasury bills and 6.5 percent over long-term Government bonds.

C. RELATIVE RISK

Q13. How do you measure relative risk?

A13. The risk measure I examine is the "beta" of the stocks in question. Beta is a measure of the "systematic" risk of a stock — the extent to which a stock's value fluctuates more or less than average when the market fluctuates. It is the most commonly used measure of risk in capital market theories.

Q14. Please explain beta in more detail.

A14. The basic idea behind beta is that risks that cannot be diversified away in large portfolios matter more than those that can be eliminated by diversification. Beta is a measure of the risks that *cannot* be eliminated by diversification.

Diversification is a vital concept in the study of risk and return. (Harry Markowitz won a Nobel Prize for work showing just how important it was.) Over the long run, the rate of return on the stock market has a very high standard deviation, on the order of 15 - 20

percent per year. But many individual stocks have much higher standard deviations than this. The stock market's standard deviation is "only" about 15 - 20 percent because when stocks are combined into portfolios, some of the risk of individual stocks is eliminated by diversification. Some stocks go up when others go down, and the average portfolio return — positive or negative — is usually less extreme than that of individual stocks within it.

In the limiting case, if the returns on individual stocks were completely uncorrelated with one another, the formation of a large portfolio of such stocks would eliminate risk entirely. That is, the market's long-run standard deviation would be not 15-20 percent per year, but virtually zero.

The fact that the market's actual annual standard deviation is so large means that, in practice, the returns on stocks are correlated with one another, and to a material degree. The reason is that many factors that make a particular stock go up or down also affect other stocks. Examples include the state of the economy, the balance of trade, and inflation. Thus some risk is "non-diversifiable". Single-factor equity risk premium models derive conditions in which all of these factors can be considered simultaneously, through their impact on the market portfolio. Other models derive somewhat less restrictive conditions under which several of them might be individually relevant.

Again, the basic idea behind all of these models is that risks that cannot be diversified away in large portfolios matter more than those that can be eliminated by diversification, because there are a large number of large portfolios whose managers actively seek the best risk-reward tradeoffs available. Of course, undiversified investors would like to get a premium for bearing diversifiable risk, but they cannot.

Q15. Why not?

A15. Well-diversified investors compete away any premium rates of return for diversifiable risk. Suppose a stock were priced especially low because it had especially high diversifiable risk. Then it would seem to be a bargain to well diversified investors. For example, suppose an industry is subject to active competition, so there is a large risk of

loss of market share. Investors who held a portfolio of all companies in the industry would be immune to this risk, because the loss on one company's stock would be offset by a gain on another's stock. (Of course, the competition might make the whole industry more vulnerable to the business cycle, but the issue here is the diversifiable risk of shifts in market share among firms.)

If the shares were priced especially low because of the risk of a shift in market shares, investors who could hold shares of the whole industry would snap them up. Their buying would drive up the stocks' prices until the premium rates of return for diversifiable risk were eliminated. Since all investors pay the same price, even those who are not diversified can expect no premium for bearing diversifiable risk.

Of course, substantial non–diversifiable risk remains, as the October Crash of 1987 demonstrates. Even an investor who held a portfolio of all traded stocks could not diversify against that type of risk. Sensitivity to such market–wide movements is what beta measures. That type of sensitivity, whether considered in a single- or multi-factor model, determines the risk premium in the cost of equity.

Q16. What does a particular value of beta signify?

A16. By definition, a stock with a beta equal to 1.0 has average non-diversifiable risk: it goes up or down by 10 percent on average when the market goes up or down by 10 percent. Stocks with betas above 1.0 exaggerate the swings in the market: stocks with betas of 2.0 tend to fall 20 percent when the market falls 10 percent, for example. Stocks with betas below 1.0 are less volatile than the market. A stock with a beta of 0.5 will tend to rise 5 percent when the market rises 10 percent.

Q17. How is beta measured?

A17. The usual approach to calculating beta is a statistical comparison of the sensitivity of a stock's (or a portfolio's) return to the market's return. Many investment services report betas, including Merrill Lynch's quarterly Security Risk Evaluation, Bloomberg and the *Value Line Investment Survey*. Betas are not always calculated the same way, and therefore must be used with a degree of caution, but the basic point that a high beta

indicates a risky stock has long been widely accepted by both financial theorists and investment professionals.

Q18. Are there circumstances when the "usual approach to calculating beta" should not be used?

A18. There are at least two cases where the standard estimate of beta should be viewed skeptically.

First, companies in serious financial distress seem to "decouple" from their normal sensitivity to the stock market. The stock prices of financially distressed companies tend to change based more on individual news about their particular circumstances than upon overall market movements. Thus, a risky stock could have a low estimated beta if the company was in financial distress. Other circumstances that may cause a company's stock to decouple include an industry restructuring or major changes in a company's supply or output markets.

Second, similar circumstances seem to arise for companies "in play" during a merger or acquisition. Once again, the individual information about the progress of the proposed takeover is so much more important for that stock than day-to-day market fluctuations that, in practice, beta estimates for such companies seem to be too low.

Q19. How reliable is beta as a risk measure?

A19. Scholarly studies have long confirmed the importance of beta for a stock's required rate of return. It is widely regarded as the best single risk measure available. The merits of beta seemed to have been challenged by widely publicized work by Professors Eugene F. Fama and Kenneth R. French.[24] However, despite the early press reports of their work as signifying that "beta is dead," it turns out that beta is still a potentially important explanatory factor (albeit one of several) in their work. Thus, beta remains alive and well as the best single measure of relative risk.

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[24] See for example, "The Capital Asset Pricing Model: Theory and Evidence", Eugene F. Fama and Kenneth R. French, *Journal of Economic Perspectives*, Volume 18, Summer 2004, pp. 25-46.

D. INTEREST RATE ESTIMATE

Q20. What interest rates do your procedures require?

A20. Modern capital market theories of risk and return use the short-term risk-free rate of return as the starting benchmark. My measures of the MRP incorporate this approach, since they represent the excess of the expected return on the market over the 30-day U.S. Treasury bill rate and over the long-term U.S. Government bond rate. Accordingly, implementation of my procedures requires use of an estimate of the 30-day Treasury bill rate and the long-term Government bond rate. I use the average over the most recent 15 trading days ending on February 7, 2008.

E. COST OF CAPITAL MODELS

Q21. How do you combine the above components into an estimate of the cost of capital?

A21. By far the most widely used approach to estimation of the cost of capital is the "Capital Asset Pricing Model," and I do calculate CAPM estimates. However, the CAPM is only one equity risk premium approach technique, and I also use another.

Q22. Please start with the CAPM, by describing the model.

A22. As noted above, the modern models of capital market equilibrium express the cost of equity as the sum of a risk-free rate and a risk premium. The CAPM is the longest-standing and most widely used of these theories. The CAPM states that the cost of capital for investment *s* (e.g., a particular common stock) is given by the following equation:

$$k_s = r_f + \beta_s \times MRP \qquad \textbf{(C-1)}$$

where k_s is the cost of capital for investment *s*; r_f is the risk-free rate, β_s is the beta risk measure for the investment *s*; and *MRP* is the market risk premium.

The CAPM relies on the empirical fact that investors price risky securities to offer a higher expected rate of return than safe securities do. It says that the security market line starts at the risk-free interest rate (that is, that the return on a zero-risk security, the y-axis

intercept in Figure 1 in the body of my testimony, equals the risk-free interest rate). Further, it says that the risk premium over the risk-free rate equals the product of beta and the risk premium on a value-weighted portfolio of all investments, which by definition has average risk.

Q23. What other equity risk premium approach model do you use?

A23. Empirical research has long shown that the CAPM tends to overstate the actual sensitivity of the cost of capital to beta: low-beta stocks tend to have higher risk premia than predicted by the CAPM and high-beta stocks tend to have lower risk premia than predicted. A number of variations on the original CAPM theory have been proposed to explain this finding. The difference between the CAPM and the type of relationship identified in the empirical studies is depicted in Figure BV-C1.

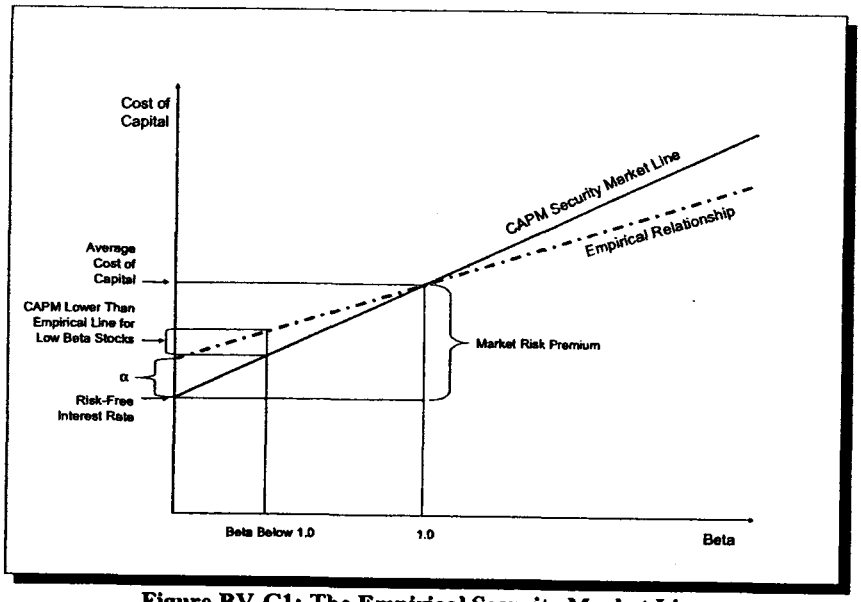

Figure BV-C1: The Empirical Security Market Line

The second model makes use of these empirical findings. It estimates the cost of capital with the equation,

$$k_s = r_f + \alpha + \beta_s \times (MRP - \alpha) \qquad \textbf{(C-2)}$$

where α is the "alpha" of the risk-return line, a constant, and the other symbols are defined as above. I label this model the Empirical Capital Asset Pricing Model, or

"ECAPM." For the short-term risk-free rate models, I set alpha equal to 1, 2, and 3 percent which are values somewhat lower than that estimated empirically. For low-beta stocks such as regulated utilities, the use of a lower value for alpha leads to a lower estimate of the cost of capital. For the long-term risk-free rate models, I set alpha equal to both 0.5 percent and 1.5 percent, but I rely more heavily on the 0.5 percent results. The use of a long-term risk-free rate incorporates some of the desired effect of using the ECAPM. That is, the long-term risk-free rate version of the Security Market Line has a higher intercept and a flatter slope than the short-term risk-free version which has been tested. Thus, it is likely that I do not need to make the same degree adjustment when I use the long-term risk-free rate. A summary of the empirical evidence on the magnitude of alpha is provided in Table No. BV-C1 below.

II. EMPIRICAL EQUITY RISK PREMIUM RESULTS

Q24. How is this part of the appendix organized?

A24. This section presents the full details of my equity risk premium approach analyses, which are summarized in the body of my testimony. Details behind the estimates of the short-term and the long-term risk-free interest rates are discussed. Next, the beta estimates, and the estimates of the MRP I use in the models are addressed. Finally, this section reports the CAPM and ECAPM results for the sample's costs of equity, and then describes the results of adjusting for differences between the benchmark sample and Arizona-American's regulated capital structures.

A. RISK-FREE INTEREST RATE

Q25. How do you obtain estimates of the risk-free interest rates over the period the utility rates set here are to be in effect?

A25. I obtain these rates using data provided by Bloomberg. In particular, I use their reported government debt yields from the "constant maturity series". This information is displayed in Table No. BV-9.

Q26. What values do you use for the short-term and long-term risk-free interest rates?

A26. I use a value of 2.2 percent for the short-term risk-free interest rate and a value of 4.3 percent for the long-term risk-free interest rate as the benchmark interest rates in the equity risk premium analyses. These values represent the average yields on 30-day and long term (20-year) Treasury securities respectively, over the 15-trading day period ending on February 7, 2008.

B. BETAS AND THE MARKET RISK PREMIUM

1. Beta Estimation Procedures

Q27. Which betas do you use in your risk positioning models?

A27. I obtained estimates from the *Value Line Investment* Survey for the sample companies.[25]

Q28. How does *Value Line* estimate the reported betas?

A28. *Value Line* estimates the reported betas using weekly data for a five year period. As a market index, *Value Line* uses the New York Stock Exchange. Also *Value Line* reports so-called adjusted betas, i.e. the betas reported by *Value Line* are calculated as follows:

$$\beta_{Value\ Line} = .67 \times \beta + 0.35 \qquad \textbf{(C-3)}$$

where β is the standard beta estimate. To obtain standard betas, I reverse the adjustment to obtain standard betas, β. *Value Line* and many investment firms adjust the estimated betas using a procedure similar to eth one described in equation (C-3). This type of adjustment is intended to compensate for sampling errors in the beta estimation. It adjusts betas below one upwards and betas above one downwards.

Q29. Please summarize the beta estimates you rely on.

A29. After reversing the *Value Line* adjustment procedure, the estimates range from 0.22 to 1.19 for the water sample and from 0.75 to 0.97 for the gas LDC sample, with an average

[25] For each sample I used the *Value Line* beta estimates most recently available. For the water sample, estimates are as of January 25, 2008, while for the gas LDC sample estimates are as of either December 14 or December 28, 2008, depending on the company.

of 0.84 and 0.80 respectively. The beta estimates for individual sample companies are reported in Workpaper #1 to Tables No. BV-10 and BV- 22.

Q30. What are the characteristics of recent beta estimates?

A30. Betas for both water and gas utilities have increased in recent years. For example, Value Line betas for water utilities averaged approximately .60 in 2002 while they now stand at approximately .91 for an increase of about 50% over the last six years. Similarly, the average beta for the gas LDC sample has increased from approximately 0.65 to approximately .89 for an increase of almost 37% over six years. Thus, at least in Value Line's judgment, the water and gas LDC companies are exposed to more systematic risk today than they were a few years back.

2. Market Risk Premium Estimation

Q31. Given all of the evidence, what MRP do you use in your analysis?

A31. It is clear that market return information is volatile and difficult to interpret, but based on the collective evidence, the MRP I use for the short-term risk-free rate is 8 percent and for the long-term risk-free rate is 6.5 percent.

C. COST OF CAPITAL ESTIMATES

Q32. Based on these data, what are the values you calculate for the overall cost of capital and the corresponding cost of equity for the water utility sample?

A32. Panels A and B of Table No. BV-10 present the cost of equity results using the equity risk positioning methods at the sample companies' market value capital structures. Panel A uses the long-term risk-free rate estimate while Panel B uses the short-term risk-free rate.

Q33. What does the water market data imply about the sample's cost of equity at the proposed 46.9 percent equity ratio for Arizona-American Water?

A33. The return on equity and the overall cost of capital for the various equity risk positioning methods are reported in Table No. BV-11, Panels A to G. Panels A through C utilize the

long-term risk-free rate while Panels D through G use the short-term risk free rate. Panel A reports the cost of capital estimates using the CAPM results for the long-term risk-free rate, while Panels B and C report these estimates for the ECAPM cost of equity results using ECAPM parameters of 0.5 and 1.5 percent, respectively. Panel D reports the CAPM estimates using the short-term risk free rate, while Panels E, F and G report ECAPM results using ECAPM parameters of 1, 2 and 3 respectively. In each panel, column [8] reports the overall cost of capital for each company. The last two rows of each panel report the sample and the subsample averages. The first is for all companies in the water sample (average [a]), and the second is for the subsample of companies with significant revenue from regulated activities (average [b]).

The sample average ATWACC from each panel of Table No. BV-11 is reproduced in column [1] of Table No. BV-12, which then reports the cost of equity for each of the risk positioning methods that is consistent with the sample information and the capital structure of Arizona-American. Panel A of Table No. BV-12 reports the results for all sample companies. Panel B of the table summarizes the results for the subsample of companies that have a large percentage of revenues from regulated activities. The sample average ATWACCs and corresponding costs of equity at a 46.9 percent equity ratio are also displayed in Table 2 of my testimony. Similar data at 41.6 percent equity are displayed in Table No. BV-13 and Table 3 of my testimony.

Q34. What cost of equity values do you calculate for the gas LDC sample?

A34. The cost of equity estimates for the gas LDC sample are displayed on Panels A and B of Table No. BV-22. As with the water utility sample results, Panel A uses the long-term risk-free rate, and Panel B uses the short-term risk-free rate.

Q35. What does the gas LDC market data imply about the sample's cost of equity at the proposed 46.9 percent equity ratio for Arizona-American Water?

A35. The sample average ATWACC from each panel of Table No. BV-23 is reproduced in column [1] of Table No. BV-24, which then reports the cost of equity for each of the risk positioning methods that is consistent with the sample information and the capital structure of Arizona-American. The sample average ATWACCs and corresponding costs

of equity at a 46.9 percent equity ratio are also displayed in Table 2 of my testimony. Similar data at 41.6 percent equity are displayed in Table No. BV-23 and Table 3 of my testimony.

Q36. What are the implications of the risk positioning results for Arizona-American's estimated cost of equity?

I discuss the implications of the risk positioning results for the two samples in the main body of my testimony.

Table BV-C1

EMPIRICAL EVIDENCE ON THE ALPHA FACTOR IN ECAPM*		
AUTHOR	RANGE OF ALPHA	PERIOD RELIED UPON
Black (1993)[1]	1% for betas 0 to 0.80	1931-1991
Black, Jensen and Scholes (1972)[2]	4.31%	1931-1965
Fama and McBeth (1972)	5.76%	1935-1968
Fama and French (1992)[3]	7.32%	1941-1990
Litzenberger and Ramaswamy (1979)[4]	5.32%	1936-1977
Litzenberger, Ramaswamy and Sosin (1980)	1.63% to 3.91%	1926-1978
Pettengill, Sundaram and Mathur (1995)[5]	4.6%	1936-1990

*The figures reported in this table are for the longest estimation period available and, when applicable, use the authors' recommended estimation technique. Many of the articles cited also estimate alpha for sub-periods and those alphas may vary.

[1]Black estimates alpha in a one step procedure rather than in an un-biased two-step procedure.

[2]Estimate a negative alpha for the subperiod 1931-39 which contain the depression years 1931-33 and 1937-39.

[3]Calculated using Ibbotson's data for the 30-day treasury yield.

[4]Relies on Lizenberger and Ramaswamy's before-tax estimation results. Comparable after-tax alpha estimate is 4.4%.

[5]Pettengill, Sundaram and Mathur rely on total returns for the period 1936 through 1990 and use 90-day treasuries. The 4.6% figure is calculated using auction averages 90-day treasuries back to 1941 as no other series were found this far back.

Sources:

Black, Fischer. 1993. Beta and Return. *The Journal of Portfolio Management* 20 (Fall): 8-18.

Black, F., Michael C. Jensen, and Myron Scholes. 1972. The Capital Asset Pricing Model: Some Empirical Tests, from Studies in the theory of Capital Markets. In *Studies in the Theory of Capital Markets*, edited by Michael C. Jensen, 79-121. New York: Praeger.

Fama, Eugene F. and James D. MacBeth. 1972. Risk, Returns and Equilibrium: Empirical Tests. *Journal of Political Economy* 81 (3): 607-636.

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Fama, Eugene F. and Kenneth R. French. 2004. The Capital Asset Pricing Model: Theory and Evidence. *Journal of Economic Perspectives* 18 (3): 25-46.

Litzenberger, Robert H. and Krishna Ramaswamy. 1979. The Effect of Personal Taxes and Dividends on Capital Asset Prices, Theory and Empirical Evidence. *Journal of Financial Economics* XX (June): 163-195.

Litzenberger, Robert H. and Krishna Ramaswamy and Howard Sosin. 1980. On the CAPM Approach to Estimation of a Public Utility's Cost of Equity Capital. *The Journal of Finance* 35 (2): 369-387.

Pettengill, Glenn N., Sridhar Sundaram and Ike Mathur. 1995. The Conditional Relation between Beta and Returns. *Journal of Financial and Quantitative Analysis* 30 (1): 101-116.

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APPENDIX D

DISCOUNTED CASH FLOW METHODOLOGY:

DETAILED PRINCIPLES AND RESULTS

I. DISCOUNTED CASH FLOW METHODOLOGY PRINCIPLES 2

A. SIMPLE AND MULTI-STAGE DISCOUNTED CASH FLOW MODELS 2

B. CONCLUSIONS ABOUT DCF 9

II. EMPIRICAL DCF RESULTS 9

A. PRELIMINARY MATTERS 10

B. GROWTH RATES 10

C. DIVIDEND AND PRICE INPUTS 13

D. COMPANY-SPECIFIC DCF COST-OF-CAPITAL ESTIMATES 14

Q1. What is the purpose of this appendix?

A1. This appendix reviews the principles behind the discounted cash flow or "DCF" methodology and the details of the cost-of-capital estimates obtained from this methodology.

I. DISCOUNTED CASH FLOW METHODOLOGY PRINCIPLES

Q2. How is this section of the appendix organized?

A2. The first part discusses the general principles that underlie the DCF approach. The second portion describes the strengths and weaknesses of the DCF model and why it is generally less reliable for estimating the cost of capital for the sample companies at the present time than the risk positioning method discussed in Appendix C.

A. Simple And Multi-Stage Discounted Cash Flow Models

Q3. Please summarize the DCF model.

A3. The DCF model takes the first approach to cost-of-capital estimation discussed with Figure 1 in Section II-A of my direct testimony. That is, it attempts to measure the cost of equity in one step. The method assumes that the market price of a stock is equal to the present value of the dividends that its owners expect to receive. The method also assumes that this present value can be calculated by the standard formula for the present value of a cash flow stream:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T}{(1+k)^T} \qquad \textbf{(D-1)}$$

where "P" is the market price of the stock; "D_t" is the dividend cash flow expected at the end of period t; "k" is the cost of capital; and "T" is the last period in which a dividend cash flow is to be received. The formula just says that the stock price is equal to the sum of the expected future dividends, each discounted for the time and risk between now and the time the dividend is expected to be received.

Most DCF applications go even further, and make very strong (*i.e.*, unrealistic) assumptions that yield a simplification of the standard formula, which then can be rearranged to estimate the cost of capital. Specifically, if investors expect a dividend stream that will grow forever at a steady rate, the market price of the stock will be given by a very simple formula,

$$P = \frac{D_1}{(k-g)} \qquad \textbf{(D-2)}$$

where "D_1" is the dividend expected at the end of the first period, "g" is the perpetual growth rate, and "P" and "k" are the market price and the cost of capital, as before. Equation D-2 is a simplified version of Equation D-1 that can be solved to yield the well known "DCF formula" for the cost of capital:

$$\begin{aligned} k &= \frac{D_1}{P} + g \\ &= \frac{D_0 \times (1+g)}{P} + g \end{aligned} \qquad \textbf{(D-3)}$$

where "D_0" is the current dividend, which investors expect to increase at rate g by the end of the next period, and the other symbols are defined as before. Equation D-3 says that if Equation D-2 holds, the cost of capital equals the expected dividend yield plus the (perpetual) expected future growth rate of dividends. I refer to this as the simple DCF model. Of course, the "simple" model is simple because it relies on very strong (*i.e.*, very unrealistic) assumptions.

Q4. Are there other versions of the DCF models besides the "simple" one?

A4. Yes. If Equation D-2 and its underlying assumptions do not hold, sometimes other variations of the general present value formula, Equation D-1, can be used to solve for k in ways that differ from Equation D-3. For example, if there is reason to believe that investors do *not* expect a steady growth rate forever, but rather have different growth rate forecasts in the near term (e.g., over the next five or ten years as compared with subsequent periods), these forecasts can be used to specify the early dividends in Equation D-1. Once the near-term dividends are specified, Equation D-2 can be used to

specify the share price value at the end of the near-term (e.g., at the end of five or ten years), and the resulting cash flow stream can be solved for the cost of capital using Equation D-1.

More formally, the "multistage" DCF approach solves the following equation for k:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T + P_{TERM}}{(1+k)^T} \qquad \textbf{(D-4)}$$

The terminal price, P_{TERM} is estimated as

$$P_{TERM} = \frac{D_{T+1}}{(k - g_{LR})} \qquad \textbf{(D-5)}$$

where T is the last of the periods in which a near term dividend forecast is made and g_{LR} is the long-run growth rate. Thus, Equation D-4 defers adoption of the very strong perpetual growth assumptions that underlie Equation D-2 — and hence the simple DCF formula, Equation D-3 — for as long as possible, and instead relies on near term knowledge to improve the estimate of k. I examine both simple and multistage DCF results below.

Q5. Please describe the multi-stage DCF model you use.

A5. The multi-stage model I use is presented in Equations D-4 and D-5 above, and assumes that the long-term perpetual growth rate for all companies in the two samples is the forecast long-term growth rate of the GDP. This model allows growth rates to differ across companies during the first ten years before settling down to a single long-term growth rate. The growth rate for the first five years is the long-term growth rate derived from analysts' reports. After year five, the growth rate is assumed to converge linearly to the GDP growth rate. In other words, the growth rate in year 6 is adjusted by 1/6th of the difference between each company's 5-year growth rate forecast and the GDP forecast. The growth rates in years 7 to 10 are adjusted by an additional 1/6th so that the earning growth rate pattern converges on the long-term GDP growth rate forecast.

Q6. Why do you assume that the long-term growth rate of the sample companies will converge to the long-term growth rate of GDP?

A6. Recall that the DCF model assumes that dividends grow at a constant rate literally forever. If the growth rate of earnings (and therefore, dividends) were greater than (less than) the long-term growth rate of the economy, mathematically it would mean that the company (and the industry) would become an ever increasing (or decreasing) proportion of the economy. Therefore, the most logical assumption is that the company's earnings grow at the same rate as the economy on average over the long run.

Q7. What are the merits of the DCF model?

A7. The DCF approach is conceptually sound only if its assumptions are met. In actual practice one can run into difficulty because those assumptions are so strong, and hence so unlikely to correspond to reality. Two conditions are well-known to be necessary for the DCF approach to yield a reliable estimate of the cost of capital: the variant of the present value formula, Equation D-1, that is used must actually match the variations in investor expectations for the dividend growth path; and the growth rate(s) used in that formula must match current investor expectations. Less frequently noted conditions may also create problems.

The DCF model assumes that investors expect the cost of capital to be the same in all future years. Investors may not expect the cost of capital to be the same, which can bias the DCF estimate of the cost of capital in either direction.

The DCF model only works for companies for which the standard present value formula works. The standard formula does *not* work for companies that operate in industries or markets options (*e.g.*, puts and calls on common stocks), and so it will not work for companies whose stocks behave as options do. Option-pricing effects will be important for companies in financial distress, for example, which implies the DCF model will *understate* their cost of capital, all else equal.

In recent years even the most basic DCF assumption, that the market price of a stock in the absence of growth options is given by the standard present value formula (*i.e.*, by

Equation D-1 above), has been called into question by a literature on market volatility.[1] In any case, it is still too early to throw out the standard formula, if for no other reasons than that the evidence is still controversial and no one has offered a good replacement. But the evidence suggests that it must be viewed with more caution than financial analysts have traditionally applied. Simple models of stock prices may not be consistent with the available evidence on stock market volatility.

Q8. Normally DCF debates center on the right growth rate. What principles underlie that choice?

A8. Finding the right growth rate(s) is indeed the usual "hard part" of a DCF application. The original approach to estimation of g relied on average historical growth rates in observable variables, such as dividends or earnings, or on the "sustainable growth" approach, which estimates g as the average book rate of return times the fraction of earnings retained within the firm. But it is highly unlikely that historical averages over periods with widely varying rates of inflation, interest rates and costs of capital, such as in the relatively recent past, will equal current growth rate expectations.

A better approach is to use the growth rates currently expected by investment analysts, if an adequate sample of such rates is available. Analysts' forecasts are superior to time series forecasts based upon single variable historical data as has been documented and confirmed extensively in academic research.[2] If this approach is feasible and if the

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[1] See for example, Robert J. Shiller (1981), "Do Stock Prices Move Too Much to be Justified by Subsequent Changes in Dividends?," *The American Economic Review*, Vol. 71, No. 3, pp. 421-436. John Y. Campbell and Robert J. Shiller (1988), "The Dividend-Price Ratio and Expectations of Future Dividends and Discount Factors," *The Review of Financial Studies*, Vol. 1, No. 3, pp. 195-228. Lucy F. Ackert and Brian F. Smith (1993), "Stock Price Volatility, Ordinary Dividends, and Other Cash Flows to Shareholders," *Journal of Finance*, Vol. 48, No. 1, pp. 1147-1160. Eugene F. Fama and Kenneth R. French (2001), "Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay?," *Journal of Financial Economics*, Vol. 60, pp. 3-43. Borja Larrain and Motohiro Yogo (2005), "Does Firm Value Move Too Much to be Justified by Subsequent Changes in Cash Flow?," Federal Reserve Bank of Boston, *Working Paper*, No. 05-18.

[2] Lawrence D. Brown and Michael S. Rozeff (1978), "The Superiority of Analyst Forecasts as Measures of Expectations: Evidence from Earnings," *Journal of Finance*, Vol. XXXIII, No. 1, pp. 1-16. J. Cragg and B.G. Malkiel (1982), *Expectations and the Structure of Share Prices*, National Bureau of Economic Research, University of Chicago Press. R.S. Harris (1986), "Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return," *Financial Management*, Spring Issue, pp. 58-67. J. H. Vander

person estimating the cost of capital is able to select the appropriate version of the DCF formula, the DCF method should yield a reasonable estimate of the cost of capital for companies not in financial distress and without material option-pricing effects (always subject to recent concerns about the applicability of the basic present value formula to stock prices as well as issues of optimism bias). However, for the DCF approach to work, the basic stable-growth assumption must become reasonable and the underlying stable-growth rate must become determinable *within the period for which forecasts are available.*

Q9. What is the so called "optimism bias" in the earnings growth rate forecasts of security analysts and what is its effect on the DCF analysis?

A9. Optimism bias is related to the observed tendency for analysts to forecast earnings growth rates that are higher than are actually achieved. This tendency to over estimate growth rates is perhaps related to incentives faced by analysts that provide rewards not strictly based upon the accuracy of the forecasts. To the extent optimism bias is present in the analysts' earnings forecasts, the cost-of-capital estimates from the DCF model would be too high.

Q10. Does optimism bias mean that the DCF estimates are completely unreliable?

A10. No. The effect of optimism bias is least likely to affect DCF estimates for large, rate regulated companies in relatively stable segments of an industry. Furthermore, the magnitude of the optimism bias (if any) for regulated companies is not clear. This issue is addressed in a paper by Chan, Karceski, and Lakonishok (2003)[3] who sort companies on the basis of the size of the I/B/E/S forecasts to test the level of optimism bias. Utilities constitute 25 percent of the companies in lowest quintile, and by one measure the level of optimism bias is 4 percent. However, the 4 percent figure does not represent the complete characterization of the results in the paper. Table IX of the paper shows that

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Weide and W. T. Carleton (1988), "Investor Growth Expectations: Analysts vs. History," *Journal of Portfolio Management*, spring, pp. 78-82. T. Lys and S. Sohn (1990), "The Association Between Revisions of Financial Analysts Earnings Forecasts and Security Price Changes," *Journal of Accounting and Economics*, vol 13, pp. 341-363.

[3] L. K.C. Chan, J. Karceski, and J. Lakonishok, 2003, "The Level and Persistence of Growth Rates," *Journal of Finance* 58(2):643-684.

the median I/B/E/S forecast for the first (lowest) quintile averages 6.0 percent. The realized "Income before Extraordinary Items" is 2.0 percent (implying a four percent upward bias in I/B/E/S forecasts), but the "Portfolio Income before Extraordinary Items" is 8.0 percent (implying a two percent downward bias in I/B/E/S forecasts).

The difference between the "Income before Extraordinary Items" and "Portfolio Income before Extraordinary Items" is whether individual firms or a portfolio are used in estimating the realized returns. The first is a simple average of all firms in the quintile while the second is a market value weighted-average. Although both measures of bias have their own drawbacks according to the authors,[4] the Portfolio Income measure gives more weight to the larger firms in the quintile such as regulated utilities. In addition, the paper demonstrates that "analysts' forecasts as well as investors' valuations reflect a wide-spread belief in the investment community that many firms can achieve streaks of high growth in earnings."[5] Therefore, it is not clear how severe the problem of optimism bias may be for regulated utilities or even whether there is a problem at all.

Finally, the two-stage DCF model also adjusts for any over optimistic (or pessimistic) growth rate forecasts by substituting the long-term GDP growth rate for the 5-year growth rate forecasts of the analysts in the years beginning in year 11. I linearly trend the 5-year forecast growth rate to the GDP forecast growth rate in years 6 to 10.

Q11. What about the reforms by the National Associate of Security Dealers (NASD) that were designed to reduce the conflicts of interest and pressures brought against security analysts? Have those reforms been generally successful?

A11. Yes. The conclusion from the Joint Report by NASD and the New York Stock Exchange ("NYSE") on the reforms states

> ... the SRO Rules have been effective in helping restore integrity to research by minimizing the influences of investment banking and promoting transparency of other potential conflicts of interest. Evidence

[4] Chan, Karceski, and Lakonishok, *op. cit.*, p. 675.

[5] Chan, Karceski, and Lakonishok, *op. cit.*, p. 663.

> also suggests that investors are benefiting from more balanced and accurate research to aid their investment decisions.[6]

The report does note additional reforms are advisable, but the situation is far different today than during the height of the tech bubble when analyst objectivity was clearly suspect.

B. Conclusions About DCF

Q12. Please sum up the implications of this part of the appendix.

A12. The unavoidable questions about the DCF model's strong assumptions — whether the basic present value formula works for stocks, whether option pricing effects are important for the company, whether the right variant of the basic formula has been found, and whether the true growth rate expectations have been identified — cause me to view the DCF method as *inherently* less reliable than equity risk premium approach, the other approach I use.

II. EMPIRICAL DCF RESULTS

Q13. How is this part of the appendix organized?

A13. This section presents the details of my DCF analyses for the water and gas LDC samples, which are summarized in my written testimony.

Implementation of the simple DCF models described above requires an estimate of the current price, the dividend, and near-term and long-run growth rate forecasts. The simple DCF model relies only on a single growth rate forecast, while the multistage DCF model employs both near-term individual company forecasts and long-run GDP growth rate forecasts. The remaining parts of this section describe each of these inputs in turn.

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[6] Joint Report by NASD and NYSE on the Operation and Effectiveness of the Research Analyst Conflict of Interest Rules, December 2005, p. 44.

A. PRELIMINARY MATTERS

Q14. In Appendix C you discuss estimating cost of capital and implied cost of equity using the risk positioning methodology. What, if anything, is different when you use the DCF method?

A14. First, the timing of the market value capital structure calculations is different in the DCF method than in the equity risk premium method. The equity risk premium method relies on the average capital structure over the five-year period *Value Line* uses to estimate beta while the DCF approach uses only current data, so the relevant market value capital structure measure is the most recent that can be calculated. This capital structure for the water sample companies is reported in columns [1]-[3] of Table No. BV-4, and for the gas LDC sample companies in columns [1]-[3] of Table No. BV-17.

B. GROWTH RATES

Q15. What growth rates do you use?

A15. For reasons discussed above, historical growth rates today are not useful as forecasts of current investor expectations for the water utility industry. I therefore use rates forecasted by security analysts.

The ideal in a DCF application would be a detailed forecast of future dividends, year by year well into the future, based on a large sample of investment analysts' expectations. I know of no source of such data. Dividends are ultimately paid from earnings, however, and earnings forecasts are available for a few years. Investors do not expect dividends to grow in lockstep with earnings, but for companies for which the DCF approach can be used reliably (*i.e.*, for relatively stable companies whose prices do not include the option-like values described previously), they do expect dividends to track earnings over the long-run. Thus, use of earnings growth rates as a proxy for expectations of dividend growth rates is a common practice.

Accordingly, the first step in my DCF analysis is to examine a sample of investment analysts' forecasted earnings growth rates. In particular, I utilize Bloomberg's BEst and

Value Line's forecasted earnings growth.[7] The projected earnings growth rates for the water sample companies are in Table No. BV-5, and those for the gas LDC sample companies are in Table No. BV-18. Column [1] reports Bloomberg's BEst analysts' forecasts of the long-term earnings growth for the sample companies. Column [2] reports the number of analysts that provided a forecast. Columns [3] and [4] report *Value Line's* forecasted earnings per share ("EPS") value for each company for 2007 and 2010-2012 respectively. Column [5] provides *Value Line's* implied long-term growth rate forecast, and column [6] provides a weighted average growth rate for each company across the two sources. (I treat the *Value Line* forecasts as though they overlap exactly with the forecasts from Bloomberg.) These growth rates underlie my simple and multistage DCF analyses.

In the simple DCF, I use the five-year average annual growth rate as the perpetual growth.[8] In the multistage model, I rely on the company-specific growth rate until 2012 and on the long-term GDP forecast for year 2018 onwards. During the years from 2013 to 2017, I assume the growth rate converges linearly towards the long-term GDP forecast.[9]

Q16. Do these growth rates correspond to the ideal you mentioned above?

A16. No. While forecasted growth rates are the quantity required in principle, the forecasts need to go far enough out into the future so that it is reasonable to believe that investors expect a stable growth path afterwards. As can be seen from Table No. BV-5 and Table No. BV-18, the growth rate forecasts vary widely from company to company. For example the BEst growth forecast for Southwest Water is 9.7 percent while the *Value Line* growth forecast is 23.6 percent.[10] While the differences between BEst and *Value*

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[7] The BEst growth rates were downloaded from Bloomberg on February 7, 2008. *Value Line* estimates are from the most recent report available, dated January 25, 2008 for the water sample utilities, and December 14, 2007 for the gas LDCs.

[8] This growth rate is in column [6] of Table No. BV-5 (Table No. BV-18 for the gas LDC sample).

[9] I use the long-term U.S. GDP growth forecast from *Blue Chip Economic Indicators* (October 10, 2007).

[10] See Table No. BV-5.

Line forecasts are lower for the gas LDC sample, there is still significant variation.[11] Also, for some companies, the five-year growth rate forecasts are significantly above or below the long-term GDP growth rate forecast, indicating lack of stability in growth rates. Overall, the growth rates indicate that some companies and maybe the industries have yet to reach a stable equilibrium which is required for the correct application of the DCF method.

Q17. How well are the conditions needed for DCF reliability met at present?

A17. The requisite conditions for the sample companies are not fully met at this time. Of particular concern for this proceeding is the uncertainty about what investors truly expect the long-run outlook for the sample companies to be. The longest time period available for growth rate forecasts of which I am aware is five years. The long-run growth rate (*i.e.*, the growth rate after the industry settles into a steady state, which is certainly *beyond* the next five years for water industry) drives the actual results one gets with the DCF model. Unfortunately, this implies that unless the company or industry in question is stable, so there is little doubt as to the growth rate investors expect. DCF results in practice can end up being driven by the subjective judgment of the analyst who performs the work.

This is a problem at present because it is hard to imagine that today's water industry would accurately be described as stable. There is great uncertainty about the costs required to undertake the large investments in infrastructure forecasted for the industry. Indeed, *Value Line* notes the need for investments aimed at replacing the aging infrastructure and complying with increasingly stringent water safety regulations, partially driven by increased fear of bioterrorism. Additionally, American Society of Civil Engineers estimated in 2005 that the drinking water infrastructure requires $11 billion of annual investments, while the wastewater segment requires $390 billion in investments over the following 20 years.[12] The water industry is also going through a series of mergers and acquisitions, which affects the companies' earnings growth rate estimates. This is one reason why companies heavily involved in mergers and

[11] See table No. BV-18.

[12] Report Card for America's Infrastructure, The American Society of Civil Engineers, 2005.

acquisitions are normally excluded from the sample. Taken together, these factors mean that it may be some time before the water industry settles into anything investors will see as a stable equilibrium.

Such circumstances imply that a regulator may often be faced with a wide range of DCF numbers, none of which can be well grounded in objective data on true long-run growth expectations, *because no such objective data now exist*. DCF for firms or industries in flux is *inherently* subjective with regard to a parameter (the long-run growth rate) that drives the answer one gets.

It is clear that much longer detailed growth rate forecasts than currently available from Bloomberg and Value Line would be needed to implement the DCF model in a completely reliable way for the water sample at this time; however, the general stability of the 5-year growth rate forecasts for the gas LDC sample indicates a higher degree of reliability than for the water sample at this time.

C. DIVIDEND AND PRICE INPUTS

Q18. What values do you use for dividends and stock prices?

A18. Dividends are the most recent recorded dividend payments as reported by Bloomberg. For some companies this is the 4th quarter 2007 dividend, while for others it is the 1st quarter 2008 dividend. This dividend is grown at the estimated growth rate and divided by the price described below to estimate the dividend yield for the simple and multistage DCF models.

Stock prices are the average of the closing stock prices for the 15 trading days ending on the day the BEst forecasts were released (February 7, 2008). Using these dates ensures that the information in growth rates and stock prices are contemporaneous. I use a 15-day average as a compromise. Using a longer period would be inconsistent with the principles that underlie the DCF formula. The DCF approach assumes the stock price is the present value of future expected dividends. Stock prices six months or a year ago reflect expectations at that time, which are different from those that underlie the currently

available growth forecasts. At the same time, use of an average over a brief period helps guard against a company's price on a particular day price being unduly influenced by mistaken information, differences in trading frequency, and the like.

The closing stock price is used because it is at least as good as any other measure of the day's outcome, and may be better for DCF purposes. In particular, if there were any single price during the day that would affect investors' decisions to buy or sell a stock, I would suspect that it would be each day's closing price, not the high or low during the day. The daily price changes reported in the financial pages, for example, are from close to close, not from high to high or from low to low.

D. COMPANY-SPECIFIC DCF COST-OF-CAPITAL ESTIMATES

Q19. What DCF estimates do these data yield?

A19. The cost-of-equity results for the simple and multistage DCF models are shown in Table No. BV-6 for the water utility sample and in Table No. BV-19 for the gas LDC sample. In both tables, Panel A reports the results for the simple DCF method while Panel B reports the results for the multistage DCF method using the long-term GDP growth rate as the perpetual growth rate.

Q20. What overall cost-of-capital estimates result from the DCF cost-of-equity estimates?

A20. The capital structure, DCF cost of equity, and cost of debt estimates are combined to obtain the overall after-tax weighted-average cost of capital for each sample company. These results are presented in Table No. BV-7 for the water sample and in Table No. BV-20 for the gas LDC sample. Again, Panel A relies on the simple DCF cost-of-equity results while Panel B relies on the multistage DCF cost-of-equity results.

Q21. What information do you report in Table No. BV-8 and in Table No. BV-21?

A21. These tables report, for each sample, the return on equity consistent with that sample's estimated overall after-tax weighted-average cost of capital and the proposed equity thickness of 46.9 percent for Arizona-American. For both the simple DCF and multistage DCF methods, the sample's average ATWACC is reported in column [1].

Column [6] reports the return on equity as if the sample companies' average market value capital structure had been that currently proposed for Arizona-American. Similar data at 41.6 percent equity are presented in Tables No. BV-13 and BV-25, and in Table 3 of my testimony.

Q22. What are the implications of these results?

A22. The implication of these numbers is discussed in my direct testimony, along with the findings of the equity risk premium approach.

APPENDIX E

EFFECT OF DEBT ON THE COST OF EQUITY

I. AN OVERVIEW OF THE ECONOMIC LITERATURE 2

A. TAX EFFECTS 2
1. Base Case: No Taxes, No Risk to High Debt Ratios 3
2. Corporate Tax Deduction for Interest Expense 4
3. Personal Tax Burden on Interest Expense 5

B. NON-TAX EFFECTS 8

II. EXPANDED EXAMPLE 12

A. DETAILS OF DIFFERENT LEVELS OF DEBT 12

B. THE IMPACT OF INCOME AND INTEREST 14

C. THE EFFECT OF TAXES 16

D. COMBINED EFFECTS 21

Q1. What is the purpose of this Appendix?

A1. In this appendix, I provide details on the effects of debt on the cost of equity. First, I summarize a fairly large body of financial research on capital structure. Second, I provide an extended example to illustrate the effect of debt on the cost of equity.

I. AN OVERVIEW OF THE ECONOMIC LITERATURE

Q2. What is the focus of the economic literature on the effects of debt?

A2. The economic literature focuses on the effects of debt on the value of a firm. The standard way to recognize one of these effects, the impact of the fact that interest expense is tax-deductible, is to discount the all-equity after-tax operating cash flows generated by a firm or an investment project at a weighted average cost of capital, typically known in textbooks as the "WACC." The textbook WACC equals the *market*-value weighted average of the cost of equity and the *after-tax, current* cost of debt. However, rate regulation in North America has a legacy of working with another weighted-average cost of capital, the *book*-value weighted average of the cost of equity and the *before-tax, embedded* cost of debt. To distinguish the concepts, I refer to the after-tax weighted-average cost of capital as ATWACC.

Q3. How is this section of the appendix organized?

A3. It starts with the tax effects of debt. It then turns to other effects of debt.

A. TAX EFFECTS

Q4. What are the key findings in the literature regarding tax effects?

A4. Three seminal papers are vital for this literature. The first assumes no taxes and risk-free debt. The second adds corporate income taxes. The third adds personal income taxes.

1. Base Case: No Taxes, No Risk to High Debt Ratios

Q5. Please start by explaining the simplest case of the effect of debt on the value of a firm.

A5. The "base case," no taxes and no costs to excessive debt, was worked out in a classic 1958 paper by Franco Modigliani and Merton Miller, two economists who eventually won Nobel Prizes in part for their body of work on the effects of debt.[1] Their 1958 paper made what is in retrospect a very simple point: if there are no taxes and no risk to the use of excessive debt, use of debt will have no effect on a company's operating cash flows (i.e., the cash flows to investors as a group, debt plus equity combined). If the operating cash flows are the same regardless of whether the company finances mostly with debt or mostly with equity, then the value of the firm cannot be affected at all by the debt ratio. In cost-of-capital terms, this means the overall cost of capital is constant regardless of the debt ratio, too.

In the base case, issuing debt merely divides the cash flows into two pools, one for bondholders and one for shareholders. If the divided pools have different priorities in claims on the cash flows, the risks and costs of capital will differ for each pool. But the risk and overall cost of capital of the entire firm, the sum of the two pools, is constant regardless of the debt ratio. Thus,

$$r_1^* = r_{A1} \qquad \text{(E-1a)}$$

where r_1^* is the overall after-tax cost of capital at any particular capital structure and r_{A1} is the all-equity cost of capital for the firm. (The "1" subscripts distinguish the case where there are no taxes from subsequent equations that consider first corporate and then both corporate and personal taxes.) With no taxes and no risk to debt, the overall cost of capital does not change with capital structure.

This implies that the relationship of the overall cost of capital to the component costs of debt and equity is

[1] Franco Modigliani and Merton H. Miller (1958), "The Cost of Capital, Corporation Finance and the Theory of Investment," *American Economic Review*, 48, pp. 261-297.

$$r_{E1} \times \left(\frac{E}{V}\right) + r_{D1} \times \left(\frac{D}{V}\right) = r_1^* \qquad \text{(E-1b)}$$

with the overall cost of capital (r^*) on the *right* side, as the *independent* variable, and the costs of equity (r_E) and debt (r_D) on the left side, as *dependent* variables determined by the overall cost of capital and by the capital structure (i.e., the shares of equity (E) and debt (D) in overall firm value ($V = E + D$) that the firm happens to choose. Note that if equation (E-1a) were correct, the equation that solved it for the cost of equity would be,

$$r_{E1} = r_1^* + (r_1^* - r_D) \times \left(\frac{D}{E}\right) \qquad \text{(E-1c)}$$

Note also that (D/E) gets exponentially higher in this equation as the debt-to-value ratio increases[2] i.e., the cost of equity increases exponentially with leverage.

2. Corporate Tax Deduction for Interest Expense

Q6. What happens when you add corporate taxes to the discussion?

A6. If corporate taxes exist with risk-free debt (and if only taxes at the corporate level matter, not taxes at the level of the investor's personal tax return), the initial conclusion changes. Debt at the corporate level reduces the company's tax liability by an amount equal to the marginal tax rate times the interest expense. All else equal, this will add value to the company because more of the operating cash flows will end up in the hands of investors as a group. That is, if only corporate taxes mattered, interest would add cash to the firm equal to the corporate tax rate times the interest expense. This increase in cash would increase the value of the firm, all else equal. In cost-of-capital terms, it would reduce the overall cost of capital.

How much the value of the firm would rise and *how far* the overall cost of capital would fall would depend in part on how often the company adjusts its capital structure, but this is a second-order effect in practice. (The biggest effect would be if companies could

[2] For example, at 20-80, 50-50, and 80-20 debt-equity ratios, (D/E) equals, respectively, (20/80) = 0.25, (50/50) = 1.0, and (80/20) = 4.0. The extra 30 percent of debt going from 20-80 to 50-50 has much less impact on (D/E) [i.e., by moving it from 0.25 to 1.0] than the extra 30 percent of debt going from 50-50 to 80-20 [i.e., by moving it from 1.0 to 4.0]. Since the cost of equity equals a constant risk premium times the debt-equity ratio, the cost of equity grows ever more rapidly as you add more and more debt.

issue riskless perpetual debt, an assumption Profs. Modigliani and Miller explored in 1963, in the second seminal paper;[3] this assumption could *not* be true for a real company.) Prof. Robert A. Taggart provides a unified treatment of the main papers in this literature and shows how various cases relate to one another.[4] Perhaps the most useful set of benchmark equations for the case where only corporate taxes matter are:

$$r_2^* = r_{A2} - r_D \times t_C \times \left(\frac{D}{V}\right) \qquad \text{(E-2a)}$$

$$r_2^* = r_{E2} \times \left(\frac{E}{V}\right) + r_D \times \left(\frac{D}{V}\right) \times (1 - t_C) \qquad \text{(E-2b)}$$

which imply for the cost of equity,

$$r_{E2} = r_{A2} + (r_{A2} - r_D) \times \left(\frac{D}{E}\right) \qquad \text{(E-2c)}$$

where the variables have the same meaning as before but the "2" subscripts indicate the case that considers corporate but not personal taxes.

Note that Equation (E-2a) implies that when only corporate taxes matter, the overall after-tax cost of capital declines steadily as more debt is added, until it reaches a minimum at 100 percent debt (i.e., when $D/V = 1.0$). Note also that Equation (E-2c) still implies an exponentially increasing cost of equity as more and more debt is added. In fact, except for the subscript, Equation (E-2c) looks just like Equation (E-1c). However, whether any value is added and whether the cost of capital changes at all also depends on the effect of taxes at the personal level.

3. Personal Tax Burden on Interest Expense

Q7. How do personal taxes affect the results?

A7. Ultimately, the purpose of investment is to provide income for consumption, so personal taxes affect investment returns. For example, in the U.S., municipal bonds have lower

[3] Franco Modigliani and Merton H. Miller (1963), "Corporate Income Taxes and the Cost of Capital: A Correction," *American Economic Review*, 53, pp. 433-443.

interest rates than corporate bonds because their income is taxed less heavily at the personal level. In general, capital appreciation on common stocks is taxed less heavily than interest on corporate bonds because (1) taxes on unrealized capital gains are deferred until the gains are realized, and (2) the capital gains tax rate is lower. Dividends are taxed less heavily than interest, also, under current tax law.[5] The effects of personal taxes on the cost of common equity are hard to measure, however, because common equity is so risky.

Professor Miller, in his Presidential Address to the American Finance Association,[6] explored the issue of how personal taxes affect the overall cost of capital. The paper pointed out that personal tax effects could offset the effect of corporate taxes entirely.

Q8. Is it likely that the effect of personal taxes will completely neutralize the effect of corporate taxes?

A8. I do not believe so, although the likelihood of such a result would be increased if the current federal tax reductions on dividends and capital gains became permanent rather than expiring in 2010. However, personal taxes are important even if they do not make the corporate tax advantage on interest vanish entirely. Capital gains and dividend tax advantages definitely convey some personal tax advantage to equity, and even a partial personal advantage to equity reduces the corporate advantage to debt.

The Taggart paper explores the case of a partial offset, also. With personal taxes, the risk-free rate on the security market line is the after-personal-tax rate, which must be equal for risk-free debt and risk-free equity.[7] Therefore, the pre-personal-tax risk-free

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[4] Robert A. Taggart, Jr. (1991), "Consistent Valuation and Cost of Capital Expressions with Corporate and Personal Taxes," *Financial Management* 20, pp. 8-20.

[5] The current maximum personal tax rate on dividend income was extended to the end of 2010 by the President on May 17, 2006. It is uncertain whether the reduced rates on dividend income will be further extended.

[6] Merton H. Miller (1977), "Debt and Taxes," *The Journal of Finance*, 32: 261-276, the third of the seminal papers mentioned earlier.

[7] As Prof. Taggart notes (his footnote 9), it is not necessary that a specific, risk-free equity security exist as long as one can be created synthetically, through a combination of long and short sales of traded assets. Such constructs are a common analytical tool in financial economics.

rate for equity will generally not be equal to the pre-personal-tax risk-free rate for debt. In particular, $r_{fE} = r_{fD} \times [(1-t_D)/(1-t_E)]$, where r_{fE} and r_{fD} are the risk-free costs of equity and debt and t_E and t_D are the personal tax rates for equity and debt, respectively. In terms of the cost of debt, the Taggart paper's results imply that a formal statement of these effects can be written as:[8]

$$r_3^* = r_{A3} - r_D \times t_N \times \left(\frac{D}{V}\right) \tag{E-3a}$$

$$= r_{E3} \times \left(\frac{E}{V}\right) + r_D \times \left(\frac{D}{V}\right) \times (1-t_C) \tag{E-3b}$$

which imply

$$r_{E3} = r_{A3} + \left[r_{A3} - r_D \times \left(\frac{1-t_D}{1-t_E}\right)\right] \times \left(\frac{D}{E}\right) \tag{E-3c}$$

Suppose, for example, that $t_C = 35$ percent, $t_E = 7.7$ percent and $t_D = 40$ percent. Then $[(1-t_D)/(1-t_E)] = 0.65 = (1-t_C)$. That condition corresponds to Miller's 1977 paper, in which the net personal tax advantage of equity fully offsets the net corporate tax advantage of debt. Note also that in that case, $t_N = 0$.[9] Therefore, if the personal tax advantage on equity fully offsets the corporate tax advantage on debt, Equation (E-3a) confirms that the overall after-tax cost of capital is a constant.

However, it is unlikely that the personal tax advantage of equity fully offsets the corporate tax advantage of debt. If taxes were all that mattered (i.e., if there were no other costs to debt), the overall after-corporate-tax cost of capital would still fall as debt was added, just not as fast.

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[8] The net all-tax effect of debt on the overall cost of capital, t_N, equals $\{[t_C+t_E-t_D-(t_C \times t_E)] / (1-t_E)\}$, where t_D is the personal tax rate on debt, as before. This measure of net tax effect is designed for use with the cost of debt in Equation (E-3a), which seems more useful in the present context. The Taggart paper works with a similar measure, but one which is designed for use with the cost of risk-free equity in the equivalent Taggart equation.

[9] In the above example, $t_N = \{[0.35+0.0770.4(0.35\square 0.077)] / (1.00.077)\} = 0.0/0.923 = 0$.

Finally, note that the overall after-tax cost of capital, Equation (E-3b), still uses the corporate tax rate even when personal taxes matter. Equations (E-2b) and (E-3b) both correspond to the usual formula for the ATWACC. Personal taxes affect the way the cost of equity changes with capital structure – Equation (E-3c) – but not the formula for the overall after-tax cost of capital given that cost of equity.

B. NON-TAX EFFECTS

Q9. Please describe the non-tax effects of debt.

A9. If debt is truly valuable, firms should use as much as possible, and competition should drive firms in a particular industry to the same, optimal capital structure for the industry. If debt is harmful on balance, firms should avoid it. Neither picture corresponds to what we actually see. A large economic literature has evolved to try to explain why.

Part of the answer clearly is the costs of excessive debt. Here the results cannot be reduced to equations, but they are no less real for that fact. As companies add too much debt, the costs come to outweigh the benefits. Too much debt reduces or eliminates financial flexibility, which cuts the firm's ability to take advantage of unexpected opportunities or weather unexpected difficulty. Use of debt rather than internal financing may be taken as a negative signal by the market.

Even if the company is generally healthy, more debt increases the risk that the company cannot use all of the interest tax shields in a bad year. As debt continues to grow, this problem grows and others may crop up. Management begins to worry about meeting debt payments instead of making good operating decisions. Suppliers are less willing to extend trade credit, and a liquidity shortage can translate into lower operating profits. Ultimately, the firm might have to go through the costs of bankruptcy and reorganization. Collectively, such factors are known as the costs of "financial distress."[10]

The net tax advantage to debt, if positive, is affected by costs such as a growing risk that the firm might have to bear the costs of financial distress. First, the expected present

[10] See, for example, Section 18.3 of Brealey, Myers and Allen, 2006, *Principles of Corporate Finance*, 8th Edition, McGraw-Hill/Irwin, 2006.

value of these costs offsets the value added by the interest tax shield. Second, since the likelihood of financial distress is greater in bad times when other investments also do poorly, the possibility of financial distress will increase the risks investors bear. These effects increase the variability of the value of the firm. Thus, firms that use too much debt can end up with a higher overall cost of capital than those that use none.

Other parts of the answer include the signals companies send to investors by the decision to issue new securities, and by the type of securities they issue. Other threads of the literature explore cases where management acts against shareholder interests, or where management attempts to "time" the market by issuing specific securities under different conditions. For present purposes, the important point is that no theory, whether based on taxes or on some completely different issue, has emerged as "the" explanation for capital structure decisions by firms. Nonetheless, despite the lack of a single "best" theory, there is a great deal of relevant empirical research.

Q10. What does that research show?

A10. The research does not support the view that debt makes a material difference in the value of the firm, at least not once a modest amount of debt is in place. If debt were truly valuable, competitive firms should use as much debt as possible short of producing financial distress, and competitive firms that use less debt ought to be less profitable. The research shows exactly the opposite.

For example, Kester[11] found that firms in the same industry in both the U.S. and Japan do not band around a single, "optimal" capital structure, and the most profitable firms are the ones that use the *least* debt. This finding comes despite the fact that both countries at the time (unlike the U.S. currently) had fully "classical" tax systems, in which dividends are taxed fully at both the corporate and personal level. Wald[12] confirms that high profitability implies low debt ratios in France, Germany, Japan, the U.K., and the U.S.

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[11] Carl Kester (1986), "Capital and Ownership Structure: A Comparison of United States and Japanese Manufacturing Concerns," *Financial Management*, 15:5-16.

[12] John K. Wald (1999), "How Firm Characteristics Affect Capital Structure: An International Comparison," *Journal of Financial Research*, 22:161-167.

Booth *et al.* find the same result for a sample of developing nations.[13] Fama and French[14] analyze over 2000 firms for 28 years (1965-1992, inclusive) and conclude, "Our tests thus produce no indication that debt has net tax benefits."[15] A paper by Graham[16] carefully analyzes the factors that might have led a firm not to take advantage of debt. It confirms that a large proportion of firms that ought to benefit substantially from use of additional debt, including large, profitable, liquid firms, appear not to use it "enough."

This research leaves us with only three options: either (1) apparently good, profit-generating managers are making major mistakes or deliberately acting against shareholder interests, (2) the benefits of the tax deduction on debt are less than they appear, or (3) the non-tax costs to use of debt offset the potential tax benefits. Only the first of these possibilities is consistent with the view that the tax deductibility of debt conveys a material cost advantage. Moreover, if the first explanation were interpreted to mean that otherwise good managers are acting against shareholder interests, either deliberately or by mistake, it would require the additional assumption that their competitors (and potential acquirers) let them get away with it.

Q11. Are there any explanations in the financial literature for this puzzle other than stupid or self-serving managers at the most profitable firms?

A11. Yes. For example, Stewart C. Myers, a leading expert on capital structure, made it the topic of his Presidential Address to the American Finance Association.[17] The poor performance of tax-based explanations for capital structure led him to propose an entirely different mechanism, the "pecking order" hypothesis. This hypothesis holds that the net tax benefits of debt (i.e., corporate tax advantage over personal tax disadvantage) are at

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[13] Laurence Booth *et al.* (2001), "Capital Structures in Developing Countries," *The Journal of Finance* Vol. LVI, pp. 87-130, finds at p. 105 that "[o]verall, the strongest result is that profitable firms use less total debt. The strength of this result is striking ..."

[14] Eugene F. Fama and Kenneth R. French (1998), "Taxes, Financing Decisions and Firm Value," *The Journal of Finance*, 53:819-843.

[15] *Ibid.*, p. 841.

[16] John R. Graham (2000), "How Big Are the Tax Benefits of Debt," *The Journal of Finance*, 55:1901-1942.

most of a second order of importance relative to other factors that drive actual debt decisions.[18] Similarly, Baker and Wurgler (2002)[19] observe a strong and persistent impact that fluctuations in market value have on capital structure. They argue that this impact is not consistent with other theories. The authors suggest a new capital structure theory based on market timing -- capital structure is the cumulative outcome of attempts to time the equity market.[20] In this theory, there is no optimal capital structure, so market timing financing decisions just accumulate over time into the capital structure outcome. (Of course, this theory only makes sense if investors do not recognize what managers are doing.)

Q12. Do inter-firm differences within an industry explain the wide variations in capital structure across the firms in an industry?

A12. No. This view is contradicted by the empirical research. As mentioned before, it has long been found that the most profitable firms in an industry, i.e., those in the best position to take advantage of debt, use the least.[21] Graham (2000) carefully examines differences in firm characteristics as possible explanations for why firms use "too little" debt and concludes that such differences are *not* the explanation: firms that ought to benefit substantially from more debt by all measurable criteria, if the net tax advantage of debt is truly valuable, voluntarily do not use it.[22]

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[17] Stewart C. Myers (1984), "The Capital Structure Puzzle," *The Journal of Finance*, 39: 575-592. See also S. C. Myers and N. S. Majluf (1984), "Corporate Financing Decisions When Firms Have Information Investors Do Not Have," *Journal of Financial Economics* 13:187-222.

[18] See also Stewart C. Myers (1989), "Still Searching for Optimal Capital Structure," *Are the Distinctions Between Debt and Equity Disappearing?*, R.W. Kopke and E. S. Rosengren, eds., Federal Reserve Bank of Boston.

[19] Malcolm Baker and Jeffrey Wurgler (2002), "Market Timing and Capital Structure," *The Journal of Finance* 57:1-32.

[20] *Ibid.*, p. 29.

[21] For example, Kester, *op. cit.* and Wald, *op. cit.*

[22] While not contradicting Graham's finding that differences in firm characteristics do not explain capital structure differences, Nengjiu Ju, Robert Parrino, Allen M. Poteshman, and Michael S. Weisbach, "Horses and Rabbits? Trade-Off Theory and Optimal Capital Structure," *Journal of Financial and Quantitative Analysis*, June 2005, pp. 1-24, looks at the issue in a different manner. Their paper uses a dynamic rather than static model to analyze the tradeoff between the tax benefits of debt and the risk of financial distress. It finds that bankruptcy costs by themselves are enough to explain observed capital structures, once

Nor does the research support the view that firms are constantly trying to adjust their capital structures to optimal levels. Additional research on the pecking order hypothesis demonstrates that firms do not tend towards a target capital structure, or at least do not do so with any regularity, and that past studies that seemed to show the contrary actually lacked the power to distinguish whether the hypothesis was true or not.[23] In the words of the Shyam-Sunder - Myers paper p. 242, "If our sample companies did have well-defined optimal debt ratios, it seems that their managers were not much interested in getting there."

II. EXPANDED EXAMPLE

Q13. What topics do you cover in this section?

A13. The discussion in my testimony did not detail the impact of different starting points for the level of debt nor did it address income earned on the investment, interest expense, or taxes. This section covers these topics. First, it discusses how the level of debt affects the cost of equity. Second, it addresses the influence of income and interest on the investment. Third, it explains the impact of taxes on capital structure decisions. The final topic covered in this section is the combined consequence of tax and non-tax effects of debt.

A. DETAILS OF DIFFERENT LEVELS OF DEBT

Q14. Please repeat briefly the setup in the example discussed in the direct testimony.

A14. The example considered an investor who purchases $100,000 in real estate. The future value of the real estate is uncertain. Figures 2 and 3 in my direct testimony show how the return on equity to the investor differs if he finances the purchase with 100 percent equity,

---

dynamic effects are considered. This means debt is not as valuable as suggested by the traditional static analysis (of the sort used by Graham).

[23] Lakshmi Shyam-Sunder and Stewart C. Myers (1999), "Testing static tradeoff against pecking order models of capital structure," *Journal of Financial Economics* 51:219-244.

and if he finances it with 50 percent equity and 50 percent mortgage debt. The lesson from the example is that debt adds risk to equity.

Q15. What happens if the investor finances the real estate purchase with different proportions of debt?

A15. The equity return becomes more variable when the mortgage percentage is a greater proportion of the initial price. Table E-1 below calculates the return on equity when real estate prices increase by 10 percent when mortgages are 0 percent, 30 percent, 50 percent, and 70 percent of the initial price.

Table E-1: The Impact of Leverage on the Return on Equity

	100% Equity	70% Equity	50% Equity	30% Equity
Debt	$0	$30,000	$50,000	$70,000
Original Equity Investment	$100,000	$70,000	$50,000	$30,000
Increase in Market Value of Equity	$10,000	$10,000	$10,000	$10,000
Return on Equity Investment	10%	14.3%	20%	33.3%

Note that going from 70 percent equity down to 50 percent equity increases the return on the equity investment by 5.7 percent while going from 50 percent equity to 30 percent equity increases the return on equity by 13.3 percent. This illustrates a general point; the rate of return on equity increases more quickly at higher levels of debt than at lower levels. Investors demand a higher equity rate of return to bear more risk and debt magnifies equity's risk at an ever increasing rate. Therefore, the required equity rate of return goes up at an ever increasing rate as debt is added. This is not only basic finance theory, it is the everyday experience of anyone who buys a home. The bigger the mortgage, the more percentage risk the equity faces from changes in housing prices.

B. THE IMPACT OF INCOME AND INTEREST

Q16. How does earning income from the investment and paying interest on debt affect the results?

A16. In the following explanation, I ignore income taxes which I deal with in Section C below. Assume the investor is receiving income, e.g., rent, from the real estate. Specifically, assume the investor receives $500 per month in income after all non-interest expenses ($6,000 per year). Also, assume that the expected appreciation is 5 percent per year, so the expected market value is $105,000 after one year. Then the expected rate of return from the real estate with all equity financing is:

$$\text{Expected Return on Equity @ 0\% debt} = \frac{\text{Expected Net Income + Expected Appreciation}}{\text{Initial Investment}}$$

$$= \frac{\$6{,}000 + (\$105{,}000 - \$100{,}000)}{\$100{,}000}$$

$$= 11\%$$

Now suppose that the mortgage interest rate were 5 percent. Then at a mortgage equal to 50 percent, or $50,000, interest expense would be ($50,000 x 0.05), or $2,500. The expected equity rate of return would be:

$$\text{Expected Return on Equity @ 50\% debt} = \frac{\text{Expected (Net Income + Appreciation) – Int. Expense}}{\text{Initial } \textit{Equity} \text{ Investment}}$$

$$= \frac{\$6{,}000 + \$5{,}000 - \$2{,}500}{\$50{,}000}$$

$$= 17\%$$

Notice that the expected return on equity is higher as is the risk carried by equity.

Q17. Can you provide a more general illustration?

Yes. Figure E-1 uses these assumptions at different mortgage levels to plot both (i) the expected rate of return on the equity in the real estate, and (ii) the realized rate of return

on that equity in a year if the real estate value increases by 10 percent more than the expected 5 percent rate (i.e., if the value increases by 15 percent) or by 10 percent less than expected (i.e., if it decreases by 5 percent).[24]

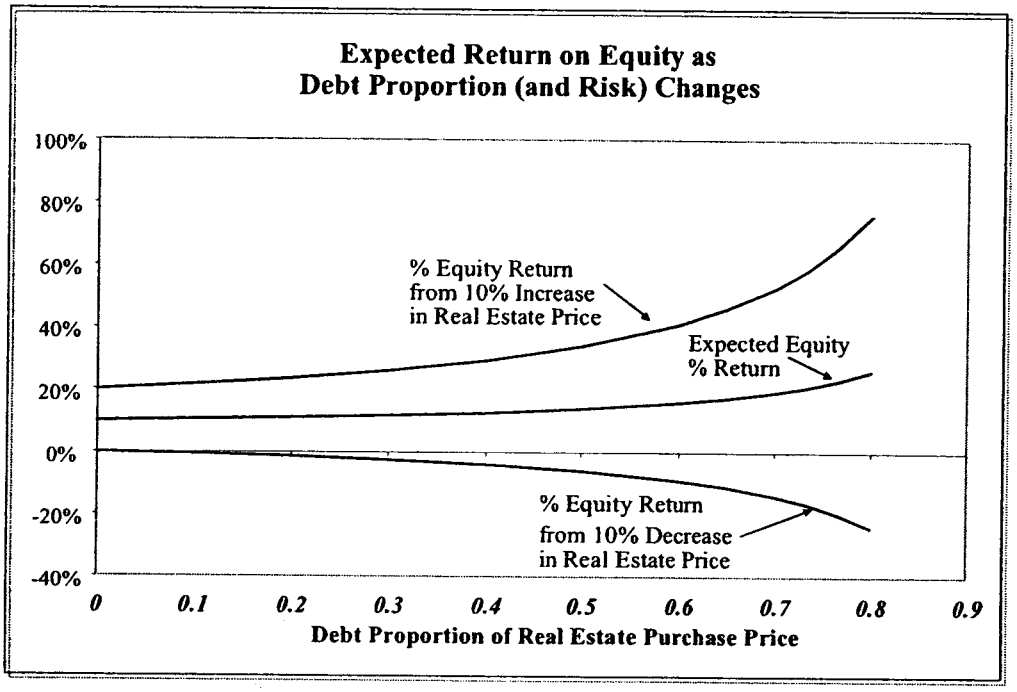

Figure E-1

The expected rate of return on equity increases at an increasing rate as the investor finances more and more of the real estate through loans (e.g., with a mortgage). Since equity bears all the risk of increases or decreases in real estate values (absent financial distress or bankruptcy), the amount of risk the buyer bears grows at an ever increasing rate as the mortgage percentage also increases.

Q18. What are the implications of this example?

A17. Any time an individual or a company uses debt to finance part an investment, the same risk magnifies. For example, if an investor buys stocks "on margin" -- by borrowing part of the money used to buy the stock -- the expected rate of return will be higher as will the

[24] For simplicity, the figure assumes the debt's interest rate is independent of the debt proportion. This might not always be true, and in general would not be true for a corporation that issued debt. However, the general shape of the graphs remains the same.

risks the investor carries. As an everyday example, imagine investing your retirement savings in a stock portfolio bought with as much margin as possible. If you were lucky, you could end up living very well in retirement. But you would be taking a lot of risk on the opposite outcome, since your portfolio could decline by more than 100 percent of your initial investment.

The same risk-magnifying effects happen when companies borrow to finance part of their investments.

C. THE EFFECT OF TAXES

Q19. What is the impact of taxes?

A18. Analyzing the net effect of taxes in capital structure decisions by corporations is an important part of the financial research. (Other parts of that research address such issues as the risk of financial distress or bankruptcy, and the signals corporations send investors by the choice of how to finance new investments.) The bottom line is that taxes complicate the picture without changing the basic conclusion.

Q20. Please describe the potential impact of taxes.

A19. Interest expense is tax-deductible for corporations. That increases the pool of cash the corporation gets to keep out of its operating earnings (i.e., its earnings before interest expense). With no debt, 100 percent of operating income is subject to taxes. With debt, only the equity part of the operating income is subject to taxes.

All else equal, the extra money kept from operating income increases the value of the corporation. The standard way to recognize that increase in value is to use an after-tax weighted-average cost of capital as a discount rate when valuing a company's operating cash flows.

Q21. Do personal taxes affect the value of debt, too?

A20. Yes, but in the other direction. One offset to debt's tax benefits at the corporate level is its higher tax burden at the personal level. Investors care about the money they get to keep after all taxes are paid, and while the corporation saves taxes by opting for debt over

equity, individuals pay more taxes on interest than on capital gains from equity (and for now, on dividends as well).

Q22. Are there factors other than taxes matter?

A21. Absolutely, "all else" does not remain equal as more debt is added. The more debt, the more the non-tax effects of debt offset the tax benefits. Other costs include such effects as a loss of flexibility, the possibility of sending negative signals to investors, and a host of costs and risks associated with the danger of financial distress.

Q23. Does the tradeoff between the tax and non-tax effects of debt mean that firms have well-defined, optimal capital structures?

A22. No, this sort of "tradeoff" model does not explain actual corporate behavior. A substantial body of economic research confirms that real-world corporations act as if, after a moderate amount of debt is in place, the tax benefits of debt are not worth debt's other costs. In country after country and in industry after industry, the most profitable corporations in an industry tend to use the least debt. The research on this point is quite thorough, and the finding that the most profitable companies tend to use the least debt in a given industry is robust. Yet these are the companies with the most operating income to shield from taxes, who would benefit most if interest tax shields were truly valuable net of debt's other costs. They also presumptively are the best-managed on average (else why are they the most profitable?). This means it is unrealistic to suppose that more debt is always better, or that greater tax savings due to higher interest expense always add value to the firm on balance.

Q24. If the tradeoff model doesn't explain capital structure decisions by firms, is there a model that does?

A23. No single model has (yet) emerged as 'the" explanation of capital structure. However, several alternative models attempt to model the tradeoff (e.g., the "pecking order" hypothesis and "agency cost" explanations).

Q25. What does the absence of an agreed theory of capital structure in the financial literature imply about the overall effect of debt on the value of the firm?

A24. The findings of the financial literature mean that within an industry, there is no well-defined optimal capital structure. The use of some debt does convey some value advantage in most industries, but that advantage is offset by other costs as firms add more debt.[25] The range of capital structures over which the value of the firm in any industry is maximized is wide and should be treated as flat. The location and level of that range, however, does vary from industry to industry, just as the overall cost of capital varies from industry to industry.

Figure E-2 illustrates the picture that emerges from the research. This figure shows the present value of an investment in each of four different industries. For simplicity, the investment is expected to yield $1.00 per year forever. For firms in relatively high-risk industries (Industry 1 in the graph, the lowest line), the $1.00 perpetuity is not worth much and any use of debt decreases firm value. For firms in relatively low-risk industries (Industry 4 in the graph), the perpetuity is worth more and substantial amounts of debt make sense. Industries 2 and 3 are intermediate cases.

The maximum net rate at which taxes can increase value in this figure equals 20 percent of interest expense, representing a balance between the corporate tax advantage to debt and the personal tax disadvantage. The figure plots the maximum possible impact of taxes on value as a separate line, starting at the all-equity value of the lowest-risk industry (Industry 4).

[25] Note that if debt did increase the value of the firm materially, competition would tend to take that value away, since issuing debt is an easy-to-copy competitive strategy. Prices would fall as firms copied the strategy, lowering operating earnings and passing the net tax advantages to debt through to customers (just as happens under rate regulation). Therefore, if also there were a narrow range of optimal capital structures within an industry, competition would drive all firms in the industry to capital structures within that range. This does not happen in practice, which contradicts one or both of the assumptions, i.e., (1) that debt adds material value on balance, and/or (2) that there is a narrow range of optimal capital structures.

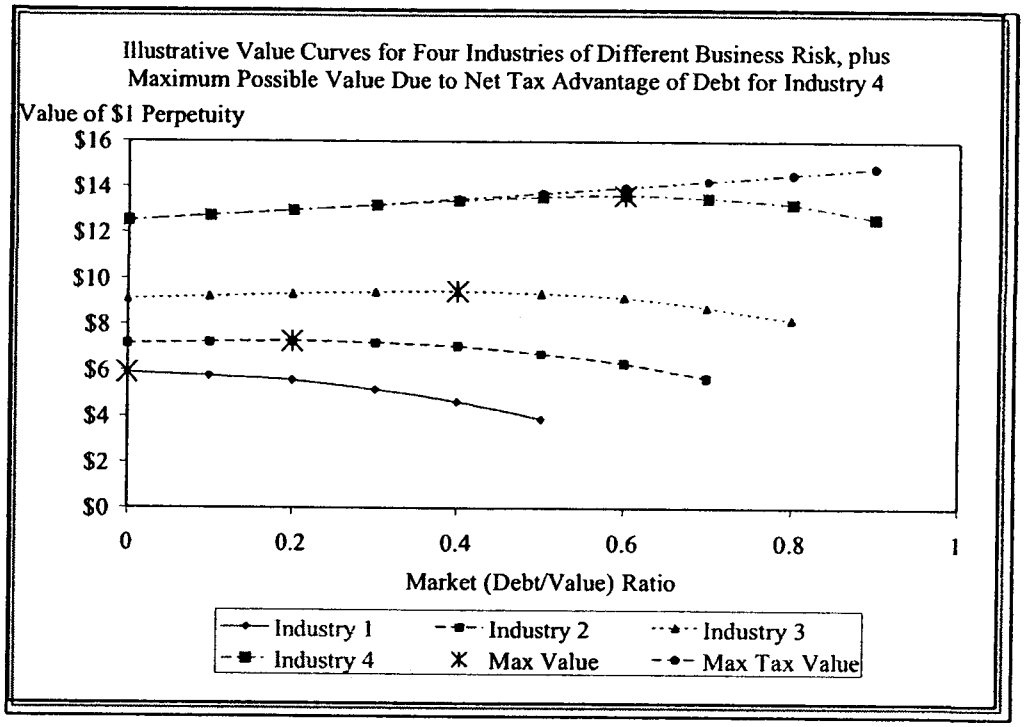

Figure E-2

Figure E-2 identifies a particular point as the maximum value on each of the four curves. However, the research shows that reliable identification of this maximum point, except in the extreme case where no debt should be used, is impossible. In accord with the research, the graph is prepared so that in none of the industries does a change in capital structure make much difference near the top of the curve. Even Industry 4, which increases in value at the maximum rate as quite a lot of debt is added, eventually must reach a broad range where changes in the debt ratio make little difference to firm value, given the research. For Industry 4, debt makes less than a 2 percent difference in the total value of the firm for debt-to-value ratios between 40 and 70 percent. (While these particular values are illustrative, numbers of this order of magnitude are the only ones consistent with the research.)

Q26. What does this imply for the overall cost of capital?

A25. Figure E-3 plots the after-tax weighted-average costs of capital ("ATWACCs") that correspond to the value curves in Figure E-2. This picture just turns Figure E-2 upside

down.[26] All the same conclusions remain, except that they are stated in terms of the overall cost of capital instead of the overall firm value. In particular, except for high-risk industries, the overall cost of capital is essentially flat across a broad middle range of capital structures for each industry, which is the only outcome consistent with the research. For Industry 4, for example, the ATWACC changes by less than 15 basis points for debt-to-value ratios between 40 and 70 percent.

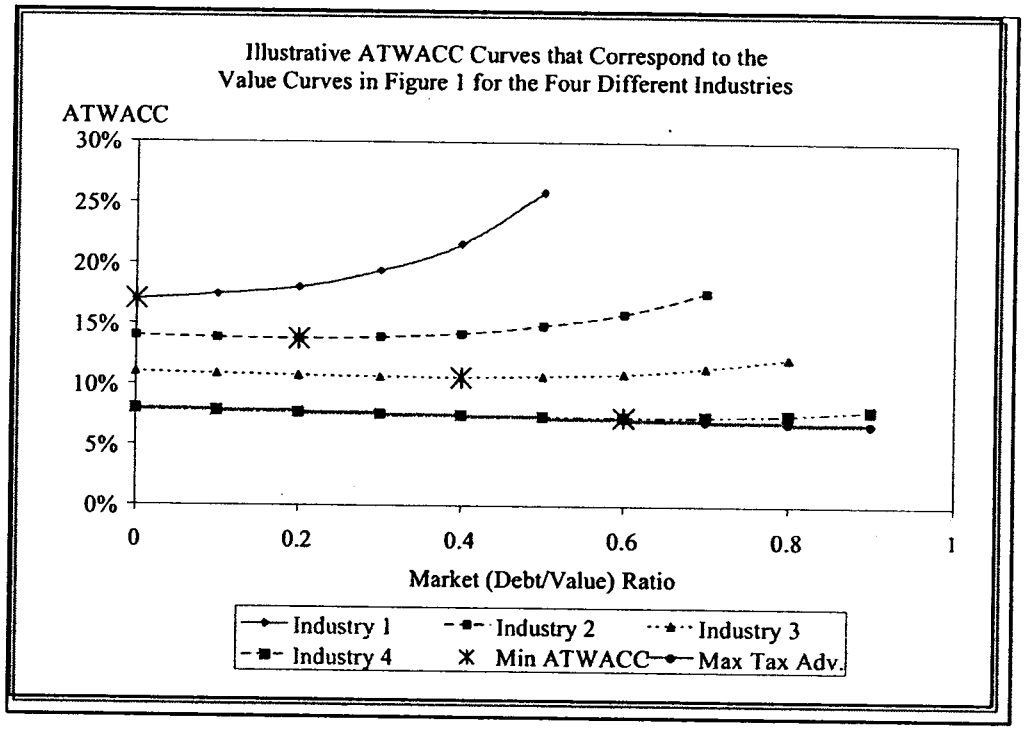

Figure E-3

Q27. How does this discussion relate to estimation of the right cost of equity for ratemaking purposes?

A26. When an analyst estimates the cost of equity for a sample of companies, s/he does so at the sample's actual market-value capital structure. That is, the sample evidence corresponds to ATWACCs that are already out somewhere in the broad middle range in

[26] Note that the actual estimated ATWACC at higher debt ratios will tend to underestimate the ATWACC that corresponds to the value curves in Figure E-2, which are depicted in Figure E-3, and so will tend to overestimate the value of debt to the firm. The reason is that some of the non-tax effects of excessive debt, such as a loss of financial flexibility, may be hard to detect and not show up in cost-of-capital measurement.

which changes in the debt ratio have little or no impact on the overall value of the firm or the ATWACC.

An analyst therefore should assume the ATWACCs for the sample companies are literally flat. This assumption always provides the exact tradeoff between the cost of equity and capital structure at the literal minimum of the company's ATWACC curve. The research shows that this minimum is actually a broad, flat region, as depicted above. If the company happens to be somewhat to one side or the other of the literal minimum within this region, the recommended procedure may lead to a small understatement or overstatement of the amount that the cost of equity will change as capital structure changes. The degree of this under- or overstatement, however, is very small compared to the inherent uncertainty in estimating the cost of equity in the first place. Otherwise, the financial research would have found very different results about the existence of a narrowly defined optimal capital structure.

D. COMBINED EFFECTS

Q28. Please summarize the implications for the combined impact of the tax and non-tax effects of debt.

A27. The most profitable firms do not behave as if the precise amount of debt they use makes any material difference to value, and competition does not force them into an alternative decision, as it would if debt were genuinely valuable. The explanation that fits the facts and the research is that within an industry, there is no well-defined optimal capital structure. Use of some debt does convey an advantage in most industries, but that advantage is offset by other costs as firms add more debt. The range of capital structures over which the value of the firm in any industry is maximized is wide and should be treated as flat. The location and level of that range, however, does vary from industry to industry, just as the overall cost of capital varies from industry to industry. To conclude that more debt does add more value, once the firm is somewhere in the normal range for the industry, is to conclude that corporate management in general is either blind to an

easy source of value or otherwise incompetent (and that their competitors let them get away with it).

The finding that there is no narrowly defined optimal capital structure implies that analysts should estimate the ATWACCs for a sample of companies in a given industry and treat the average ATWACC value as independent of capital structure (at least within a broad middle range of capital structures). The right cost of equity for a rate-regulated company in the same industry is the number that yields the same ATWACC at the capital structure used to set the revenue requirement, since that is the cost of equity that (estimation problems aside) the sample companies would have had if their market-value capital structures had been equal to the regulatory capital structure.

EXHIBIT
A-14
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

KRISTIN K. MAYES, Chairman
SANDRA D. KENNEDY
PAUL NEWMAN
GARY PIERCE
BOB STUMP

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 AGUA FRIA WATER DISTRICT, ANTHEM WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT	DOCKET NO. W-01303A-08-0227
IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN 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 AGUA FRIA WASTEWATER DISTRICT, ANTHEM WASTEWATER DISTRICT, AND MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227

REBUTTAL TESTIMONY
OF
BENTE VILLADSEN
ON BEHALF OF
ARIZONA-AMERICAN COMPANY
FEBRUARY 10, 2009

TABLE OF CONTENTS

Section **Page #**

I. EXECUTIVE SUMMARY 1
II. INTRODUCTION AND SUMMARY 2
III. REASONABLENESS OF THE RECOMMENDED COST OF EQUITY 5
IV. LACK OF ADJUSTMENT FOR FINANCIAL RISK 16
V. COMMENTS ON THE ESTIMATION METHODS OF THE PARCELL DIRECT 21
A. Issues with the DCF Approach 21
B. Issues with the CAPM Approach 25
C. Issues with the Comparable Earnings Approach 28
VI. COMMENTS ON ESTIMATION METHODS IN THE RIGSBY DIRECT 30
A. The Rigsby Direct Recommendation 30
B. Issues with the DCF Method 30
C. Issues with the CAPM Method 35
VII. CONCLUSION 36

SUPPORTING TABLES AND FIGURES

I. EXECUTIVE SUMMARY

Dr. Bente Villadsen, a Principal at *The Brattle Group*, filed direct testimony on the cost of capital for Arizona-American districts (collectively, "Arizona-American") in April 2008, and is now filing rebuttal testimony in response to the testimony submitted by Mr. David C. Parcell on behalf of Arizona Corporation Commission Staff and by Mr. William A. Rigsby on behalf of the Residential Utility Consumer Office. Dr. Villadsen continues to believe that 11¾% is an appropriate return for Arizona-American on equity at 46.75% equity.

Mr. Parcell relied on three different samples of water companies, and used versions of the Discounted Cash Flow ("DCF") method, the Capital Asset Pricing Model ("CAPM"), and the Comparable Earnings method to arrive at his recommended 10% return on equity for Arizona-American. The recommendation of Mr. Parcell is too low, because (i) it is at or near the rate at which an affiliate recently raised debt, (ii) unlike prior Staff testimony, it failed to consider that Arizona-American's debt ratio is higher than that of the comparable companies, and (iii) it relied on downward biased data such as a geometric market risk premium for the CAPM, historical growth rates in its DCF, and regulated entities only in the comparable earnings methodology. In sum, the recommended 10% return on equity is too low, and does not reflect the Company's cost of equity.

Mr. Rigsby's recommended 8.88% return on equity on 44.8% equity is so low that it is below the cost at which an affiliate recently issued debt and only slightly above the current yield on investment-grade public utility bonds. This recommendation violates basic principles of finance, and would not afford the Company the opportunity to successfully raise equity capital, especially in a period of increased uncertainty due to the current financial and economic crisis. Further, Mr. Rigsby fails to take into account that the Company has higher financial risk than the comparable companies and also makes a number of inappropriate assumptions in implementing both the DCF method and the Capital Asset Pricing Model, which make his estimated 8.88% cost of equity completely unreliable.

II. INTRODUCTION AND SUMMARY

Q1. PLEASE STATE YOUR NAME AND ADDRESS FOR THE RECORD.

A1. My name is Bente Villadsen. My business address is *The Brattle Group*, 44 Brattle Street, Cambridge, MA 02138.

Q2. DID YOU PREVIOUSLY FILE TESTIMONY IN THIS PROCEEDING?

A2. Yes, I filed direct testimony ("Villadsen Direct") on behalf of Arizona-American Water Company ("Arizona-American" or the "Company") in April 2008 regarding the estimate of the cost of equity for Arizona-American's districts. The cost of equity is the return that the Arizona Corporation Commission (the "Commission") should provide the Company an opportunity to earn on the equity portion of its rate base.

Q3. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A3. Arizona-American has asked me to review and respond to the testimony of Mr. David C. Parcell ("Parcell Direct"), who filed testimony on behalf of the Arizona Corporation Commission Staff (the "Staff"), and to the testimony of Mr. William A. Rigsby ("Rigsby Direct"), who filed testimony on behalf of the Residential Utility Consumer Office. Specifically, I will address their recommendations for the cost of equity capital ("CoE") for Arizona-American in this matter.

Q4. PLEASE SUMMARIZE THE RECOMMENDATIONS OF THE PARCELL DIRECT AND THE RIGSBY DIRECT.

A4. The Parcell Direct recommends a cost of equity of 10%, on a capital structure consisting of 41.62% common equity, 47.70% long-term debt, and 10.98% short-term debt.[1] The recommendation is based on estimates obtained by employing three methods: the Discounted Cash Flow ("DCF") model, the Capital Asset Pricing Model ("CAPM"), and the Comparable Earnings method. The Parcell Direct estimates the cost of equity to be in

[1] Parcell Direct, p. 2.

the range of 9.5% to 10.5%.[2] The Parcell Direct relies on three proxy groups of water utilities: the four companies covered by *Value Line Standard Edition*, the nine companies covered by the AUS Utility Reports, and the eight companies comprising the water sample in the Villadsen Direct.[3] Although Commission Staff in prior testimony made an adjustment to account for the differences in financial risk between the sample companies and Arizona-American and the Commission approved hereof,[4] the Parcell Direct does not take the Company's more leveraged capital structure into account.

The Rigsby Direct recommends a cost of equity of 8.88%, on a capital structure with 44.8% common equity and 55.2% long-term debt.[5] The recommendation is based on CAPM and single-stage DCF estimates for a water sample comprised of the four water utilities covered by *Value Line Standard Edition* ("*Value Line*") and ten gas local distribution companies ("gas LDCs") covered by *Value Line*.[6] Although Mr. Rigsby has in the past made an adjustment for financial risk, he has not done so in this proceeding, although his testimony acknowledges that Arizona-American has more financial risk than the sample companies used in the estimation.[7]

Both the Parcell Direct and the Rigsby Direct discuss the ongoing financial crisis in their testimonies, but neither provides an explicit analysis of the impact on the market risk premium equity investors require to provide capital.

Q5. DO YOU BELIEVE THAT THE RECOMMENDATIONS OF THE PARCELL DIRECT AND THE RIGSBY DIRECT REFLECT THE COST OF EQUITY FOR ARIZONA-AMERICAN?

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[2] Parcell Direct, p. 3.

[3] Parcell Direct, p. 17 (The Parcell Direct lists the AUS Utility Report companies as eight, but the correct number is nine, as reflected in the schedules to Parcell Direct, *e.g.* Schedule 5).

[4] See, for example, the Direct Testimony of Pedro M. Chaves in Docket No. WS-01303A-06-0491 and Arizona Corporation Commission Decision 69440 pp. 18-19.

[5] Rigsby Direct, pp. 4-5.

[6] Rigsby Direct, p. 16.

[7] Rigsby Direct, p. 54.

A5. No. The recommended cost-of-equity figures are simply too low. Arizona-American's financing affiliate, American Water Capital Corporation, has recently issued debt at an interest rate of 10%, so that the Company's cost of debt is higher than the Rigsby Direct's recommended cost of equity and near the Parcell Direct's recommended cost of equity. Because equity is riskier than debt, investors require a premium to provide equity capital and the ongoing financial crisis has increased the premium investors require to provide equity capital. Additionally, the recommendations are below the return allowed to other utilities prior to the financial crisis which has now increased the cost of capital. Further, if I make simple and conservative adjustments to the Parcell Direct and the Rigsby Direct cost-of-equity estimates that (i) discard cost-of-equity estimates below the cost of investment grade debt, (ii) take Arizona-American's higher financial risk into account in the manner that Staff and Mr. Rigsby have in past testimony, (iii) rely on forward-looking growth rates only, and (iv) ignore Capital Asset Pricing Model estimates that rely on the geometric Market Risk Premium or other unusual features, the result is cost of equity estimates in the range of no less than 11.2 to 11.4%. This range is only slightly below the Company's requested return on equity of 11.75%, and it is based on making conservative adjustments that do not attempt to reflect the impact of the current financial crisis on the cost of equity. For these reasons, the evidence continues to support Arizona-American's requested return on equity of 11.75%. It is reasonable and conservative given the current financial crisis.

Q6. HOW IS THE REMAINDER OF YOUR REBUTTAL TESTIMONY ORGANIZED?

A6. Section III discusses the reasonableness of the recommendations of the Parcell Direct and the Rigsby Direct. This section addresses the Company's access to capital markets, the need to raise capital for infrastructure investments, and the cost of capital. Section IV addresses the higher financial risk of the Company relative to the comparable companies. Section V addresses specific issues in the Parcell Direct and Section VI addresses specific issues in the Rigsby Direct. Finally, Section VII concludes.

III. REASONABLENESS OF THE RECOMMENDED COST OF EQUITY

Q7. PLEASE SUMMARIZE THE RETURN ON EQUITY RECOMMENDATIONS OF THE COST OF CAPITAL WITNESSES IN THIS PROCEEDING.

A7. Table R 1 below summarizes the return on equity and capital structure recommendations in this matter.[8]

Table R 1. Recommended RoE, RoR, and Capital Structure

	Parcell Direct	Rigsby Direct	Company Request
Cost of Equity	10.0%	8.88%	11.75%
Percentage Equity	41.62%	44.8%	46.75%
Rate of Return*	7.34%	7.0%	8.40%

* Rate of Return is the weighted cost of debt and equity.

Q8. IS A RETURN ON EQUITY AS LOW AS 8.88% REASONABLE?

A8. No. There are three main reasons why the returns on equity recommended in the Rigsby Direct and the Parcell Direct are unreasonable. First, a return on equity of 8.88% is below the cost of debt that Arizona-American's financing affiliate, American Water Capital Corporation, recently faced. As the equity is riskier than debt, this recommendation makes no sense economically or practically. Second, the recommendations of Mr. Parcell and Mr. Rigsby result in rates of return that are substantially below those allowed for gas and electric utilities in the recent past. For example, during the first three quarters of 2008, the weighted average allowed rate of return for electric and gas utilities were 8.30 and 8.51%, respectively, so the Company's requested 8.40% weighted average rate of return is in the same range.[9] Third, the

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[8] See Parcell Direct p. 2, Rigsby Direct p. 4-5, Villadsen Direct p. 3, and Direct Testimony of Mr. Thomas M. Broderick ("Broderick Direct") p. 5.

[9] Regulatory Research Associates, "Regulatory Focus, Major Rate Case Decisions - January-September 2008," October 3, 2008 ("RRA October 2008"); Exhibit 60 in Missouri Public Service Commission Case No. ER-2008-0318. Direct Testimony of Mr. Thomas M. Broderick ("Broderick Direct") p. 5.

financial crisis has impacted the cost of capital broadly and has without question increased the cost of capital for water utilities. This section addresses these issues.

Q9. DOES AMERICAN WATER'S RECENT DEBT ISSUANCE TELL YOU ANYTHING ABOUT ARIZONA-AMERICAN'S COST OF EQUITY?

A9. Yes. Arizona-American's financing affiliate, American Water Capital Corporation has recently issued debt at an interest rate of 10%,[10] and those bonds currently trade at a price of 103.5, implying a current market cost of debt of approximately 9.7%.[11] This implies that the Company is currently facing a cost of debt of at least 75 basis points higher than the recommended cost of equity in the Rigsby Direct and about 30 basis points below the recommendation of the Parcell Direct. Since equity for a company is always riskier than its debt, equity must offer an expected return that is higher than the cost of debt to attract rational investors. Simply put, equity investors require a risk premium, and American Water cannot attract equity capital unless investors expect to earn a return that is higher than what they can expect to earn by buying less risky bonds. Therefore, the recommendation of the Rigsby Direct violates the very basic principles of risk and expected return and should be disregarded by the Commission. This is further evidenced when reviewing the Rigsby Direct's underlying estimates. Using the CAPM, the Rigsby Direct estimates a cost of equity for its water utility sample of 6.66 - 8.39% and for its gas LDC sample of 5.07 – 6.26%. Only the highest of the estimated figures is above the current yield on Baa-rated utility debt,[12] and all four are below American Water's current cost of debt as indicated by its recent bond issuance. As equity investors would not consider investing for a return below what they could earn on investment grade utility bonds, so any figure below the cost of investment grade utility debt should be ignored. The recommendation of the Parcell Direct is also too low because it allows equity

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[10] On November 26, 2008, American Water Capital Corporation, the financing arm of American Waterworks, Arizona-American's parent, issued $75 million worth of bonds maturing on 12/1/2038, and paying an interest rate of 10% (Bloomberg).

[11] Bloomberg, as of 1/28/2009.

[12] The 15-day average yield on Moody's Baa-rated public utility index for the period ending February 3, 2009 was 7.86% (Bloomberg).

investors a return that is only 30 basis points higher than that of debt investors. As Debra C. Coy of Janney Montgomery Scott LLC said in recent testimony filed with California Public Utilities Commission at the request of Staff

> Last week, a large institutional investor asked us the following question: "If I can buy American Water Works bonds with a 10% coupon, why would I buy the stock, which carries a higher risk, when the company is trading at book value and currently earning less than a 10% return on equity?" This is a fair question and one that sophisticated investors will be asking during American Water's upcoming equity offering roadshow.[13]

I agree. The expected return on equity must carry a premium over bonds to attract investors and 30 basis points over the parent company's cost of debt is too little.

Q10. WHAT HAVE RECENTLY ALLOWED RATES OF RETURN BEEN?

A10. According to Regulatory Research Associates, the average allowed overall return for gas LDCs was 10.39% on an average of 51.4% equity during the first three quarters of 2008. The figures do not include decisions made after the onset of the financial crisis, and are based on utilities with, on average, substantially more equity in their regulatory capital structure than Arizona-American. The average allowed overall rate of return for gas and electric utilities during the first three quarters of 2008 were 8.30 and 8.51%, respectively. Hence, the requested overall rate of return of 8.40% is very comparable.[14] Specific statistics on water utilities are not readily available, but a range of 9 to 12% has been mentioned.[15] It is also noteworthy that historically the average allowed return on equity for electric utilities has been about 360 basis points above Moody's Baa bond yield. Using today's bond yields, the addition of 360 basis points to Moody's bond yield results in a cost of equity of about 11.5%. While these figures are not exact, they indicate that

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[13] Debra G. Coy, "A Capital Markets View of Water Utilities," submitted to the California Public Utilities Commission at the request of the CPUC Staff, January 30, 2009 ("Coy Testimony"), p. 3.

[14] RRA October 2008. According to this source, electric utilities on average were allowed a return of 10.5% on an average of 48.7% equity.

[15] Coy Testimony p. 6.

the magnitude of Mr. Parcell's and Mr. Rigsby's RoE recommendations is low by historical standards.[16]

Q11. PLEASE COMMENT ON THE IMPACT OF THE CURRENT FINANCIAL CRISIS ON THE COST OF CAPITAL AND SPECIFICALLY ON THE DISCUSSION IN THE TESTIMONIES OF MR. PARCELL AND MR. RIGSBY.[17,18]

A11. First, the Rigsby Direct states that "8.88% cost of equity will provide Arizona-American with a reasonable rate of return on the Company's invested capital when economic data on interest rates (that are low by historical standards), ... are all taken into consideration."[19] There is ample evidence that the cost of both debt and equity capital has increased, and it is dangerous and incorrect to focus on the risk-free rates which are "low by historical standards." As a matter of fact, corporate and utility borrowing rates are high, and *the spread between utility borrowing rates and risk-free rates is historically high*. Figure R 1 below shows the development in the utility bond yields over the last two years and clearly illustrate the substantial increase in utility borrowing costs. For illustrative purposes, Figure R 1 also includes the yield on 20-year Treasury bonds.

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[16] See Table BV-R1 attached to this testimony. I look at electric utilities because I do not have access to the same long history of allowed rates of return on equity for water or gas utilities.

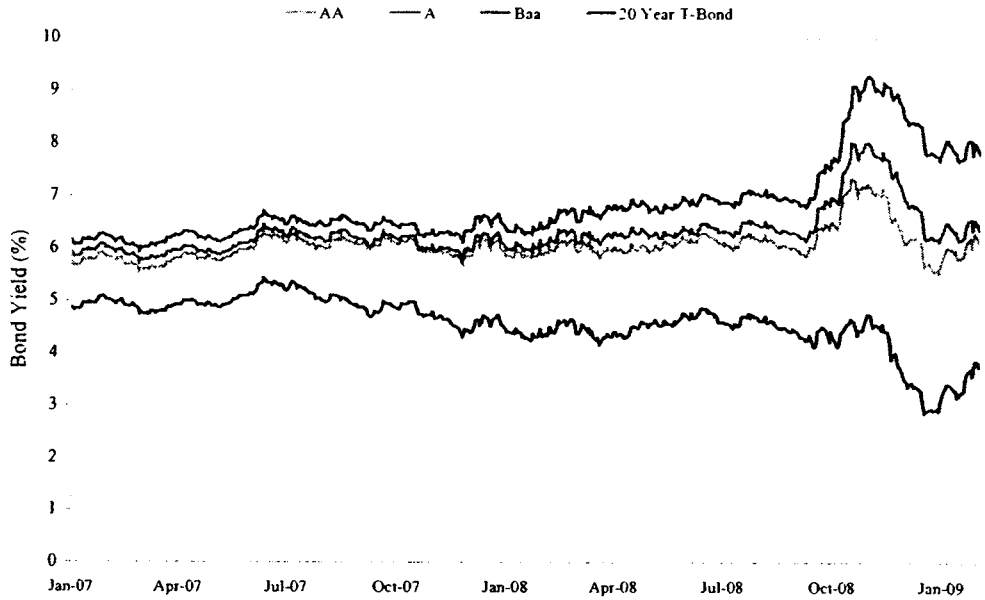
[17] Parcell Direct pp. 9-12.

[18] Rigsby Direct pp. 34-52.

[19] Rigsby Direct p. 52.

Figure R 1

Moody's Utility Bond Yields by Credit Rating



Source: Bloomberg LP. last accessed February 3, 2009.

For the purpose of evaluating the cost of capital for a utility, it is the borrowing rate for utilities (*e.g.*, yield on utility bonds) that is the relevant benchmark.

Second, the Parcell Direct states that the crisis will result in "declining capital costs," and that the crisis "do[es] not imply that the cost of equity for water utilities such as AAWC have [sic] increased."[20] Certainly, financial sector professionals disagree. For example, Janney, Montgomery, Scott LLP expects that the cost of debt will be "at least 100 to 200 basis points higher than previous rates, despite efforts by the federal government to lower interest rates and bring liquidity back into the capital markets."[21] Similarly, FitchRatings

[20] Parcell Direct p. 10 and p. 30, respectively.

[21] Coy Testimony p. 3.

and Reuters in recent publications on electric utility issues noted the raising cost of capital as a key theme.[22]

Q12. MORE BROADLY WHAT HAPPENS TO INVESTOR EXPECTATIONS DURING TIMES OF FINANCIAL TURMOIL?

A12. The facts that financial markets are in turmoil and stock market volatility has increased dramatically mean that equity investors face increased uncertainty. Increased uncertainty leads them to seek lower risk investments or to demand a higher expected rate of return before they are willing to invest their money. In part, this is an explanation of why market prices have fallen. The financial market distress means that the current market risk premium ("MRP") is *higher* than it would otherwise be. Dimson, Marsh, and Staunton (2008) appear to agree as they note

> Although credit spreads widened, credit fundamentals as measured by low default rates remained at historically strong levels. This may indicate higher defaults to come, an increase in risk aversion, a bigger premium for liquidity, or all three.[23]

As shown in Figure R 2 below, the volatility in the U.S. stock market spiked to 3 to 4 times the normal level of about 20% in September-October and remains at more than twice its normal level.

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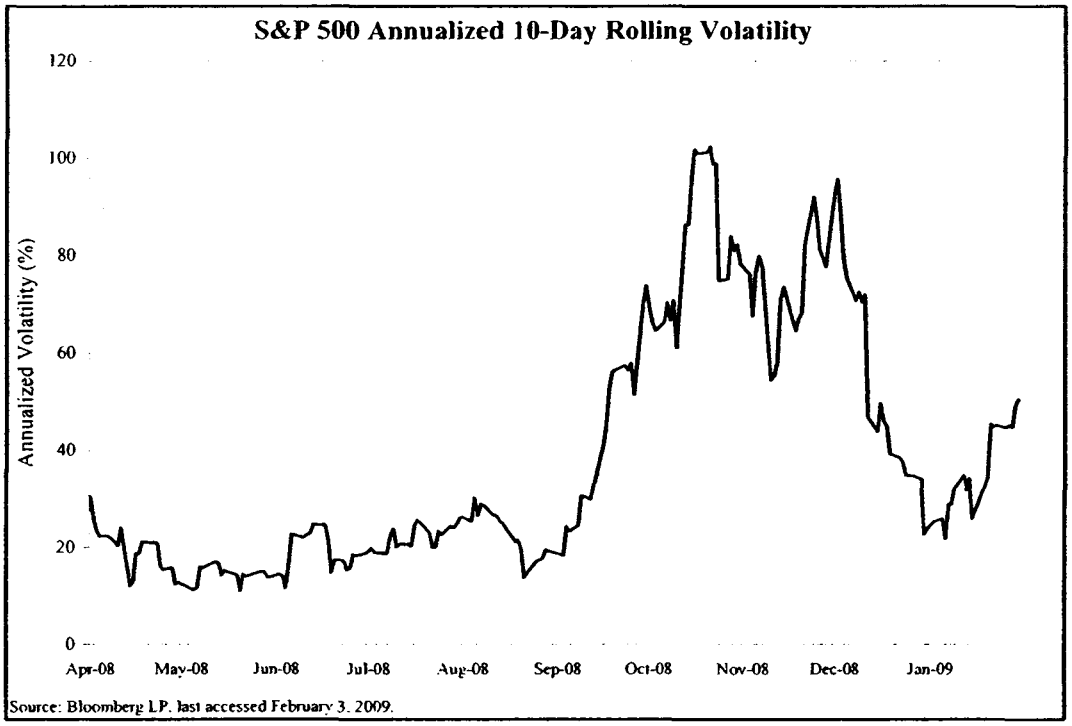
[22] FitchRatings, "EEI 2008 Wrap-Up: Cost of Capital Rising," November 17, 2008 and Reuters, "Credit Crisis Drives Buying in US Utilities' Bonds," December 16, 2008.

[23] Elroy Dimson, Paul Marsh, and Mike Staunton, 2008, *Global Investment Returns Yearbook 2008*, p. 25.

Figure R 2



As investors' risk aversion also increases during times of financial distress, there can be little doubt that the MRP is currently higher than in the recent past.

Q13. ARE THERE ACADEMIC STUDIES THAT PROVIDE INSIGHTS INTO THE MRP IN TIMES OF FINANCIAL RECESSION OR ECONOMIC DOWNTURN?

A13. Yes. The academic literature contains studies of the impact of recessions on investors' attitude towards risk. The typical investor is risk averse and risk averse investors would prefer a certain payoff to an uncertain gamble with the same expected payoff. Risk averse individuals or investors require compensation to engage in uncertain investments such as providing equity capital. These studies referenced above find that risk aversion, and hence the risk premium required to hold equity rather than debt, increases in economic downturns. Several articles suggest that the market risk premium is higher during times of recession. Constantinides (2008) studies a classical utility model where consumers are risk averse and summarizes some of the empirical literature. Constantinides draws from empirical evidence that shows that consumers become risk

averse in times of economic recession or downturn, and equity investments accentuate this risk.[24] (Increased risk aversion leads to a higher expected return for investors before they will invest.) Specifically, equities are pro-cyclical and decline in value when the probability of a job loss increases; thus, they fail to hedge against income shocks that are more likely to occur during recessions.[25] Consequently, investors require an added risk premium to hold equities during economic downturns:

> In economic recessions, investors are exposed to the double hazard of stock market losses and job loss. Investment in equities not only fails to hedge the risk of job loss but also accentuates its implications. Investors require a hefty equity premium in order to be induced to hold equities. This is the argument that I formalize below and address the predictability of asset returns and their unconditional moments.[26]

And

> The first implication of the theory is an explanation of the counter-cyclical behavior of the equity risk premium: the risk premium is highest in a recession because the stock is a poor hedge against the uninsurable income shocks, such as job loss, that are more likely to arrive during a recession.
>
> The second implication is an explanation of the unconditional equity premium puzzle: even though per capita consumption growth is poorly correlated with stocks returns, investors require a hefty premium to hold stocks over short-term bonds because stocks perform poorly in recessions, when the investor is most likely to be laid off.[27]

Empirically, several authors have found that market volatility and the market risk premium are positively related. For example, Kim, Morley and Nelson (2004)[28] find that

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[24] Constantinides, G. M., "Understanding the equity risk premium puzzle". In R. Mehra, ed., *Handbook of the Equity Risk Premium*, 2008, Elsevier, Amsterdam.

[25] Constantinides, G.M., and D. Duffie, 1996, "Asset Pricing with Heterogeneous Consumers", *Journal of Political Economy*.

[26] G.M. Constantinides (2008), *op. cit.*

[27] *Ibid*, p. 353.

[28] C-J. Kim, J.C. Morley and C.R Nelson (2004), "Is There a Positive Relationship Between Stock Market Volatility and the Equity Premium," *Journal of Money, Credit and Banking*, Vol. 36.

> When the effects of volatility feedback are fully taken into account, the empirical evidence supports a significant positive relationship between stock market volatility and the equity premium.[29]

Q14. WHAT BEARING DOES THIS HAVE ON WATER UTILITIES, WHICH HISTORICALLY HAVE BEEN VIEWED AS RELATIVELY LOW RISK?

A14. As noted by Debra G. Coy in testimony before the California PUC,

> Water utilities have historically been viewed as low-risk, predictable, regulated monopolies, and they have attracted equity investors who appreciated those characteristics. Now, investors are more wary

and

> [i]nvestors have come to understand that 'low risk' water utilities in fact carry a variety of potential risks, the largest of which is their raising need to repair and replace aging infrastructure, resulting in high capex requirements, low depreciation rates, and negative free cash flow, along with the negative effects of regulatory lag on earnings.[30]

Value Line documents this increase in systematic risk as the betas Value Line estimates for the utility companies in the water sample have increased over time. Figure R 3 below shows the average estimated betas for the water sample. Based upon the end-of-year reports,[31] Value Line's estimated betas for the water utility companies have increased from an average of about 0.54 in 1998 to an average of about 0.87 in January 2009.

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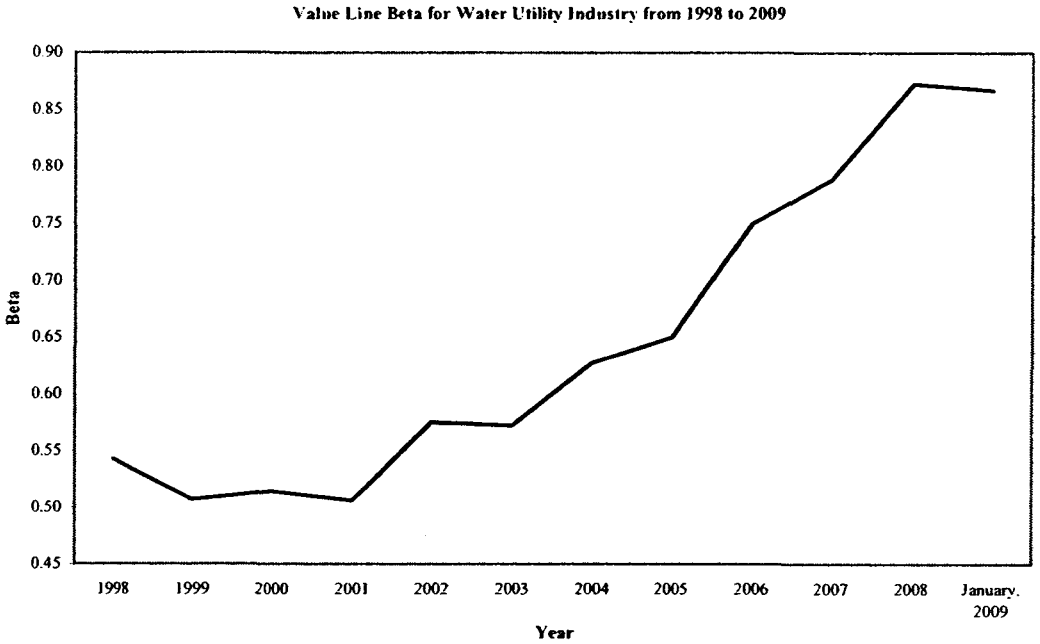
[29] *Ibid.* p. 357. The authors rely on a statistical (Markov-switching) model of the ARCH type and data for the period 1926 to 2000 for their analysis.

[30] Coy Testimony p. 7.

[31] The 2009 beta estimates are taken from January 23, 2009 *Value Line Summary & Index*. The January estimate of .865 is very close to the October 2008 estimate of .87.

Figure R 3



Source: Value Line Investment Analyzer, as of February 5, 2009.
Value for January, 2009 taken from most recent Value Line Standard Edition dated as of January 23, 2009.

Q15. ARE VALUE LINE BETAS A RELIABLE MEASURE OF THE WATER INDUSTRY'S SYSTEMATIC RISK?

A15. Yes. While the stocks of publicly traded water companies, as discussed in the Villadsen Direct, trade relatively infrequently,[32] the impact hereof on estimated betas do not change significantly over time, so the trend illustrated in Figure R 3 reflects an increase in the water industry's systematic risk. At the same time, there are other indications that the overall risk of the industry is increasing. Moody's Investors Service ("Moody's") and Standard & Poor's ("S&P") both note the need for significant capital expenditures and the costs of complying with environmental and security regulations as sources of risk.[33] Fitch notes that the debt ratios are increasing.[34] At the same time, the regulatory

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[32] Villadsen Direct, p. 36.

[33] *Moody's*, Credit Risks Are Increasing for U.S. Investor Owned Water Utilities, Special Comment, January 2004 and *Standard & Poor's*, Key Rating Factors for Water Companies Around the World, July 17, 2006.

[34] *Fitch Ratings*, 2007 Median Ratios for Water and Sewer Revenue Bonds – Retail Systems.

requirements imposed on the water industry are evolving.[35] Hence the water industry is experiencing a transition period which adds to the risk of the industry.

Q16. WHAT EVIDENCE DO YOU HAVE THAT THE WATER INDUSTRY WILL REQUIRE SUBSTANTIAL CAPITAL EXPENDITURES GOING FORWARD?

A16. As noted in the Villadsen Direct pp. 34-35, the water industry is expected to undertake substantial capital investments in coming years. For example, the Environmental Protection Agency ("EPA") has indicated that the water industry needs to invest capital of about $224 billion over the next two decades to meet the nation's need for clean drinking water and for wastewater disposal.[36] Similarly, *Value Line* notes the need for investment totaling "hundreds of millions of dollars in the coming decade" by the water utilities it follows as the EPA enacts more stringent requirements; portions of many current water systems are approaching 100 years in age and require significant maintenance, in some cases complete rebuilding.[37] The requirement for additional capital investment is a substantial hurdle for a group of companies that *Value Line* estimates to have an annual profit of about $450 million in 2009.[38] According to the American Society of Civil Engineers ("ASCE"), Arizona's drinking water infrastructure "needs $1.62 billion over the next 20 years" and there if "almost $6.2 billion in wastewater infrastructure needs."[39] Arizona-American also faces substantial capital expenditures.[40]

Q17. PLEASE SUMMARIZE WHAT EFFECT, IF ANY, THE CURRENT STATE OF THE ECONOMY IS LIKELY TO HAVE ON THE COST OF CAPITAL.

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[35] For example, the Ground Water Rule, a set of water quality standards mandated by the EPA, was published in the Federal Register November 8, 2006.

[36] www.epa.gov/waterinfrastructure/infrastructuregap.html

[37] *Value Line Investment Survey*, Water Utility Industry, July 25, 2008, p. 1415.

[38] *Ibid*, p. 1415.

[39] *American Society of Civil Engineers*, 2005 Report Card for America's Infrastructure, Arizona.

[40] See, for example, Broderick Direct's discussion pp. 13-26.

A17. I agree with the credit rating agencies, EEI, and financial professionals that the current state of the economy is likely to increase the cost of capital for all companies due to heightened investor uncertainty. Utilities face higher cost of debt and an increased equity premium. Investors are simply unwilling to commit capital to new investment without a much higher expected return relative to the risk of the investment than in the relatively recent past. This coupled with the requirement for substantial infrastructure investment in the water industry in general, and for the Company's continued efforts to maintain the water supply and wastewater infrastructure in Arizona, makes it imperative that the Commission not underestimate the required return on equity.

IV. LACK OF ADJUSTMENT FOR FINANCIAL RISK

Q18. HAS THE COMMISSION TRADITIONALLY PROVIDED AN ADJUSTMENT TO THE ALLOWED RETURN ON EQUITY TO ADJUST FOR FINANCIAL RISK?

A18. Yes. The Commission has approved Staff's use of its version of the Hamada methodology to increase the allowed return on equity to compensate for risk in all recent Arizona-American rate cases. Although I do not believe that the Hamada methodology as implemented by Staff in prior Arizona-American rate cases adequately compensates investors for risk, there has been no dispute that some methodology must be used.

Q19. HAS THE COMMISSION RECENTLY PROVIDED AN ADJUSTMENT TO THE ALLOWED RETURN ON EQUITY TO ADJUST FOR FINANCIAL RISK?

A19. Yes, very recently. On November 19, 2008, in Decision No. 70624, the Commission again approved adjusting the return on equity to account for financial (leverage) risk. Interestingly, Gold Canyon Sewer Company's capital structure was comprised of 100% equity, so the return on equity was reduced in recognition that investors faced less risk in

a company with no debt. The Commission did this by using RUCO's methodology of a hypothetical capital structure of 40% debt and 60% equity.[41]

Q20. DO THE RECOMMENDATIONS OF THE PARCELL DIRECT AND THE RIGSBY DIRECT ACCURATELY REFLECT THE FINANCIAL RISK INHERENT IN ARIZONA-AMERICAN'S REGULATORY CAPITAL STRUCTURE?

A20. No, neither the Parcell Direct nor the Rigsby Direct makes an adjustment to take into account the differences in financial risk between the Company and the sample companies. This violates the basic principles of financial economics, since there is no debate in the finance profession as to whether capital structure affects the risks borne by equity holders. I explained in great detail in my direct testimony how higher levels of debt increase the risk faced by shareholders, since debt has a priority claim in any cash flows, while shareholders are residual claimants – they only receive a return after all debt holders are paid off.[42]

Q21. HAS THE STAFF OR MR. RIGSBY IN THE PAST ADJUSTED SAMPLE ESTIMATES TO TAKE INTO ACCOUNT THE COMPANY'S HIGHER DEBT LEVEL?

A21. Yes. In past testimony by Staff and Mr. Rigsby, an adjustment was made to account for the fact that Arizona-American had more debt in its capital structure than the comparable companies.[43] In past testimony, Mr. Rigsby has recommended the reliance on a

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[41] Staff recommended using the Hamada methodology to reduce the allowed return on equity. See Decision No. 70624 pp. 11 and 14.

[42] Villadsen Direct, pp. 8-16.

[43] See, for example, Direct Testimony of Pedro M. Chaves in Dockets No. WS-01303A-06-0491 (Executive Summary) WS-01303A-06-0403 (Executive Summary) and Direct Testimony of William A. Rigsby in Dockets No. WS-01303A-06-0491 p. 6 and No. WS-01303A-06-0403. See also Arizona Corporation Commission Decision 69449 p. 19.

hypothetical capital structure for Arizona-American and an upward adjustment for the Company's higher financial risk.[44]

Q22. IF THE METHOD RELIED UPON BY STAFF IN PAST ARIZONA-AMERICAN CASES WAS APPLIED TO THE PARCELL DIRECT'S AND THE RIGSBY DIRECT'S ESTIMATES, WHAT WOULD BE THE RESULTING ESTIMATED RETURN ON EQUITY?

A22. Using the capital structure employed by the Parcell Direct, including short-term debt, I started with the 10% recommended cost of equity, and computed the financial risk adjustment used in previous Staff testimony. This resulted in an upward adjustment of 70 basis points, which applied to the Parcell recommended cost of equity would result in a recommendation of 10.7%. Table BV-R1 and associated workpapers detail the assumptions and the steps involved in this calculation. Similarly, Mr. Rigsby has in past testimony before this Commission in Arizona-American cases made an upward adjustment of 50 basis points to account for the Company's higher financial risk. Hence, I added 50 basis points to the recommended return on equity in the Rigsby Direct. The results are shown in Table R 2 below.[45]

Table R 2. RoE Recommendations Using Prior Adjustments for Financial Risk

	Parcell Direct	Rigsby Direct
Recommended RoE	10.00%	8.88%
Adjustment for financial risk	0.6 - 0.7%	0.50%
RoE adjusted for financial risk	10.6 - 10.7%	9.38%

Q23. DOES THE PARCELL DIRECT OR THE RIGSBY DIRECT DISCUSS THE LACK OF FINANCIAL RISK ADJUSTMENT?

A23. The Parcell Direct does not discuss the financial risk component of the cost of equity. Instead, Mr. Parcell criticizes the ATWACC model that I used to account for financial

[44] See, for example, Direct Testimony of William A. Rigsby in Docket No. WS-01303A-06-0491 p. 36.

[45] Parcell Direct p. 2, Rigsby Direct p. 4-5, Testimony of William A. Rigsby in Docket No. WS-0130A-06-0491 p. 6, and Table No. BV-R1.

risk, but he does not discuss, nor implement, an alternative method. However, Mr. Rigsby explicitly states that he departs from his usual method by not including a financial risk adjustment, although he acknowledges that Arizona-American has a higher level of financial risk than the sample companies he used to derive the cost-of-equity estimate.[46]

Q24. PLEASE COMMENT ON MR. PARCELL'S CRITIQUE OF THE ATWACC METHODOLOGY.

A24. The Parcell Direct does not explain why the ATWACC "is an unnecessary step in the cost of capital development,"[47] which is puzzling statement because the only purpose of using the ATWACC model is to properly account for financial risk differences among sample companies, as well as between sample companies and Arizona-American. To say that it is unnecessary appears to imply that accounting for financial risk is unnecessary, which is clearly at odds with established finance theory and practice. The Parcell Direct also objects to using the sample companies' market value capital structure in order to compute the sample ATWACC. However, this objection only speaks to *how* the financial risk adjustment should be done, not *whether* it should be done at all.

Q25. NEVERTHELESS, IS MR. PARCELL CORRECT THAT THE USE OF MARKET VALUES CAPITAL STRUCTURE FOR THE SAMPLE COMPANIES IS INAPPROPRIATE?

A25. No. As discussed in the Villadsen Direct,[48] the risk of the capital structure's equity depends on the market-value, not on the book-value, and cost of equity is determined in the market place. Hence, investors are concerned about market values not book values. Going through an example, the leading financial text of Brealey, Myers and Allen (2006) states:

> The market-value balance sheet shows assets worth $1,250 million. Of course we can't observe this value directly, because the assets themselves

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[46] Rigsby Direct, p. 54.

[47] Parcell Direct, p. 34.

[48] Villadsen Direct, pp. 11-14.

> are not traded. But we know what they are worth to debt and equity investors ... This value is entered on the left of the market-value balance sheet.
>
> Why did we show the book balance sheet? Only so you could draw a big X through it. Do so now.
>
> *When estimating the weighted-average cost of capital, you are not interested in past investments but in current values and expectations for the future.*[49]

In other words, the cost of equity is determined in the market place and is based upon market values. Thus, the cost-of-equity estimates obtained in the market place pertain to companies with a market-value capital structure, whereas a regulated utility such as Arizona-American is afforded an allowed cost of equity on a much lower equity percentage. Investors require compensation for the difference.

Q26. PLEASE COMMENT ON MR. RIGSBY'S DEPARTURE FROM HIS PRECEDENCE OF ADJUSTING FOR FINANCIAL RISK.

A26. The Rigsby Direct states that the lack of a financial risk adjustment is intended as an incentive for the Company to increase its equity ratio in the future. He does not however provide an argument as to why such a change in capital structure would benefit ratepayers or the Company. In fact, as the development of the ATWACC method makes clear,[50] the overall rate of return the Company needs to provide its investors in order to attract them is independent of capital structure. The capital structure affects how the overall risk and expected return are divided between debt and equity holders, but not the underlying business risk of the Company. As illustrated in Table 2 on p. 15 of the Villadsen Direct, the cost of financing is the same regardless of its capital structure. Additionally, it is difficult to see how the Company would attract equity capital at the

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[49] Richard A. Brealey, Stewart C. Myers, and Franklin Allen (2006). *Principles of Corporate Finance*, 8th Edition, McGraw-Hill, pp. 504-505 (emphasis added).

[50] See Villadsen Direct, pp. E-18 to E-21.

8.88% return on equity the Rigsby Direct recommends when the Company's bonds provide a higher return. It is also puzzling that the Rigsby Direct recommends a cost of equity below the cost of debt for the Company, and at the same time suggests the Company "start making a concerted effort to increase its level of common equity..."[51] Mr. Rigsby does not explain how a company would attract equity investors if the expected return on equity is, as the Rigsby Direct recommends, lower than the company's return on debt.

V. COMMENTS ON THE ESTIMATION METHODS OF THE PARCELL DIRECT

A. ISSUES WITH THE DCF APPROACH

Q27. WHAT ARE YOUR MAIN CONCERNS REGARDING THE DCF MODEL USED BY THE PARCELL DIRECT?

A27. I have two main concerns with the Parcell Direct's DCF implementation. First, the Parcell Direct relies on the single-stage version of the model, which assumes that the growth rate for each sample company is constant forever. This is an oversimplification of reality that makes the model less reliable, and can be corrected by using more sophisticated models such as the multi-stage DCF on which I rely in my direct testimony. Second, the Parcell Direct uses a biased estimate of growth rates for its DCF implementation, by relying on both forecasted and historical growth rates instead of using only analysts' forecasts, which are more reliable because they already incorporate any relevant historical information. I expand on these two main issues below, and then address several other problems with the Parcell Direct DCF approach.

Q28. WHY IS THE MULTI-STAGE DCF MODEL MORE RELIABLE THAN THE SIMPLE DCF MODEL?

A28. The simple DCF model uses a single value for the future growth rate of cash flows, even if the estimated growth rate is much higher or lower than the forecasted GDP growth.

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[51] Rigsby Direct p. 55.

However, if a company were to grow significantly faster (slower) than the economy as a whole for a very long time, it would become an increasingly larger (smaller) portion of the economy which appears illogical as water companies and utilities in general serve the public. While such an illogical situation is unlikely to happen in stable industries, which have reached a steady-state equilibrium in which all companies grow at approximately the same rate. In such circumstances, the industry as a whole is not expanding relative to the economy. It is much more likely to be a problem in industries undergoing significant changes and restructuring, such as the water industry today. This is reflected in the growth rates relied upon by Parcell Direct: for example, the forecasted earnings per share ("EPS") growth rates among the companies considered in the three samples range from 4% to 15%.[52] Even the overall average growth rates used by Parcell Direct, which are the result of averaging five different measures of growth, both historical and projected, vary widely between 3.8% and 7.5%.[53]

The multi-stage DCF model only relies on the estimated growth rates for several years, which is consistent with analysts' forecast horizon, and then assumes that all companies in the sample will gradually converge toward a growth rate equal the projected growth rate of the economy as a whole. This feature eliminates the illogical outcome described above, and has the additional benefit that it limits the effect of an unusually large forecast error, should one exist for some sample companies.

Q29. HOW DOES THE PARCELL DIRECT ESTIMATE THE GROWTH RATE USED TO IMPLEMENT THE DCF APPROACH?

A29. The Parcell Direct uses an average of historically observed and forecasted measures of growth rates. In particular, Mr. Parcell averages the historical growth rates of earnings per share, dividends per share, book values per share, and earnings retention rates, and

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[52] Parcell Direct, Schedule 5, p. 4.

[53] *Ibid.*

forecasts of the same variables, in order to arrive at a final estimate of the growth rate forecast.[54]

Q30. IS SUCH AN AVERAGE AN ACCURATE FORECAST?

A30. No. Taking an average of historical and forecast growth rates biases the resulting estimate toward the historical values, which have already been reflected in the analysts' forecasted growth rates. In other words, analysts have access to historical growth rates when making their forecasts, and they take them into account to the extent they deem them relevant. Therefore, the Parcell Direct effectively counts twice the importance of historically observed growth rates. Moreover, using outdated information invalidates the main argument in favor of using the DCF model in the first place: namely, that it is a forward-looking model capable of reflecting the most recent changes in investors' information about the company. There is a large academic literature that indicates that analysts' forecasts are statistically more accurate than growth forecasts solely based on historical earnings, dividends, book value and equity growth rates.[55] For example, a paper by Gordon, Gordon and Gould (1989)[56] demonstrates that for utilities, forecasted earnings growth outperform past growth in earnings, past growth in dividends, and past growth in earnings retention in explaining utilities expected return. (Note that one of the authors, Myron J. Gordon, developed the Gordon Growth Model, or DCF model, relied upon in the Parcell Direct).

Q31. WHAT IS THE EFFECT OF THIS DOUBLE COUNTING ON THE ESTIMATED GROWTH RATES AND COST OF EQUITY?

A31. Because the historical growth rates used by Parcell Direct are lower than the forecasts of the same growth rates, the erroneous inclusion of historical observations results in growth rate estimates that are biased downward. The bias that results from using historical

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[54] Parcell Direct, Schedule 5, pp. 3-4.

[55] This literature is summarized in the Villadsen Direct, Appendix C pp. 5-8.

[56] David A. Gordon, Myron J. Gordon, and Lawrence I. Gould (1989), Choice Among Methods of Estimating Share Yield, *The Journal of Portfolio Management*, 50-55.

growth rates is particularly troubling in times of industry changes, large infrastructure investments, and/or a changing financial environment. Table R 3 below shows the impact on the estimated cost of equity of incorrectly relying on historical estimates, using the input values provided in Schedule 5 of the Parcell Direct. Thus, including historic-based estimates biases the average growth rate estimate downward by 60 to 240 basis points (depending on the sample considered), which results in a downward bias in the DCF estimate for the cost of equity of at least 60 basis points.

Table R 3. Impact on the Parcell Direct DCF Estimates of Relying on Historical Growth Rates

	Value Line Water Group	AUS Utility Reports Group	Villadsen Water Sample
[1] Overall average growth rate (as used by Parcell Direct)	4.6%	5.2%	5.3%
[2] **Parcell Direct DCF cost of equity**	**7.8%**	**8.8%**	**8.8%**
[3] Average growth rate based on prospective figures	5.2%	7.4%	7.7%
[4] **DCF cost of equity based on prospective growth rate estimates**	**8.4%**	**11.1%**	**11.3%**
[5] Difference between estimated growth rates	0.6%	2.2%	2.4%
[6] **Difference between cost-of-equity estimates**	**0.6%**	**2.3%**	**2.5%**

Sources and Notes:
[1]: Parcell Direct, Schedule 5, Page 4.
[2]: Parcell Direct, Schedule 5, Page 4.
[3]: Table No. BV R-2, Column [13].
[4]: Table No. BV R-2, Column [15].
[5]: = [3] - [1].
[6]: = [4] - [2].

Q32. HAVE YOU IDENTIFIED OTHER PROBLEMS WITH THE DCF METHOD USED BY THE PARCELL DIRECT?

A32. Yes. The Parcell Direct uses an annual version of the DCF model, which requires an adjustment for the quarterly timing of dividends, instead of formulating the model in quarterly terms, which would not require an inexact adjustment to the growth rate. In addition, the stock price used to compute the dividend yield is an average of stock prices over a three-month period, which constitute out-of-date information and runs counter to

the forward-looking nature of the model. This is especially problematic when stock prices changes dramatically.

Q33. DOES THE PARCELL DIRECT USE AN APPROPRIATE FORMULA TO IMPLEMENT THE DCF METHOD?

A33. No, the Parcell Direct inappropriately adjusts the formula in an attempt to reconcile the quarterly payment of dividends with the annual model being employed. In particular, the Parcell Direct uses the following formula to calculate the dividend yield component of the DCF formula:[57]

$$Yield = \frac{D_0(1+0.5g)}{P_0}$$

The Parcell Direct states that "[t]his dividend yield component recognizes the timing of dividend payments and dividend increases."[58] In particular, the 0.5 factor is the adjustment used to account for the timing of dividends, since the usual, textbook, formula does not contain such a factor. However, such an adjustment is unnecessary if the DCF model is implemented using quarterly cash values, since in that case the timing of cash flows assumed by the model actually matches the timing of dividend payments.

B. ISSUES WITH THE CAPM APPROACH

Q34. WHAT ARE THE MAIN PROBLEMS YOU IDENTIFIED IN THE PARCELL DIRECT'S CAPM IMPLEMENTATION?

A34. The main flaw in the Parcell Direct's approach is the reliance on the geometric estimate of the market risk premium, as opposed to the arithmetic estimate.

Q35. PLEASE ADDRESS THIS ISSUE.

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[57] Parcell Direct, p. 19.

[58] Parcell Direct, p. 19.

A35. While the magnitude of the market risk premium currently is the subject of scrutiny in the academic literature,[59] there is little doubt among academics that the geometric market risk premium does not apply to cost-of-capital estimation. For example, Ibbotson Associates state

> The equity risk premium data presented in this book are arithmetic average risk premia as opposed to geometric average risk premia. The arithmetic average equity risk premium can be demonstrated to be most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. This is because both the CAPM and the building block approach are additive models, in which the cost of capital is the sum of its parts. The geometric average is more appropriate for the reporting past performance, since it represents the compound average return.[60]

Similarly, the *New Regulatory Finance* text by Roger A. Morin (2006) argues that

> Only arithmetic means are correct for forecasting purposes and for estimating the cost of capital. There is no theoretical or empirical justification for the use of geometric mean rates of returns as a measure of the appropriate discount rate in computing the cost of capital or in computing present values. There is no dispute in academic circles as to whether the arithmetic or geometric average should be used for purposes of computing the cost of capital.[61]

Finally, the text by Bode, Kane, and Marcus (2005) states:

> [I]f our focus is on future performance, then the arithmetic average is the statistic of interest because it is an unbiased estimate of the portfolio's expected return (assuming, of course, that the expected return does not change over time). In contrast, because the geometric return over a sample period is always less than the arithmetic mean, it constitutes a

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[59] See Villadsen Direct p. 25 and Appendix C for a detailed discussion.

[60] Morningstar Ibbotson SBBI 2008 Valuation Yearbook, p. 77.

[61] Roger A. Morin (2006), *New Regulatory Finance*, Public Utilities Reports, Inc., ("Morin (2006)"), pp. 116-117.

> downward-biased estimator of the stock's expected return in any future year.[62,63]

Based on the academic and other literature, the MRP estimate based on the geometric average is invalid.[64] It leads to downward biased cost of capital estimates and should be ignored. Table R 4 below shows the difference between the Parcell Direct's cost-of-equity estimates including and excluding the geometric MRP.

Table R 4. Impact of Relying on Geometric MRP Estimates in Parcell Direct

		Value Line Water Group	AUS Utility Reports Group	Villadsen Water Sample
[1]	Risk-free rate	4.35%	4.35%	4.35%
[2]	Average beta	1.03	0.93	0.93
[3]	Arithmetic MRP (Average of Ibbotson and value derived by Parcell Direct based on S&P 500 returns)	6.48%	6.48%	6.48%
[4]	**Estimate based on arithmetic MRP**	**10.99%**	**10.38%**	**10.38%**
[5]	Average of arithmetic and geometric MRP used by Parcell Direct	5.90%	5.90%	5.90%
[6]	**Estimate based on both arithmetic and geometric MRP**	**10.40%**	**9.84%**	**9.84%**
[7]	**Difference**	**0.59%**	**0.54%**	**0.54%**

Sources and Notes:
[1] and [2]: Parcell Direct, Schedule 7.
[3] and [5]: Parcell Direct, p. 24.
[4] = [1] + [2] x [3].
[6] = [1] + [2] x [5].
[7] = [4] - [6].

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62 Zvi Bode, Alex Kane, and Alan J. Marcus (2005), *Investments*, 6'th Edition, McGraw-Hill, p. 865.

63 See also Richard A. Brealey, Stewart C. Myers, and Franklin Allen (2006), Principles of Corporate Finance, 8th Edition, McGraw-Hill, p. 150-151.

64 An exception to this could occur if returns were serially correlated, but the equity risk premium data series used by Morningstar / Ibbotson does not exhibit serial correlation and neither does the market return series. Morningstar's Ibbotson SBBI 2008 Valuation Yearbook notes that over the 1926-2007 period used to calculate the historical MRP, the equity risk premium shows no evidence of serial correlation (pp. 80-81). Additionally, I have performed the standard portmanteau (Ljung-Box) test for serial correlation on the series of annual stock market returns used by Morningstar to calculate the historical MRP, and found no evidence of serial correlation (for a description of the portmanteau test statistic, see John Y. Campbell, Andrew W. Lo, and A. Craig MacKinlay, *The Econometrics of Financial Markets*, Princeton UP: New Jersey, 1997, p. 47).

As can be seen from the table, the Parcell Direct's CAPM cost-of-equity estimates are between 54 and 59 basis points lower when relying on both the arithmetic and the geometric MRPs than when relying on the arithmetic MRPs only. Using only the arithmetic CAPM, the Parcell Direct method would estimate an average cost of equity of 10.59%.[65]

C. ISSUES WITH THE COMPARABLE EARNINGS APPROACH

Q36. WHAT ARE THE PROBLEMS WITH THE PARCELL DIRECT'S COMPARABLE EARNINGS METHODOLOGY?

A36. I find two key problems with the methodology as implemented in the Parcell Direct. First, the comparable earnings methodology relies on accounting returns rather than on market returns. Hence, it does not necessarily reflect the cost of capital that current and prospective investors require. Second, the figures that the Parcell Direct relies upon to estimated cost of equity relies on the historical return for regulated water utilities. Both the use of historical returns and the use of regulated entities are problematic.

Q37. WHY DO YOU THINK IT IS PROBLEMATIC TO USE ACCOUNTING RETURNS AS A MEASURE FOR THE COST OF CAPITAL?

A37. As noted in the Villadsen Direct, the cost of capital is the expected rate of return in capital markets on alternative investments of equivalent risk. Clearly, an accounting return is *not* a market measure.

Q38. WHY DO YOU THINK THE USE OF HISTORICAL RETURNS EARNED BY REGULATED UTILITIES IS PROBLEMATIC?

A38. First, historical returns are not necessarily representative for the industry going forward and hence do not measure the *expected rate of return*. Current and prospective investors are interested in the going forward rate of return. Second, as noted by Professor Morin

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[65] This is the average of the three estimates on line [4] of Table R 4.

> The rationale of the method is that regulation is a duplicate for competition. The profitability of unregulated firms is set by the free forces of competition. ... [B]y averaging the book profitability of a large number of unregulated companies over time, an appropriate measure of the fair return on equity for a public utility is obtained.[66]

Thus, for the method to work properly, it needs to be applied to unregulated entities. The Parcell Direct does apply the methodology to unregulated entities (S&P 500), and finds that the earned return on equity over the past 16 years was 14.7 to 15%.[67] However, the Parcell Direct ignores those figures based on a summary analysis of risk characteristics, and makes no attempt to identify a group of unregulated, comparable risk companies that could provide a useful insight into the magnitude of returns expected by investors in similarly risky, but competitive, companies. Third, the Parcell Direct finds that the prospective accounting return on equity is 9.5 to 11.5%.[68] However, the Parcell Direct also ignores these returns and concludes that the comparable earnings method results in a cost of equity estimate of 9.5 to 10.5%.[69]

Q39. WHAT DO YOU CONCLUDE REGARDING THE IMPLEMENTATION OF THE COMPARABLE EARNINGS METHOD?

A39. The methodology does not provide insights into the Company's current cost of capital because it focuses on historical accounting returns for water utilities which says nothing about the cost of capital that investors currently require. Therefore, this cost of equity estimate should be ignored. As estimated in the Parcell Direct, it is also downward biased as the Parcell Direct ignored the higher returns from non-regulated entities and also prospective returns.

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[66] Morin (2006) pp. 381-381.

[67] Parcell Direct p. 28.

[68] Parcell Direct, Schedule 8 (the range is based on the 2009 and 2011-2013 projections, since 2008 returns are not prospective at this time).

[69] Parcell Direct p. 30.

VI. COMMENTS ON ESTIMATION METHODS IN THE RIGSBY DIRECT

A. THE RIGSBY DIRECT RECOMMENDATION

Q40. HOW DOES THE RIGSBY DIRECT ARRIVE AT A RECOMMENDATION OF 8.88%?

A40. The Rigsby Direct's recommendation is driven by unrealistically low estimates. Specifically, the Rigsby Direct relies on CAPM estimates that are below the Company's current cost of debt. As summarized on page 33 of Rigsby Direct, the recommendation is based on at least three estimates that are clearly below the cost of debt: 6.66%, 5.07%, and 6.26%. Eliminating these estimates from the calculation of the average brings the estimated cost of equity for the sample to 9.78%. If one adds to this value the adjustment for financial risk that Mr. Rigsby has traditionally applied in the past,[70] the Rigsby Direct's recommendation would be 10.28%. In addition, there are other flaws in the methodology applied by the Rigsby Direct. The major flaws are failing to consider financial risk, relying on an adjusted sustainable growth rate formula in estimating the DCF growth rate, using an unrealistically low risk-free rate in the CAPM implementation, and relying on a geometric measure of the market risk premium. As I have already discussed the importance of adjusting for financial risk and the flaws of using a geometric market risk premium, this section addresses only the DCF growth rates and the results of the CAPM.

B. ISSUES WITH THE DCF METHOD

Q41. HOW DOES THE RIGSBY DIRECT ARRIVE AT ITS DCF ESTIMATE%?

A41. The Rigsby Direct relies on a constant growth DCF model with a sustainable growth rate where the standard sustainable growth model states that

$$g = b \times r + s \times v \qquad (1)$$

[70] Rigsby Direct pp. 54-55, and Direct Testimony of William A. Rigsby in Dockets No. WS-01303A-06-0491 p. 6 and No. WS-01303A-06-0403. See also Arizona Corporation Commission Decision 69440 p. 19.

where b is the earnings retention ratio
r is the return on common equity
s is the growth in shares
v = [(Market Value per Share) / (Book Value per Share) - 1] **(2-a)**

Rigsby calculates the five-year historical and forecasted retention ratio, book return on equity, book value per share, and growth in shares. Based on five-year historical averages and forecasted growth rates, Rigsby decides on an internal growth rate.[71] He also estimates the share growth. However, the Rigsby Direct relies on a model where v is replaced by[72]

v* = {[(Market Value per Share) / (Book Value per Share) + 1] / 2 - 1} **(2-b)**

As v* is less than v whenever the stock price per share is higher than the book value per share, the formula in (2-b) results in a lower growth rate than the standard formula for companies with a market-to-book (or price to book value per share) above one.

Q42. WHAT ARE THE CONSEQUENCES OF THE RIGSBY DIRECT'S MODIFICATION OF THE SUSTAINABLE GROWTH METHOD?

A42. In essence, the adjustment lowers (increases) the sustainable growth rate when the market-to-book ratio is higher (lower) than one. Table R 5 below reports the results from using the data in the Rigsby Direct's Schedules WAR-2 and WAR-4 page 2 but removing the adjustment factor. For the water companies the cost-of-equity estimate increases by about 79 basis points while the cost-of-equity estimate for the gas LDC sample increases by about 41 basis points for an average increase of about 60 basis points in the DCF cost-of-equity estimate.

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[71] *See* Rigsby Direct p. 27 and Schedules WAR-4, WAR-5, and WAR-6.

[72] Rigsby Direct, Schedule WAR-4, page 2.

Table R 5. The Impact on the DCF Cost of Equity of Rigsby Direct's Adjustment to the Sustainable Growth Model

	Water Utility Sample	Natural Gas LDC Sample
[1] Rigsby DCF estimate	11.19%	11.16%
[2] Rigsby DCF with adjustment	11.97%	11.57%
[3] Difference	**0.79%**	**0.41%**

Sources and Notes:
[1], [2]: Table BV-R3, columns [7] and [7a].
[3] = [2] - [1].

As can be seen from Table R 5 above, the impact of this one adjustment is significant and biases the DCF estimates obtained in the Rigsby Direct downward.

Q43. WHY DID YOU MODIFY THE CALCULATION OF THE EXTERNAL GROWTH RATE?

A43. The adjustment made in the Rigsby Direct is founded on the notion that "[t]he market price of a utility's common stock will tend to move toward book value, or a market-to-book ratio of 1.0, if regulators allow a rate of return that is equal to the cost of capital."[73] Thus, it appears that the Rigsby Direct relies on the so-called market-to-book test, which is based on the assumption that the value of a utility's stock equals the present value of the returns of and on a rate base equal to the net book value of the utility's equity. To illustrate the consequences of a strict belief in the market-to-book test,[74] I will discuss a hypothetical example.

Assume the market-to-book test worked, and that all parties agreed that at a cost of equity of 11% is appropriate for Utility A.[75] For simplicity; assume that Utility A has an actual and ratemaking capital structure consisting of 40% equity. Assume that Utility A's market-to-book ratio is 2, which if the market-to-book test were valid would signal that 11% is above the cost of equity at the regulatory equity ratio. Suppose also that the book

[73] Rigsby Direct p. 15.

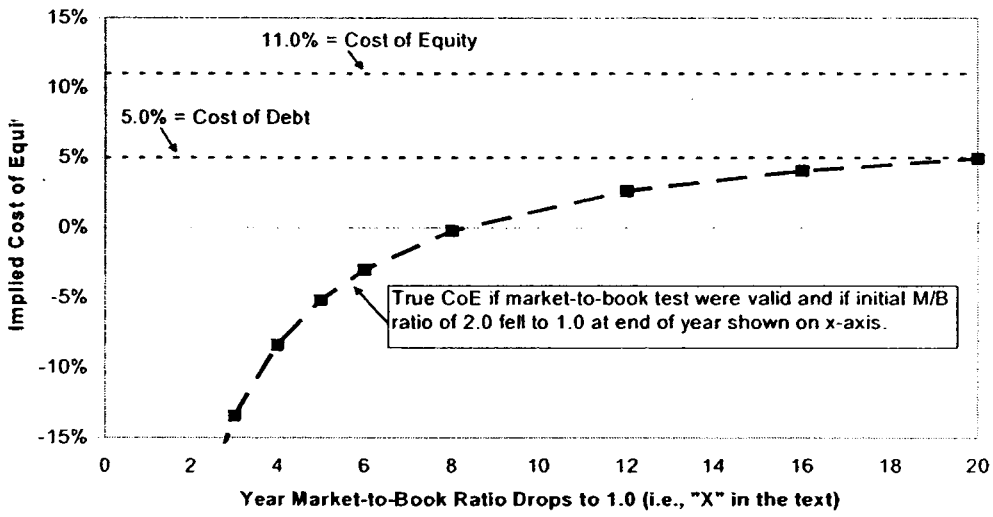
[74] The Rigsby Direct does not argue that regulators should seek a market-to-book ratio of one.

[75] The 11% is used for illustrative purposes only.

value of the utility is expected to grow at a long-term annual rate of 5%. Lastly, suppose that investors expected an extreme form of regulatory lag: regulators will leave allowed rates of return at the current 11% level for X years. On the last day of the Xth year, regulators will readjust the allowed rate of return down to the cost of equity, so that the market-to-book ratio falls to 1.0 on that day. In short, the assumptions are that (1) investors put up $2 now for every $1 of book equity rate base, (2) earn an allowed rate of return of 11% (which by hypothesis is above the cost of capital) on the book value of the equity rate base (which grows at 5% per year) for X years, and (3) then end up with a stock value equal to only the book-value rate base, i.e., they lose 50% of their original investment after X years. If the market-to-book test were valid, the discount rate that makes the present value of these hypothesized returns equal to twice the book value of the stock is the utility's true cost of equity. Figure R 4 plots the implied true cost of equity associated with values of "X" running out to 20 years. As benchmarks, it adds the assumed 11% allowed rate of return on equity and the associated long-term bond rate, 5%.

Figure R 4

Market-to-Book Test Implies an Unrealistic True Cost of Equity (CoE)
(Allowed RoR on Book Equity = Estimated Cost of Equity = 11%. M/B Ratio Falls from 2.0 to 1.0 at the End of the Year Indicated on the X-Axis.)



The curved line (blue in color copies) depicts the true cost of capital as the length of the regulatory lag (X) grows from three years to 20 years. With a loss of 50% of the original investment due at the end of the regulatory lag, X must exceed 8 years for the true cost of equity to become positive, and during the 20-year period considered it never exceeds the cost of debt (or risk-free rate). As investors clearly expect a return in excess of the risk-free rate, trying to regulate to obtain a market-to-book ratio of one is not viable. The example illustrates that it is unlikely that the simple market-to-book test works. Because the test does not work, I firmly believe the regulators should not attempt to maintain, increase, or decrease a utility's market-to-book ratio.[76]

Q44. DO YOU HAVE ANY GENERAL COMMENTS REGARDING CHOICE OF GROWTH RATES IN THE RIGSBY DIRECT?

A44. Yes, the Rigsby Direct relies on a mixture of historical growth rates and projected growth rates. Because, as discussed above, the water industry currently is in transition, historical growth rates are likely not representative of future growth. As noted above, the water utility industry is expected to make significant infrastructure investments, the industry is facing a number of mergers and acquisitions, and the water utility companies' risk appears to be increasing as evidenced by the increasing betas shown in Figure R 3.[77] There is a large academic literature that indicates that analysts' forecasts are statistically more accurate than growth forecasts solely based on historical earnings, dividends, book value and equity growth rates.[78] For example, a paper by Gordon, Gordon and Gould (1989)[79] demonstrates that for utilities, forecasted earnings growth outperform past growth in earnings, past growth in dividends, and past growth in earnings retention in

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[76] There may be circumstances where an extremely low market-to-book ratio indicates a fundamental problem in which case the regulator may need to address the underlying problem - - not the market-to-book ratio.

[77] *Section III* discusses this issue further.

[78] This literature is summarized in the Villadsen Direct, Appendix D pp. D-6-D-9.

[79] David A. Gordon, Myron J. Gordon, and Lawrence I. Gould (1989), "Choice Among Methods of Estimating Share Yield," *The Journal of Portfolio Management*, 50-55. See also R. Charles Moyer, Robert E. Chatfield, and Gary D. Kelley (1985), "The Accuracy of Long-Term Earnings Forecast in the Electric Utility Industry," *International Journal of Forecasting* 1, 241-252.

explaining utilities expected return. Therefore, the Rigsby Direct's use of historical growth rates biases the cost of equity. However, because the Rigsby Direct performs an assessment of the applicable growth rates[80] rather than a numerical calculation, I cannot determine the magnitude of this bias..

C. ISSUES WITH THE CAPM METHOD

Q45. DOES THE RIGSBY DIRECT RELY ON THE GEOMETRIC CALCULATION OF THE MARKET RISK PREMIUM?

A45. Yes, the Rigsby Direct considers estimates based on both the geometric and the arithmetic MRP.[81] As I explained in Section V.B above, the geometric MRP is not a valid measure of the market risk premium. Eliminating the estimated based on it would drop two of the Rigsby's Direct CAPM estimates that fall below estimates of the cost of debt, and are therefore unreliable: 6.66% and 5.07%.[82]

Q46. ARE THE OTHER CAPM ESTIMATES REASONABLE?

A46. The CAPM estimate based on the arithmetic MRP and the gas LDC sample is certainly not reasonable, since 6.26% is much lower than current yields on utility bonds.[83] Estimates below the current yield on investment grade utility bonds should be ignored and if the Rigsby Direct were to rely only on cost of equity estimates above the cost of investment grade utility debt, his CAPM estimate would be at least 8.39%. Additionally, the Rigsby Direct relies on a risk-free rate of 1.50% in his CAPM analysis.[84] If the Rigsby Direct is to use the unusually low risk-free rate that currently prevails, he would need to make an adjustment to the MRP which currently is unusually high. Alternatively, the Rigsby Direct needs to look to prospective estimates of the risk-free rate. For

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[80] Rigsby Direct p. 23.

[81] Rigsby Direct, p. 32, and Schedule WAR-7.

[82] See Page 1 of Schedule WAR-7 of Rigsby Direct.

[83] As of February 3, the 15-day average yield on Moody's Baa rated utility bonds was 7.86% (Bloomberg).

[84] Rigsby Direct, Schedule WAR-7, page 2.

example, a month into the financial crisis, Blue Chip Economic Indicators estimated the 3-month Treasury Bill rate at 3.6% and the 10-Year Treasury Notes rate at 4.9% for 2010. Had the Rigsby Direct used these more reasonable figures, say the midpoint of 4.25%,[85] the arithmetic CAPM would become 11.14% and 9.01% for the water utility and gas LDC samples, respectively. Using the average of these figures, the CAPM cost of equity would be about 10.08%.

VII. CONCLUSION

Q47. WHAT IS YOUR CONCLUSION REGARDING THE PARCELL DIRECT AND THE RIGSBY DIRECT RECOMMENDATIONS?

A47. The recommended return on equity and hence the rate of return is too low for several reasons. It is below or near the Company's current cost of debt and below the pre-crisis allowed rates of return in the utility industry. As the financial crisis have increased the cost of capital, it is imperative that Arizona-American be afforded an opportunity to earn a reasonable return on the equity invested. Further, the Parcell Direct deviates from the Staff's practice of recognizing the added financial risk of Arizona-American, and the Rigsby Direct deviates from Mr. Rigsby's previous recommendation to recognize the Company's higher financial risk. In addition, there are modeling or data issues in both the Parcell Direct and the Rigsby Direct which downward bias the recommended cost of equity. The overall impact of the implementation choices made by the Parcell Direct and the Rigsby Direct is that the recommended cost of equity is too low.

Q48. CAN YOU ILLUSTRATE THE CONSEQUENCES OF THE IMPLEMENTATION CHOICES MADE IN THE PARCELL DIRECT AND THE RIGSBY DIRECT?

A48. Yes, Table R 6 below summarizes the impact the cost of equity. The modifications are discussed in Section III to VI above.

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[85] The Rigsby Direct, Schedule WAR-7 uses the 5-year Treasury Bond yield which logically would be

Table R 6. Summary of the Impact of Modifications

	Parcell Direct [a]	Rigsby Direct [b]
Original recommendation	10.00%	8.88%
Revised DCF estimate	at least 10.6%	11.77%
Revised CAPM estimate	at least 10.5%	10.08%
Using Staff/Rigsby prior financial risk adjustment	+ 0.6% to 0.7%	+ 0.5%
Revised Cost of Equity	**at least 11.2%**	**11.4%**

As can be seen from Table R 6 and Section VI, if the Rigsby Direct used only cost of equity estimates above the current cost of Baa-rated utility debt and relied on Mr. Rigsby's previous adjustment for financial risk, the cost of equity would increase to about 10.3%. Further, if the Rigsby Direct had not made its unique adjustment to the sustainable growth model and used a reasonable risk-free rate, the recommended cost of equity would increase to about 11.4%. This figure does not take into account the reliance on historical growth rates. Similarly, if the Parcell Direct had used the same methodology as Staff in the past has used to adjust for financial risk, its recommendation would be in the range of 10.6 to 10.7%. If the Parcell Direct further had relied only on forecasted growth rates and the version of the CAPM that uses the arithmetic MRP, the midpoint of its range would increase to at least 11.2%. Thus, with adjustment based on past testimony from Staff and Mr. Rigsby and standard financial economics, the cost of equity estimated in the Parcell Direct and the Rigsby Direct is no less than 11.2 to 11.4%. As the adjustments are conservative, so are the ranges indicated above.

Q49. DO YOU HAVE ANY OTHER CONCLUDING REMARKS ON ARIZONA-AMERICAN'S COST OF EQUITY CAPITAL?

A49. Yes. As discussed in Section III above, Arizona-American's financing affiliate, American Water Capital Corporation, has recently issued debt at or near 10% and equity investors require a premium to provide capital. Additionally, the current turmoil in financial markets has caused the cost of debt and equity to increase. For a utility that

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higher than the 3-month Treasury Bill rate but lower than the 10-year Treasury Note rate. The Parcell Direct uses a risk-free rate of 4.35%.

needs to undertake investments in infrastructure, it is therefore imperative that the allowed return on equity and overall return are such that it maintains its access to capital.

Q50. YOU DO NOT ADDRESS ALL ISSUES OR FINDINGS DISCUSSED IN THE PARCELL DIRECT OR RIGSBY DIRECT. DOES THAT IMPLY THAT YOU ACCEPT THEIR POSITIONS OR FINDINGS?

A50. A. No, not necessarily.

Q51. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A51. A. Yes.

Table No. BV R-1

Cost of Equity Adjustment Calculation

Company	Risk Free Rate [1]	Beta [2]	Risk Premium [3]	K [4]	
Value Line Water Group					
Using Value Line Beta	4.35%	1.03	5.90%	10.4%	[a]
Using Adjusted Relevered Beta	4.35%	1.15	5.90%	11.1%	[b]
				0.7%	[c]
AUS Utility Reports Group					
Using Value Line Beta	4.35%	0.93	5.90%	9.8%	[a]
Using Adjusted Relevered Beta	4.35%	1.03	5.90%	10.4%	[b]
				0.6%	[c]
Villadsen Water Sample					
Using Value Line Beta	4.35%	0.93	5.90%	9.8%	[a]
Using Adjusted Relevered Beta	4.35%	1.03	5.90%	10.4%	[b]
				0.6%	[c]

Sources and Notes:
[1], [3]: Parcell Direct, Schedule 7.
[2][a]: Workpaper #1 to Table No. BV R-1; column [1] average.
[2][b]: Workpaper #3 to Table No. BV R-1; column [6].
[4][a] - [b]: = [1] + ([2] x [3]).
[4][c]: = [4][b] - [4][a].

Workpaper #1 to Table BV R-1

Value Line Raw Beta Calculation

Company	Value Line Beta	Raw Beta
	[1]	[2]
Value Line Water Group		
American States Water Co.	0.95	0.90
Aqua America, Inc	1.00	0.97
California Water Service Group	1.10	1.12
Southwest Water Co.	1.05	1.04
Average	1.03	1.01
AUS Utility Reports Group		
American States Water Co.	0.95	0.90
Aqua America, Inc	1.00	0.97
Artesian Resources Corp.	-	-
California Water Service Group	1.10	1.12
Connecticut Water Service, Inc.	0.80	0.67
Middlesex Water	0.90	0.82
SJW Corporation	1.15	1.19
Southwest Water Co.	1.05	1.04
York Water Company	0.50	0.22
Average	0.93	0.87
Villadsen Water Sample		
American States Water Co.	0.95	0.90
Aqua America, Inc	1.00	0.97
California Water Service Group	1.10	1.12
Connecticut Water Service, Inc.	0.80	0.67
Middlesex Water	0.90	0.82
SJW Corporation	1.15	1.19
Southwest Water Co.	1.05	1.04
York Water Company	0.50	0.22
Average	0.93	0.87

[1]: Value Line Betas from Schedule 7 of Parcell Testimony.
[2]: (-0.35 + [1]) / 0.67

Workpaper #2 to Table No. BV R-1

Calculation of Unlevered Raw Beta

Company	(Unadjusted Beta) Value Line Levered Raw Beta	Primary Location of Operations	State Corporate Income Tax Rate	Tax Rate	Book Debt	Equity Cap	Unlevered Raw Beta
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Value Line Water Group							
American States Water Co.	0.90	CA	8.84%	40.75%	50%	50%	0.56
Aqua America, Inc	0.97	PA	9.99%	41.49%	57%	43%	0.55
California Water Service Group	1.12	CA	8.84%	40.75%	43%	57%	0.77
Southwest Water Co.	1.04	CA	8.84%	40.75%	48%	52%	0.68
Average	1.01		9.13%	40.93%	50%	51%	0.64
AUS Utility Reports Group							
American States Water Co.	0.90	CA	8.84%	40.75%	50%	50%	0.56
Aqua America, Inc	0.97	PA	9.99%	41.49%	57%	43%	0.55
Artesian Resources Corp.*	-						
California Water Service Group	1.12	CA	8.84%	40.75%	43%	57%	0.77
Connecticut Water Service, Inc.	0.67	CT	7.50%	39.88%	50%	50%	0.42
Middlesex Water	0.82	NJ	9.00%	40.85%	52%	48%	0.50
SJW Corporation	1.19	CA	8.84%	40.75%	48%	52%	0.77
Southwest Water Co.	1.04	CA	8.84%	40.75%	48%	52%	0.68
York Water Company	0.22	PA	9.99%	41.49%	52%	48%	0.14
Average	0.87		8.98%	40.84%	50%	50%	0.55
Villadsen Water Sample							
American States Water Co.	0.90	CA	8.84%	40.75%	50%	50%	0.56
Aqua America, Inc	0.97	PA	9.99%	41.49%	57%	43%	0.55
California Water Service Group	1.12	CA	8.84%	40.75%	43%	57%	0.77
Connecticut Water Service, Inc.	0.67	CT	7.50%	39.88%	50%	50%	0.42
Middlesex Water	0.82	NJ	9.00%	40.85%	52%	48%	0.50
SJW Corporation	1.19	CA	8.84%	40.75%	48%	52%	0.77
Southwest Water Co.	1.04	CA	8.84%	40.75%	48%	52%	0.68
York Water Company	0.22	PA	9.99%	41.49%	52%	48%	0.14
Average	0.87		8.98%	40.84%	50%	50%	0.55

Sources and Notes:

[1]: See Workpaper #1 to Table BV R-1; column [2].

[2]: From company website.

[3]: From Federation of Tax Adminstration Website; http://www.taxadmin.org/fta/rate/corp_inc.html.

[4]: = [3] + (1 - [3]) x 35%.

[5]: = 1 - [6].

[6]: Parcell Direct, Schedule 4.

[7]: = [1] / (1 + ([5] / [6]) x (1 - [4])).

*Artesian Resources Corp. is excluded from calculations due to lack of a Value Line Beta.

Workpaper #3 to Table No. BV R-1

Calculation of Adjusted Relevered Beta

Company	Unlevered Raw Beta [1]	Book Debt (Long-term and short term) [2]	Equity Capital [3]	Tax Rate [4]	Relevered Raw Beta [5]	Adjusted Relevered Beta [6]
Value Line Water Group	0.64	0.58	0.42	38.6%	1.19	1.15
AUS Utility Reports Group	0.55	0.58	0.42	38.6%	1.02	1.03
Villadsen Water Sample	0.55	0.58	0.42	38.6%	1.02	1.03

Sources and Notes:

[1]: Workpaper #2 to Table No. BV R-1; Column [7] average.

[2] - [3]: Parcell Direct, page 2.

[4]: Provided by Arizona-American Water.

[5]: = [1] x (1 + (1 - [4]) x ([2] / [3]).

[6]: = 0.35 + (0.67 x [5]).

Table No. BV R-2
Parcell Direct DCF Estimates Based only on Prospective Growth Rates

Company	DPS [1]	Average Stock Price [2]	Dividend yield [3]	Retention Growth Rates (2008) [4]	Retention Growth Rates (2009) [5]	Retention Growth Rates (2011 - 2013) [6]	Prospective Retention Growth [7]	Est'd '05-'07 to '11-'13 Growth Rates: EPS [8]	DPS [9]	BVPS [10]	Average [11]	First Call EPS Growth [12]	Average Growth [13]	Adjusted dividend yield [14]	RoE estimate [15]
American States Water	$1.00	$34.10	2.9%	4.5%	5.5%	7.5%	5.8%	11.0%	5.0%	2.5%	6.2%	4.0%	5.3%	3.0%	8.3%
Aqua America, Inc.	$0.54	$15.67	3.4%	3.0%	3.5%	4.0%	3.5%	7.5%	5.5%	5.5%	6.2%	7.0%	5.6%	3.5%	9.1%
California Water Service Group	$1.17	$35.09	3.3%	2.5%	4.0%	5.5%	4.0%	10.0%	2.0%	4.0%	5.3%	8.0%	5.8%	3.4%	9.2%
Southwest Water Co.	$0.24	$8.61	2.8%	0.5%	1.5%	4.5%	2.2%	9.5%	6.0%	1.0%	5.5%	5.0%	4.2%	2.8%	7.1%
Average													**5.2%**		**8.4%**
American States Water	$1.00	$34.10	2.9%	4.5%	5.5%	7.5%	5.8%	11.0%	5.0%	2.5%	6.2%	4.0%	5.3%	3.0%	8.3%
Aqua America	$0.54	$15.67	3.4%	3.0%	3.5%	4.0%	3.5%	7.5%	5.5%	5.5%	6.2%	7.0%	5.6%	3.5%	9.1%
Artesian Resources Corp.	$0.71	$15.27	4.6%									5.0%	5.0%	4.8%	9.8%
California Water Service Group	$1.17	$35.09	3.3%	2.5%	4.0%	5.5%	4.0%	10.0%	2.0%	4.0%	5.3%	8.0%	5.8%	3.4%	9.2%
Connecticut Water Service, Inc.	$0.89	$24.11	3.7%									15.0%	15.0%	4.0%	19.0%
Middlesex Water	$0.71	$15.00	4.7%									8.0%	8.0%	4.9%	12.9%
SJW Corporation	$0.64	$25.24	2.5%									10.0%	10.0%	2.7%	12.7%
Southwest Water Co.	$0.24	$8.61	2.8%	0.5%	1.5%	4.5%	2.2%	9.5%	6.0%	1.0%	5.5%	5.0%	4.2%	2.8%	7.1%
York Water Company	$0.48	$12.46	3.9%									8.0%	8.0%	4.0%	12.0%
Average													**7.4%**		**11.1%**
American States Water	$1.00	$34.10	2.9%	4.5%	5.5%	7.5%	5.8%	11.0%	5.0%	2.5%	6.2%	4.0%	5.3%	3.0%	8.3%
Aqua America	$0.54	$15.67	3.4%	3.0%	3.5%	4.0%	3.5%	7.5%	5.5%	5.5%	6.2%	7.0%	5.6%	3.5%	9.1%
California Water Service Group	$1.17	$35.09	3.3%	2.5%	4.0%	5.5%	4.0%	10.0%	2.0%	4.0%	5.3%	8.0%	5.8%	3.4%	9.2%
Connecticut Water Service, Inc.	$0.89	$24.11	3.7%									15.0%	15.0%	4.0%	19.0%
Middlesex Water	$0.71	$15.00	4.7%									8.0%	8.0%	4.9%	12.9%
SJW Corporation	$0.64	$25.24	2.5%									10.0%	10.0%	2.7%	12.7%
Southwest Water Co.	$0.24	$8.61	2.8%	0.5%	1.5%	4.5%	2.2%	9.5%	6.0%	1.0%	5.5%	5.0%	4.2%	2.8%	7.1%
York Water Company	$0.48	$12.46	3.9%									8.0%	8.0%	4.0%	12.0%
Average													**7.7%**		**11.3%**

Sources and Notes:
Note that the replication of the Parcell Direct's numbers is subject to minor rounding errors due to not having access to the original spreadsheets.
[1] - [2]: Parcell Direct, Schedule 5, Page 1.
[3] = [1] / [2]. See also, Parcell Direct, Schedule 5, Page 1.
[4] - [6]: Parcell Direct, Schedule 5, Page 2.
[7] = ([4] + [5] + [6]) / 3. See also, Parcell Direct, Schedule 5, Page 2.
[8] - [10]: Parcell Direct, Schedule 5, Page 3.
[11] = ([8] + [9] + [10]) / 3. See also, Parcell Direct, Schedule 5, Page 3.
[12]: Parcell Direct, Schedule 5, Page 4.
[13] = ([7] + [11] + [12]) / 3.
[14] = [3] x (1 + (0.5 x [13])).
[15] = [13] + [14].

Table No. BV R-3

Rigsby Direct DCF Estimates Without Adjustment to Sustainable Growth Formula

	Share Growth	Market-to-Book Ratio	External Growth (Rigsby)	External Growth (Unadjusted)	Internal Growth	Dividend Growth (Rigsby)	Dividend Growth (Unadjusted)	Dividend Yield	DCF Cost of Equity (Rigsby)	DCF Cost of Equity (Unadjusted)	Impact of Adjustment
	[1]	[2]	[3]	[3a]	[4]	[5]	[5a]	[6]	[7]	[7a]	[8]
American States Water Co.	3.25%	1.76	1.24%	2.47%	6.75%	7.99%	9.22%	3.10%	11.09%	12.32%	
California Water Service Group	3.00%	2.11	1.67%	3.33%	5.00%	6.67%	8.33%	2.87%	9.54%	11.20%	
Southwest Water Co.	3.50%	0.68	6.44%	5.88%	3.75%	10.19%	9.63%	5.38%	15.57%	15.01%	
Aqua America, Inc.	1.00%	2.60	0.80%	1.60%	5.00%	5.80%	6.60%	2.75%	8.55%	9.35%	
Water Company Average			**2.54%**	**3.32%**		**7.66%**	**8.45%**		**11.19%**	**11.97%**	**0.79%**
AGL Resources, Inc.	1.00%	1.29	0.15%	0.29%	5.25%	5.40%	5.54%	5.77%	11.17%	11.31%	
Atmos Energy Group	5.00%	0.99	9.98%	9.95%	4.00%	13.98%	13.95%	5.62%	19.60%	19.57%	
Laclede Group, Inc.	3.00%	2.22	1.83%	3.66%	4.50%	6.33%	8.16%	3.14%	9.47%	11.30%	
New Jersey Resources Corp.	1.00%	2.15	0.58%	1.15%	6.25%	6.83%	7.40%	3.01%	9.84%	10.41%	
Nicor, Inc.	0.07%	1.83	0.03%	0.06%	6.00%	6.03%	6.06%	4.89%	10.92%	10.95%	
Northwest Natural Gas Co.	1.00%	1.98	0.49%	0.98%	4.75%	5.24%	5.73%	3.37%	8.61%	9.10%	
Piedmont Natural Gas Co.	0.01%	2.52	0.01%	0.02%	5.00%	5.01%	5.02%	3.27%	8.28%	8.29%	
South Jersey Industries	1.75%	2.07	0.94%	1.87%	9.00%	9.94%	10.87%	6.32%	16.26%	17.19%	
Southwest Gas Corp.	2.50%	1.06	0.08%	0.15%	5.25%	5.33%	5.40%	3.66%	8.99%	9.06%	
WGL Holdings, Inc.	0.20%	1.54	0.05%	0.11%	4.00%	4.05%	4.11%	4.43%	8.48%	8.54%	
Natural Gas LDC Average			**1.41%**	**1.82%**		**6.81%**	**7.22%**		**11.16%**	**11.57%**	**0.41%**

Sources and Notes:

Note that the replication of the Rigsby Direct's numbers is subject to minor rounding errors due to not having access to the original spreadsheets.

[1]: Rigsby Direct, Schedule WAR-4, Page 2, Column (A).

[2]: Rigsby Direct, Schedule WAR-4, Page 2, Column (B).

[3] = [1] x (([2] + 1) / 2 - 1) if [2] > 1, and [1] x (([2] + 1) / 2 + 1) if [2] < 1.

[3a] = [1] x ([2] - 1) if [2] > 1, and [1] x ([2] + 1) if [2] < 1.

[4]: Rigsby Direct, Schedule WAR-4, Page 1, Column (A).

[5] = [4] + [3].

[5a] = [4] + [3a].

[6]: Rigsby Direct, Schedule WAR-2, Column (A).

[7] = [6] + [5].

[7a] = [6] + [5a].

[8] = [7a] - [7] (averages only).

Table BV R-4

Result of Corrections to the Rigsby Direct Cost-of-Equity Estimate

Estimate Basis	Original [a]	No estimates below cost of debt [b]	Arithmetic MRP only [c]	No adjustment to DCF sustainable growth formula [d]	Adjustment to risk-free rate [e]	All corrections [f]
DCF - Water Sample	11.19%	11.19%	11.19%	11.97%	11.19%	11.97%
DCF - Natural Gas LDC Sample	11.16%	11.16%	11.16%	11.57%	11.16%	11.57%
DCF Average	**11.17%**	**11.17%**	**11.17%**	**11.77%**	**11.17%**	**11.77%**
CAPM Geometric MRP - Water Sample	6.66%			6.66%	9.41%	
CAPM Geometric MRP - Natural Gas LDC Sample	5.07%			5.07%	7.82%	
CAPM Arithmetic MRP - Water Sample	8.39%	8.39%	8.39%	8.39%	11.14%	11.14%
CAPM Arithmetic MRP - Natural Gas LDC Sample	6.26%		6.26%	6.26%	9.01%	9.01%
CAPM Average	**6.59%**	**8.39%**	**7.33%**	**6.60%**	**9.35%**	**10.08%**
Estimate	**8.88%**	**9.78%**	**9.25%**	**9.18%**	**10.26%**	**10.92%**
Difference from Rigsby Direct Estimate	-	0.90%	0.37%	0.30%	1.38%	2.04%
Financial Risk Adjustment	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Estimate Adjusted for Financial Risk	9.38%	10.28%	9.75%	9.68%	10.76%	**11.42%**

Sources and Notes:

[a]: Rigsby Direct, Schedule WAR-1, Page 3.

[b]: The 15-day average yield on Moody's Baa-rated public utility index for the period ending February 3, 2009 was 7.86 percent (Bloomberg).

[d]: Table BV R-3, Column [7a].

[e]: See discussion in Section VI.C of the rebuttal testimony.

EXHIBIT
A-15
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

KRISTIN K. MAYES, Chairman
SANDRA D. KENNEDY
PAUL NEWMAN
GARY PIERCE
BOB STUMP

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 AGUA FRIA WATER DISTRICT, ANTHEM WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT	DOCKET NO. W-01303A-08-0227
IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN 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 AGUA FRIA WASTEWATER DISTRICT, ANTHEM WASTEWATER DISTRICT, AND MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227

REJOINDER TESTIMONY
OF
BENTE VILLADSEN
ON BEHALF OF
ARIZONA-AMERICAN COMPANY
MARCH 10, 2009

TABLE OF CONTENTS

Section **Page #**

I. EXECUTIVE SUMMARY 1
II. INTRODUCTION AND SUMMARY 2
III. COMMENTS ON THE SURREBUTTAL TESTIMONIES 2
A. Relevance of Current Market Information 2
B. Implementation of Estimation Methods 5
C. Risks Other Than Financial Risk 8

I. EXECUTIVE SUMMARY

Dr. Bente Villadsen, a Principal at *The Brattle Group*, is filing Rejoinder testimony in response to the surrebuttal testimony submitted by Mr. David C. Parcell on behalf of Arizona Corporation Commission Staff and by Mr. William A. Rigsby on behalf of the Residential Utility Consumer Office. She has previously filed Direct and Rebuttal testimony in this proceeding.

Both Mr. Parcell and Mr. Rigsby critique Dr. Villadsen's use of American Water's recent debt issue as a benchmark for Arizona-American's cost of equity. It provides recent market information on the cost of capital for the company and therefore highly relevant for the determination of the company's cost of capital.

The ongoing financial crisis has had and continues to have a broad impact on utilities' access to and cost of capital. The drop in stock prices is likely caused by numerous factors including earnings expectations, investor risk aversion, and the equity risk premium. Mr. Parcell's surrebuttal mistakenly considers only earnings expectations.

Both the Parcell Surrebuttal and the Rigsby Surrebuttal disagree with Dr. Villadsen's critique of their implementation of the DCF and CAPM methodology. However, neither provided textbook or other convincing support for the disputed methods. Therefore, Dr. Villadsen continues to believe her rebuttal critique was merited.

II. INTRODUCTION AND SUMMARY

Q1. PLEASE STATE YOUR NAME AND ADDRESS FOR THE RECORD.

A1. My name is Bente Villadsen. My business address is *The Brattle Group*, 44 Brattle Street, Cambridge, MA 02138.

Q2. DID YOU PREVIOUSLY FILE TESTIMONY IN THIS PROCEEDING?

A2. Yes, I filed direct testimony ("Villadsen Direct") on behalf of Arizona-American Water Company ("Arizona-American" or the "Company") in April 2008 and rebuttal testimony ("Villadsen Rebuttal") in February 2009 regarding the estimate of the cost of equity for Arizona-American's districts.

Q3. WHAT IS THE PURPOSE OF YOUR REJOINDER TESTIMONY?

A3. Arizona-American has asked me to review and respond to the surrebuttal testimony of Mr. David C. Parcell ("Parcell Surrebuttal"), who filed testimony on behalf of the Arizona Corporation Commission Staff (the "Staff"), and to the surrebuttal testimony of Mr. William A. Rigsby ("Rigsby Surrebuttal"), who filed testimony on behalf of the Residential Utility Consumer Office.

Q4. DO YOU HAVE ANY PRELIMINARY COMMENTS?

A4. Yes. In an effort to reduce the volume of the material filed in this proceeding, I shall restrict my testimony to clarifications and brief comments on key issues raised in the surrebuttal testimonies rather than a comprehensive discussion of all issues. The fact that I do not respond to all issues raised in the Parcell or Rigsby Surrebuttals does not necessarily imply that I agree with them.

III. COMMENTS ON THE SURREBUTTAL TESTIMONIES

A. Relevance of Current Market Information

Q5. BOTH THE PARCELL SURREBUTTAL AND THE RIGSBY SURREBUTTAL CRITIQUE YOUR USE OF AMERICAN WATER'S ISSUANCE OF DEBT AT

10% AS AN INDICATOR OF THE CURRENT COST OF CAPITAL FOR THE COMPANY. HOW DO YOU RESPOND?

A5. Both the Parcell Surrebuttal and the Rigsby Surrebuttal appear to misunderstand my use of the debt issuance by American Water. The Parcell Surrebuttal indicates that the relevant measure against which to evaluate the Company's cost of equity is its embedded cost of debt.[1] The Rigsby Surrebuttal states that it "disagree[s] that a single debt issuance at a particular point in time should be the sole reason for increasing [the] recommended cost of equity."[2] Recalling that the cost of capital "is the expected rate of return in capital markets on alternative investments of equivalent risk,"[3] recent information about the Company's cost of debt becomes important.[4] The 10% issue by American Water provides recent info about the company's cost of issuing debt – embedded cost reflects the cost of debt in the past, not the cost of issuing new debt now. Therefore, it does provide insights into the current cost of capital for the Company. As the cost of equity is higher than the cost of debt (at least for investment grade entities) it also provides a benchmark against which to evaluate the cost of equity.

Q6. THE PARCELL SURREBUTTAL STATES THAT THE ISSUANCE "TOOK PLACE AT VIRTUALLY THE PEAK OF THE INTEREST LEVELS IN LATE 2008."[5] HOW DO YOU RESPOND?

A6. I agree that the sale took place at a time with very high yields on corporate and utility bonds for which reason, the Villadsen Rebuttal cited the then current yield of this debt issue[6] rather than its original cost. While the yield on this debt has declined since it was

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[1] Parcell Surrebuttal, p. 2.

[2] Rigsby Surrebuttal, p. 7.

[3] Villadsen Direct, p. 5. See also Parcell Direct, p. 4 and Rigsby Direct, p. 5.

[4] The 10% note in question was issued by American Water Works Capital Corp., but there is no reason to believe that the cost of debt capital for Arizona-American would not be similar.

[5] Parcell Surrebuttal, p. 3.

[6] Villadsen Rebuttal, p. 6.

first issued, it is still very high and in the range of 9¼ to 9½ percent.[7] Therefore, the cost of debt remains high and pertains to a much longer period than just at the "peak" or at a "particular point in time."[8] Thus, while the cost of this debt does not provide insights into the embedded cost of Arizona-American Water, it does provide a current benchmark on the cost of debt capital for the company.

Q7. DO YOU HAVE ANY COMMENTS ON THE PARCELL SURREBUTTAL'S COMMENT THAT YOU SEEM "TO BE EQUATING THE DECLINE IN STOCK PRICES WITH AN INCREASE IN THE COST OF EQUITY CAPITAL"?[9]

A7. Yes. It certainly is true that stock prices have dropped substantially.[10] It is also true that expectations of future earnings have dropped. However, it is incorrect to draw the conclusion that the fall in earnings expectations is the *only* cause of the fall in stock prices. The fall in prices can be and likely is, in part, caused by increased risk aversion among investors and/or a higher market risk premium. Simply pointing to the lowered earnings expectations, as the Parcell Surrebuttal does, does not prove that the crisis has left the market risk premium unaffected. As the market volatility has increased substantially as documented in the Villadsen Rebuttal p. 11, it is clear that factors other than a decline in earnings are in play. As noted in the Villadsen Rebuttal, the academic literature agrees that during times of increased volatility and financial distress, the market risk premium increases, so that the cost of equity capital increases.[11] Further, as the Parcell Surrebuttal acknowledges, the cost of corporate and utility debt is up,[12] so unless the premium investors require to invest in equity rather than debt has declined substantially, the cost of equity must be up as well.

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[7] As of March 2, 3 and 5, the price on American Water's 10% issue (EH622214 Corp) was 108.9, 104.9 and 107.95, respectively for a current yield of 9.2%, 9.5% and 9.3%, respectively. As of the time of my rebuttal testimony this yield was 9.7%. Source: Bloomberg.

[8] Parcell Surrebuttal, p. 3 and Rigsby Surrebuttal, p. 7.

[9] Parcell Surrebuttal, p. 4.

[10] During the period September 2, 2008 to February 27, 2009, the Dow Jones Industrial Average Index dropped approximately 38.7% while the Dow Jones Utility Average Index dropped approximately 31.3%. Source: Bloomberg.

[11] Villadsen Rebuttal, pp. 10-13.

B. IMPLEMENTATION OF ESTIMATION METHODS

Q8. ARE YOU PERSUADED BY THE PARCELL SURREBUTTAL ARGUMENT THAT THE SINGLE-STAGE DCF MODEL IS MORE ACCURATE THAN THE MULTI-STAGE MODEL?[13]

A8. No, the Parcell Surrbuttal's argument on this point is at odds with the assumptions behind the single-stage DCF model. In particular, the single-stage DCF model computes the current firm value as the present value of its future cash flows forever, not just over the next few years, until the next rate proceeding. Accordingly, proper application of the model requires an estimate of long-term growth rates. That such an estimate is hard to obtain, something with which I agree, does not however imply that expected growth rates over short horizons are preferable, if they are inconsistent with long-term expectations. It simply means that the single-stage DCF model is an inappropriate tool for the industry at this time, as I explain at length in Villadsen Direct.[14]

Q9. THE PARCELL SURREBUTTAL ARGUES THAT INVESTORS MUST RELY ON HISTORICAL EARNINGS MEASURES, BECAUSE THEY ARE PUBLISHED BY VALUE LINE AND OTHER FINANCIAL PUBLICATIONS. DO YOU AGREE?

A9. No. While Value Line and other reputable publications do publish historical measures of earnings, dividends and other measures of profitability, this does not imply that investors use them to implement the DCF model. These measures convey important information about a company's *past* performance, its management's ability, as well as the impact of any number of risks and factors that do not affect the company's stock returns. Historical measures of earnings growth can and do serve purposes other than estimating future earnings growth, whereas analyst forecasts are by definition intended to capture the expected future performance of a company's earnings. As discussed in the Villadsen Direct and the Villadsen Rebuttal, to the extent that historical performance does contain

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[12] Parcell Surrebuttal, p. 3.

[13] Parcell Surrebuttal, pp. 6-7.

[14] See pp. 31-32 of Villadsen Direct, as well as Section I of Appendix D.

information about future earnings, it is already reflected in analysts' forecasts. Unless analysts ignore historical performance when they make their forecasts, averaging historical and forecasted growth figures (or the cost-of-equity estimates based on the two measures) entail a double-counting of the historical information.

Q10. HOW DO YOU RESPOND TO THE PARCELL SURREBUTTAL'S CRITICISM THAT "THE CASH FLOW TO INVESTORS IN A DCF FRAMEWORK IS DIVIDENDS"?[15]

A10. The DCF model requires estimates of the growth in cash flows to investors. It is simply not true that dividends are the only channel through which equity investors receive cash distributions on their investment. An obvious example is share repurchases, an event which is not captured by only considering dividend growth rates. By contrast, earnings offer a better measure of long-term cash flows to equity investors, because any kind of cash distributions comes out of earnings – while there are temporary differences between earnings and distributions to investors, they cannot persist forever (recall that the DCF model assumes the same growth rates literally forever).[16]

Q11. HOW DO YOU RESPOND TO RIGSBY REBUTTAL'S DEFENSE OF THE MODIFICATION OF THE CALCULATION OF THE SUSTAINABLE GROWTH RATE?[17]

A11. The Rigsby Direct and the Rigsby Surrebuttal provide only one reference for its implementation of the modified DCF methodology.[18] No textbook, academic or practitioner article, or major data provider is cited as recommended this very specific implementation of the DCF model. Therefore, I continue to find it (1) relies on a non-standard methodology and (2) biases the estimated cost of equity downward.

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[15] Parcell Surrebuttal, p. 8.

[16] See Villadsen Direct Appendix D for a detailed discussion of this issue and of the DCF model's assumptions.

[17] Rigsby Direct, pp. 11-12.

[18] Testimony of Mr. Stephen Hill.

Q12. THE RIGSBY DIRECT STATES THAT THE "BEST ARGUMENT" FAVORING THE RELIANCE ON THE GEOMETRIC MRP IS THAT IT PROVIDES AN ACCURATE MEASURE OF "THE EFFECTS OF COMPOUNDING OF THE VALUE OF AN INVESTMENT WHEN RETURN VARIABILITY EXISTS."[19] DO YOU AGREE?

A12. No, the Rigsby Direct's is simply wrong. It is true that the geometric mean of realized returns is the best indicator of past performance, if one is interested in knowing what the rate of return on one's investment in the market has been over a historical sample period. However, that is not what past returns are used for in the context of estimating the MRP – rather, past returns are used to forecast expected future returns. For this purpose, basic statistical theory shows that the appropriate mean is the arithmetic mean.[20] Mr. Rigsby is correct that using the arithmetic average to evaluate the performance on one's investments would be a serious error, but so is using the geometric mean to estimate the expected MRP, in the context of the example he uses on pp. 14-15 of Rigsby Surrebuttal. These comments also pertain to the Parcell Surrebuttal's discussion on p. 9, lines 6-11. Arithmetic and geometric averages serve different purposes.

Q13. WHAT ABOUT THE EVIDENCE CITED BY THE RIGSBY DIRECT IN FAVOR OF RELYING ON THE GEOMETRIC MEAN?

A13. First, it should be pointed out that the studies cited by Mr. Rigsby do not rely on the simple argument discussed above, which he calls "the best." Those studies raise issues that have to do, as the Rigsby Direct points out, with possible autocorrelation in stock returns, which I discussed in my rebuttal testimony.[21] Second, without repeating the evidence I discussed there, I would only repeat here that the Ibbotson SBBI yearbook discusses the issue in the context of their MRP estimate based on historical returns, and concludes that there is no evidence of autocorrelation in the equity risk premium.[22]

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[19] Rigsby Surrebuttal, pp. 13-15.

[20] This point is explained very clearly in, for example, the *Ibbotson SBBI 2008 Valuation Yearbook*, pp. 77-79.

[21] See footnote 64 on p. 27 of Villadsen Rebuttal.

[22] *Ibbotson SBBI 2008 Valuation Yearbook*, p. 81.

Q14. DID YOU IMPLY IN YOUR REBUTTAL TESTIMONY THAT THE PARCELL DIRECT RELIED ONLY ON GEOMETRIC ESTIMATES OF THE MRP?

A14. No. Table R 4 on page 27 of Villadsen Rebuttal makes it clear that is not the case, since it compares estimates based only on arithmetic estimates against estimates based on both geometric and arithmetic.

C. Risks Other Than Financial Risk

Q15. IS IT TRUE THAT FINANCIAL RISK IS ONLY ONE OF MANY RISKS UNIQUE TO A COMPANY, AND THEREFORE TO SINGLE IT OUT AMOUNTS TO BIAS?[23]

A15. No, this is simply wrong, as can easily be judged by noting that every serious textbook discusses financial risk adjustment as part of the standard cost-of-capital estimation. However, while financial risk must be considered, the same is not true about the kinds of risks unique to Arizona-American that the Parcell Surrebuttal discusses. It is a fundamental insight of financial economics that *only systematic risk affects* the market price of a company's assets. Risks unique to that company can be diversified by an investor holding a large portfolio, and therefore are not reflected in stock prices.[24] This justifies ignoring those risks when estimating the company's cost of equity.

Q16. DOES THE FACT THAT YOU HAVE NOT COMMENTED ON ALL ISSUES IN THE PARCELL OR RIGSBY SURREBUTTAL MEAN THAT YOU AGREE WITH REMAINING POINTS?

A16. No. Attention was simply restricted to key issues rather than a comprehensive discussion of all issues.

Q17. DOES THIS COMPLETE YOUR REJOINDER TESTIMONY?

A17. Yes.

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[23] Parcell Surrebuttal, pp. 5-6.

[24] I discussed this issue in detail in Appendix C of Villadsen Direct, pp. C-10 – C-12.

EXHIBIT
A-16
ADMITTED

ARIZONA-AMERICAN WATER COMPANY, INC.

DOCKET NO. W-01303A-07-0209

DIRECT TESTIMONY

OF

WILLIAM A. RIGSBY, CRRA

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

OCTOBER 15, 2007

Based on these results, my best estimate of an appropriate range for a cost of common equity for Arizona-American is 8.02 percent to 11.48 percent. My final recommendation for Arizona-American is 10.02 percent.

Q How did you arrive at your recommended 10.02 percent cost of common equity?

A. My recommended 10.02 percent cost of common equity is the 9.52 percent average of my DCF and CAPM results, plus an additional 50 basis points for the increased financial risk faced by Arizona-American as a result of the Company's debt heavy capital structure. The calculation can be seen on Page 3 of Schedule WAR-1.

Q. Why have you made a 50 basis point upward adjustment to the results of your DCF analysis?

A. The 50 basis point adjustment takes into consideration the higher level of debt in the Company's capital structure. My recommended capital structure for Arizona-American is comprised of approximately 61 percent debt and 39 percent common equity. This capital structure has a larger percentage of debt than the capital structures of the four water companies and the ten LDC's that I included in my DCF and CAPM proxies. As can be seen in Schedule WAR-9, the utilities included in my samples had capital structures of approximately 48 percent debt and 52 percent common equity, for water providers, and roughly 53 percent debt and 47

percent common equity for natural gas LDC's. Because Arizona-American's capital structure has a higher percentage of debt, the Company faces a higher level of financial risk (i.e. the risk of not being able to meet debt service obligations) than the companies in my proxies. For this reason a higher cost of equity is warranted and I have decided to make such an adjustment. In this case, the 10.02 percent return on common equity that I am recommending is higher than the 9.52 percent average of the results obtained from my DCF and CAPM models.

Q. How does your recommended cost of equity capital compare with the cost of equity capital proposed by the Company?

A. The 11.30 percent cost of equity capital proposed by the Company is 128 basis points higher than the 10.02 percent cost of equity capital that I am recommending.

Current Economic Environment

Q. Please explain why it is necessary to consider the current economic environment when performing a cost of equity capital analysis for a regulated utility.

A. Consideration of the economic environment is necessary because trends in interest rates, present and projected levels of inflation, and the overall state of the U.S. economy determine the rates of return that investors earn on their invested funds. Each of these factors represent potential risks

EXHIBIT
A-17
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

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

IN THE MATTER OF THE APPLICATION OF CHAPARRAL CITY WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND FOR INCREASES IN ITS RATES AND CHARGES FOR UTILITY SERVICE BASED THEREON.	)	DOCKET NO. W-02113A-07-0551

SURREBUTTAL

TESTIMONY

OF

DAVID C. PARCELL

TECHNICAL ASSOCIATES, INC.

DECEMBER 3, 2008

TABLE OF CONTENTS

I. INTRODUCTION 1

II. PROXY GROUP 3

III. DISCOUNTED CASH FLOW ANALYSIS 5

IV. CAPITAL ASSET PRICING MODEL ANALYSES 8

V. TOTAL COST OF CAPITAL 13

VI. RESPONSE TO CHAPARRAL REBUTTAL TESTIMONY 14

VII. IMPACT OF CURRENT CAPITAL MARKET CONDITIONS ON COST OF CAPITAL 16

I. INTRODUCTION

Q. Please state your name, occupation, and business address

A. My name is David C. Parcell. I am President and Senior Economist of Technical Associates, Inc. My business address is 1051 East Cary Street, Suite 601, Richmond, VA 23219.

Q. Please summarize your educational background and professional experience.

A. I hold B.A. (1969) and M.A. (1970) degrees in economics from Virginia Polytechnic Institute and State University (VA Tech) and an MBA (1985) from Virginia Commonwealth University. I have been a consulting economist with Technical Associates since 1970. The majority of my consulting experience has involved the provision of cost of capital studies and related expert testimony in public utility rate proceedings. In connection with this, I have prepared and filed testimony in over 400 utility rate proceedings before more than 40 regulatory agencies in the United States and Canada. I have previously testified in a number of utility rate proceedings before this Commission, including several over the past few years.

Q. What is the purpose of your testimony in this proceeding?

A. I have been retained by the Utilities Division Staff ("Staff") to review the Direct Testimony filed on October 3, 2008 by Staff Witness Pedro M. Chaves. I am also offering my own expert judgment as to the proper cost of capital for Chaparral City Water Company, Inc. ("Chaparral" or "Company") relative to this proceeding.

Q. What do you mean in the previous answer when you state that you have reviewed Staff's direct testimony?

A. I have reviewed all of Mr. Chavez's Direct Testimony ("Staff Testimony") and I agree fully with and support his proposed 10.0 percent cost of equity for Chaparral, as well as his proposed 8.8 percent weighted cost of capital for the Company. I also note that I consider Staff's Direct Testimony to be well reasoned and properly provides a balance

between the interests of ratepayers and investors. However, there are a few inputs in Staff's discounted cash flow ("DCF") and capital asset pricing model ("CAPM") analyses that I have not supported in prior testimonies and, as a result, I am not specifically sponsoring in this proceeding. I emphasize, on the other hand, that my alternative use of certain inputs does not degrade either the integrity or ultimate results of the Staff's analysis and conclusions.

Q. Are you adopting Staff's testimony as your own testimony?

A. I am adopting portions of Staff's Testimony, but I am not adopting all of the DCF and CAPM data inputs utilized in the Staff Testimony. Throughout my Rebuttal Testimony, I indicate the specific portions of Staff Testimony that I am adopting, as well as the reasons for not adopting other positions.

Q. Did you state above that you are in agreement with Staff's 10.0 percent cost of equity recommendation for Chaparral?

A. Yes, I did state that. I believe that a 10.0 percent cost of equity presently represents the cost of equity for a regulated water utility such as Chaparral. I note, in this regard, that I have recently testified in several Arizona proceedings involving electric and natural gas distribution utilities in which my cost of equity recommendation was about 10.0 percent. These include proceedings involving UNS Gas (Docket No. G-01345A-05-0463), UNS Electric (Docket No. E-0404A-06-0783), and Southwest Gas (Docket No. G-01551A-07-0504). In addition, I have recently filed cost of capital testimony in a Delaware Public Service Commission proceeding involving Artesian Water Company (Docket No. 08-96) in which I recommended a cost of equity of 10.125 percent, applicable to a capital structure containing 46.53 percent common equity.

Q. Mr. Parcell, how long have you been providing cost of capital testimony in rate proceedings for utilities?

A. I have been testifying since 1972. As I indicated previously, I have testified in over 400 utility rate proceedings before more than 40 regulatory agencies.

Q. Is it your belief that the concept of cost of capital has remained the same over the period of your experience?

A. No, it has not remained the same over the past forty years. New methods, such as CAPM, have come into existence. In addition, the formulation of all the models is not static, but evolving. For example, years ago there were fewer sources of projections of individual company data; this indicates that the debate over exclusive use of a single statistic such as EPS forecasts as the growth rate was not as prevalent as it is today. In addition, the impact of the business cycle and the trends in corporate profits and interest rates indicates that the determination of the fair cost of capital is not static.

Q. Are you aware of any authoritative sources that support this relationship between economic conditions and the cost of capital for a utility?

A. Yes, I can. A landmark U.S. Supreme Court decision in the *Bluefield Water Works and Improvement Co. v. Public Serv. Comm'n of West Virginia*, 262 U.S. 679 (1923) established the following links between the cost of capital and economic conditions. In this decision, the Court stated

> What annual rate will constitute just compensation depends upon many circumstances and must be determined by the exercise of fair and enlightened judgment, having regard to all relevant facts....A rate of return may be reasonable at on time, and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions generally.

Q. What is the significance of this observation?

A. The significance is that a cost of capital analysis is not a mathematical exercise that uses the same formulas and data input (weightings) in all types of economic circumstances. A cost of capital analyst necessarily needs to apply professional judgment in performing his/her analyses. This is particularly true at the current time which is characterized by extreme capital market volatility and the formal acceptance that we are in a recession.

Q. How is your testimony organized?

A. My testimony is organized into seven sections, as follows:

- Proxy Group,
- DCF Analyses,
- CAPM Analyses,
- Total Cost of Capital,
- Fair Value Rate of Return,
- Response to Chaparral Rebuttal Testimony,
- Impact of Current Capital Market Conditions on Cost of Capital.

II. PROXY GROUP

Q. What is the purpose of a proxy group in developing a cost of capital analysis?

A. The purpose of a proxy group is to develop cost of capital models and capital structure evaluation. A proxy group is determined and utilized in order to consider the cost of capital and capital structure of publicly-traded utilities that are similar in risk and operations to the subject company.

Q. What proxy group did Staff utilize in its Direct Testimony?

A. Staff utilized the following proxy group companies, as is shown on Schedule PMC-4:

American States Water;
California Water;
Aqua America;
Connecticut Water;
Middlesex Water; and,
SJW Corp.

Q. Do you approve of this group of proxy water companies?

A. Yes, I do. I concur with Staff's selection of this proxy group. This group of publicly-traded water companies is a representative sample of water utilities and is similar to the proxy group(s) that I have recently utilized in my water utility cost of capital analyses. I regard this as an appropriate sample of proxy companies for comparison to Chaparral and

I adopt the use of this proxy group. I also note that Chaparral witness Bourassa uses this proxy group in his cost of capital analyses.

Q. The Staff Testimony applied the DCF and CAPM methodologies to the proxy group. Are these methodologies proper methodologies to estimate the cost of equity for regulated utilities?

A. Yes, they are. I routinely use both the DCF and CAPM methodologies in my cost of capital analyses for water and other utilities.

III. DISCOUNTED CASH FLOW ANALYSES

Q. Please describe your understanding of Staff's DCF analyses.

A. Staff performed two DCF analyses – a constant-growth DCF and a multi-stage DCF. The constant-growth DCF analysis uses the following inputs:

Yield – Spot stock price for each proxy company as of August 6, 2008 and expected dividends per share (DPS) over the next year.

Growth – average of six different growth rates:

- Historic DPS growth over past ten years;
- Projected DPS growth rates from data provided in Value Line;
- Historic EPS growth over the past ten years;
- Projected EPS growth rates from data provided in Value Line;
- Historic sustainable growth rates over the past ten years; and,
- Projected sustainable growth rates from data provided in Value Line.

Staff's multi-stage DCF uses the following inputs:

Yield – Spot stock price for each proxy company as of August 6, 2008 and expected dividends per share over next year.

Growth – projections of short-term dividend growth for each proxy company over two periods

Next year – projections from Value Line,

Years 2-4 – projections using average dividend growth rate calculated in Staff's constant growth DCF analysis,

Long-term growth – 1926-2007 arithmetic average growth rate of gross domestic product (GDP).

The results of each of these sets of DCF conclusions for the proxy group can be summarized as follows:

Constant growth DCF	8.8%
Multi-stage DCF	9.8%
Average DCF	9.3%

Q. Please provide your comments about Staff's constant growth DCF analysis.

A. Staff's constant growth DCF yield uses a spot stock price in the calculation of the dividend yield, rather than a three-month average stock price that I normally use in my DCF analyses. In the instant case, however, this distinction is not significant. I have calculated dividend yields using a three-month average stock price (June-August, 2008) and have found the results to be very similar to those in the Staff analyses. As a result, I am adopting the yields in the Staff testimony. I note however, that because I normally use a 3 month average stock price, I would not use a spot price as is done in the Staff testimony.

I note that, in my own DCF analyses, I also use both historic and prospective growth rates of DPS, EPS, and sustainable growth. I normally use a five-year historic growth rate for DPS, EPS and sustainable growth, whereas the Staff Testimony uses ten-year historic growth. I regard this difference as a matter of professional judgment and do not take issue with the Staff Testimony and I correspondingly adopt these historic growth rates.

I also routinely use Value Line projections of DPS, EPS and sustainable growth. The Staff Testimony calculates projections of growth from Value Line data, whereas I normally use Value Line's published projections. However, I do not regard this as a meaningful distinction and I adopt the Staff Testimony's projected growth rates.

Q. Do you accept and adopt the 8.8 percent constant growth DCF conclusion contained in the Staff Testimony?

A. Yes, I do.

Q. What are your comments concerning the multi-stage DCF analysis in the Staff Testimony?

A. I note, first, that I do not routinely use a multi-stage DCF analysis in preparing cost of capital testimony. There is an exception to this in preparing cost of capital testimony for interstate natural gas pipelines before the Federal Energy Regulatory Commission (FERC). The FERC has established a preferred cost of capital methodology that uses a two-stage DCF model. When I submit natural gas pipeline testimony before the FERC, I use a multi-stage DCF model. As a result, I accept the use of a multi-stage DCF model in the Staff Testimony.

The first stage of the multi-stage DCF analysis in the Staff Testimony uses projections of DPS for the proxy group. I accept this as a valid estimate of the short-term or first stage of the multi-stage DCF analysis.

The second stage of the multi-stage DCF analysis in the Staff Testimony uses the historic (i.e., 1926-2007) average growth rate of GDP, which is 6.7 percent. My two-stage DCF analysis, which mirrors the FERC procedure, uses the projections of GDP by the Social Security Administration (SSA) and Energy Information Administration (EIA). Long-term projections of GDP by these two U.S. government agencies are as follows:

SSA 4.4%

EIA 4.8%

It is my preference to use projections of GDP growth, rather than historic GDP growth. As an alternative, both the historic and projected GDP growth could be used. In any event, I believe that the Staff Testimony's use of historic GDP growth may over-state the multi-stage DCF results for the proxy group.

IV. CAPITAL ASSET PRICING MODEL ANALYSES

Q. What is your understanding of the CAPM analyses and conclusions of the Staff Testimony?

A. The Staff Testimony performs two sets of the traditional CAPM methodology. The first set is a "historical" risk premium CAPM model that employs the following inputs:

Risk-free rate (Rf) – average of yields of five-year, seven-year, and ten-year U.S. Treasury notes as of August 6, 2008,

Beta (β) – Value Line betas for each proxy group company,

Risk-premium (Rm-Rf) – differentials between arithmetic averages of long-term (1926-2007) returns of the S&P 500 stock index and intermediate-term government bond income returns.

The second set of CAPM calculations in the Staff Testimony is a "current" market risk premium model. This model employs the following inputs:

Risk-free rate (Rf) – yield on 30-year U.S. Treasury bonds as of August 6, 2008,

Beta (β) – Value Line betas for each proxy group company,

Risk-premium (Rm-Rf) – differential between a DCF return (expected dividend yield plus annual per share growth rate for all dividend-paying stocks in Value Line) and current yield on 30-year U.S. Treasury bonds.

Q. What are your comments concerning the historic risk premium CAPM analyses and conclusions in the Staff Testimony?

A. I fully support the use of Value Line betas, as used in both the historic and current risk premium CAPM models. For the risk-free rate, I routinely use yields on 20-year U.S.

Treasury bonds, as opposed to the average of five-year, seven-year and ten-year U.S. Treasury bonds yields. The yields on 20-year U.S. Treasury bonds are higher than the shorter maturities. This implies that my preferred risk-free rate would be higher than that used in the Staff Testimony.

I also note, as I did in my discussion of the DCF model, that I prefer to use a three-month average of U.S. Treasury yields, as opposed to use of a spot yield as proposed in the Staff Testimony. However, my comparison of three-month average yields for the three-month period June-August, 2008 is not significantly different from the August 6, 2008 yield used in the Staff Testimony. As a result, I do not regard this as a meaningful result in this instance and correspondingly adopt the risk-free rates in the Staff Testimony. As was the case in the dividend yield discussion in my DCF comments, use of a spot risk-free rate could produce inappropriate results.

For the risk premium, on the other hand, the Staff Testimony uses the differential between returns on the S&P 500 and intermediate-term government bonds, whereas I use the differential between the S&P 500 and long-term government bonds. Since long-term government bonds have higher long-term returns than intermediate-term government bonds, this means that the risk differential for intermediate government bonds (i.e., Staff Testimony) is less than the risk differential for long-term government bonds (i.e., my preferred methodology). This indicates that there are off-setting impacts of the Staff Testimony methodology (i.e., use of intermediate-term yields and risk premiums using intermediate notes) and my preferred methodology (i.e., use of long-term yields and risk premiums using long-term bonds). As a result, I regard this differential as somewhat of a "wash" and adopt the use of intermediate-term yields and risk premiums developed using intermediate-term government securities.

I do have two technical concerns with the development of the historic risk premium in the Staff Testimony.

Use of arithmetic averages (as opposed to use of both arithmetic and geometric averages) of historic returns; and,

Use of the income return on bonds, as opposed to the total returns, in developing the risk premium.

The Staff Testimony uses, as a component of its historic risk premium, the arithmetic average values of total return for the S&P 500 and the arithmetic average values of income return for government securities. I routinely use both arithmetic and geometric averages in my calculations of the risk premium. I believe that geometric averages are relevant, along with arithmetic averages, because investors are regularly provided with these returns in both reports/prospectuses by mutual funds (as required by the Securities and Exchange Commission) and by prominent investment advisory services such as Value Line. In my judgment, investors use both arithmetic and geometric average returns and both should be considered in the development of a risk premium. I note that arithmetic averages exceed geometric averages, meaning that exclusive use of arithmetic averages provide for a higher, and potentially excessive, risk premium. Because of this, the risk premium, and thus CAPM results, as used in the Staff Testimony may overstate the cost of capital for the proxy group.

I also note that the Staff Testimony uses income returns on bonds and total returns for the S&P 500. The significance of this is that the total returns for the S&P 500 includes both dividends and capital gains, whereas the income returns on bonds only includes interest income (and excludes capital gains). My normal practice is to consider total returns for both the S&P 500 and bonds in my risk premium calculations, which treats the S&P 500 and bonds on a consistent basis. I note that the use of only income returns on bonds, in this context, has the impact of creating a higher risk premium, and thus higher CAPM results than the method I routinely use.

The impact of these two factors has the effect of creating a higher risk premium, and higher CAPM cost rate, than does the methodology I employ in my CAPM analyses.

Q. Do you have any comments concerning the current risk premium as used in the Staff Testimony?

A. Yes, I do. I cannot support, or adopt, the current risk premium as contained in the Staff Testimony. My primary concern with the current risk premium CAPM is the use of a DCF-derived return on equity (ROE) for "all dividend-paying stocks" as reported in Value Line. The growth component of this DCF-derived ROE is the "appreciation potential" of all 1700 stocks covered by Value Line, where the appreciation potential refers to the "estimated median price" of these stocks in the "hypothesized economic environment of 3 of 5 years hence." In other words, the growth component of this DCF analysis is based upon a potential increase in stock prices for the 1700 stocks covered by Value Line.

I have two concerns with this procedure for estimating the cost of equity for the "market" (i.e., Rm component of risk premium). First, I do not believe that it is appropriate to determine utility rates based upon an anticipated increase in stock prices for a group of largely unregulated firms. This is speculative. Second, even if it were deemed appropriate to use such a methodology, its use at the current time (i.e., August of 2008) is from a low base as a result of the significant decline in stock prices in 2008. As a result, use of a appreciation potential from a low base naturally reflects a higher-than-normal growth rate, as evidenced by the 15.02 percent annual potential appreciation over the next four years, as assumed in the Staff testimony. As an example of this, consider that the historic (i.e., 1926-2007) average total returns for the S&P 500 (i.e., dividends plus capital appreciation) has only been 12.3 percent on an arithmetic basis and 10.4 percent on a geometric basis.

Q. Please describe, in detail, using your professional judgment, how you arrived at a 10.0 percent cost of equity for Chaparral, without adjusting for financial risk.

A. I have accepted the proxy group from the Staff Testimony (as does Chaparral). I have also accepted the 9.3 percent DCF conclusion in the Staff Testimony, although I note that the multi-stage DCF may slightly over-state the second-stage growth rate. I generally adopt the historical risk premium CAPM of the Staff Testimony (11.2 percent) but I do not agree with: (1) use of only arithmetic averages in deriving the risk premium, rather preferring to use both arithmetic and geometric averages; and, (2) using only the income return on bonds, rather than total returns, in deriving the risk premium. As a result, I propose a historical risk premium CAPM result of 10.75 percent, a slight reduction from the 11.2 percent conclusion in the Staff Testimony.

In addition, by combining my adopted 9.3 percent DCF result and 10.75 percent modified CAPM, I arrived at a 10.0 percent cost of equity recommendation. I note that this 10.0 percent cost of equity recommendation does not include an adjustment for the very high equity ratio (i.e., lower risk) of Chaparral.

V. TOTAL COST OF CAPITAL

Q. Please describe the total cost of capital derived in the Staff Testimony.

A. The Staff Testimony develops an 8.8 percent total cost of capital, as is summarized below:

Capital Item	Percent	Cost	Wgt. Cost
Debt	24.4%	5.0%	1.2%
Common Equity	75.6%	10.0%	7.6%
WACC	100.0%		8.8%

The capital structure and cost of debt reflected in the Staff Testimony, as well as in the Chaparral filing, are hypothetical in nature since the Company receives all of its equity financing from its parent American States Water. The Staff Testimony and Chaparral

filing differ slightly on the capital structure ratios, as a result of the Staff using more current (i.e., June 30, 2008) information. I accept the capital structure ratios in the Staff Testimony, although I agree with the position taken in the Staff Testimony that the equity ratio of Chaparral (i.e., over 75 percent) is much higher than the actual capital structures for publicly-traded water utilities (i.e., about 50 percent equity). I note that a case could be made that the proper capital structure for Chaparral should be that of its consolidated parent, which contains about a 50 percent equity ratio.

I also accept the 5.0 percent cost of debt contained in the Staff Testimony. This differs slightly from the 5.1 percent contained in the Chaparral rebuttal filing.

Q. Do you agree with the Staff Testimony's proposal to recognize the very high equity ratio of Chaparral in the determination of the cost of equity for the Company?

A. Yes, I do. Chaparral's common equity ratio, as noted above, is about 75 percent common equity, which is about 1 and a half times the 50 percent norm for publicly-traded water utilities. This is a very significant difference in the capital structures for Chaparral versus the proxy group that is used to develop its cost of equity. This significant difference in common equity ratios is reflective in a risk differential between Chaparral and the proxy group - a risk differential that should be recognized in the cost of equity for the Company. I also note that Chaparral's parent company, American States Water, has a common equity ratio that is similar to the proxy group (i.e., about 50 percent equity) and is much less equity than is the case for Chaparral.

Q. Do you endorse and adopt the 8.8 percent total cost of capital as proposed in the Staff Testimony?

A. Yes, I do.

VI. RESPONSE TO CHAPARRAL REBUTTAL TESTIMONY

Q. Have you reviewed the Rebuttal Testimony of Chaparral witness Bourassa that addresses the Staff Testimony on Cost of Capital Issues?

A. Yes, I have.

Q. Do you wish to respond to any of the assertions made by Mr. Bourassa in his Rebuttal Testimony?

A. Yes, I do. I have a number of comments concerning the assertions made by Mr. Bourassa. These include the following topics:

His updated cost of capital analyses, which use spot yields as of October 2, 2008,

His use of stock price growth as the growth component in his DCF analyses,

His conclusion that Chaparral's cost of equity has increased over the past year by 100 basis points, notwithstanding the fact that current economic conditions have decreased returns for virtually all other types of companies, and

His position that a the Company's cost of capital be applied to its fair value rate base.

Q. What is your response to Mr. Bourassa's updated cost of capital analyses?

A. Mr. Bourassa's updated DCF analyses have a number of flaws, all of which cause him to over-state the cost of equity for Chaparral. These include:

His updated dividend yield uses spot stock prices as of October 2, 2008, a date in the middle of the market volatility. In fact, by using the closing prices as of this date, he used only a single moment in time, not even a day in time.

His growth rate relies heavily on the historical growth in stock prices. As I indicated previously, growth in stock prices is not a proper measure of the DCF growth rate, especially during a period of market volatility.

His "total market returns" (Exhibit 2) and "capital appreciation returns" (Exhibit 3) end in 2007 – the latest available calendar year. While this is generally appropriate, it should be noted that 2008 is an abysmal year for the stock markets

and, when market compound growth rates are updated for 2008, the results will undoubtedly be much lower, and perhaps near zero or even negative. Given that the cost of capital is forward-looking, this is information that should be considered in a DCF analysis at this time, especially one described as "updated."

Mr. Bourassa's updated CAPM analyses also overstate the cost of capital. This is true for the following reasons:

His historical market risk premium CAPM

His current market premium CAPM suffers from the same flaw as his DCF growth rates – the reliance on growth in stock prices.

Q. Why do you take issue with Mr. Bourassa's contention that Chaparral's cost of equity has increased over the past year?

A. As I noted above, Mr. Bourassa's DCF and CAPM analyses rely heavily on growth in stock prices for various periods ending in 2007. Therefore, his claim that the cost of capital has increased over the past year really applies to 2007, not 2008.

Q. Are there any other aspects of Mr. Bourassa's rebuttal testimony that you wish to respond to?

A. Yes. The bulk of Mr. Bourassa's rebuttal testimony relates to the issue of Fair Value Rate Base ("FVRB") and the proper Fair Value Rate of Return ("FVROR"). Mr. Bourassa maintains that Chaparral's weighted average capital cost ("WACC") should be applied to its FVRB. This issue has been recently examined by the Commission in the remand phase of Docket No. W-02113A-04-0616, a proceeding in which both Mr. Bourassa and I testified. In its decision in that proceeding, the Commission determined that inflation should be removed from the cost of capital in order to determine a FVROR to be applicable to a FVRB. I will not repeat all of my testimony on this subject in this present testimony, but do call the Commission's attention to the arguments I raised in that proceeding.

VII. IMPACT OF CURRENT CAPITAL MARKET CONDITIONS ON COST OF CAPITAL

Q. Please indicate your views as to the impact of the current state of the economy and the financial markets as they relate to the cost of capital for Chaparral and other public utilities.

A. The current state of the economy and financial markets can be generally characterized by the following:

The U.S. and global economies are presently in a recession, perhaps the most serious recession in many years. This recession is characterized by:

High unemployment, as the current unemployment rate is the highest in recent years;

Declining housing values and potentially deflation across broad sectors of the economy;

Widespread foreclosures on residential and commercial properties;

A somewhat devastated financial sector, as evidenced by the failure and/or bail-outs of venerable financial institutions such as Fannie Mae, Freddie Mac, Bear Stearns, Merrill Lynch, AIG and Wachovia, with the potential list growing;

Potential bail-outs expected for several other sectors of the economy;

Stock prices that have declined precipitously in 2008; and,

Very low short-term U.S. Treasury rates, low U.S. Treasury intermediate- and long-term rates, but high corporate bond rates, reflecting a "flight to quality"; and,

Unprecedented actions being taken by the U.S. and global governments to hopefully minimize the impacts of this recession and avoid a more serious worldwide depression.

Against this backdrop, it is important to understand the implications of current economic and financial conditions on capital costs in general and as they pertain to Chaparral. Any consideration of current economic and financial conditions should consider their impact on regulated utilities from two perspectives: 1) how these conditions impact utility

ratepayers and the extent to which utilities should be insulated from the negative impacts that affect their ratepayers; and 2) the extent to which these conditions are temporary and not representative of the period that utility rates will be in effect.

Q. Please describe this first perspective.

A. The current economic downturn appears to be the worst in recent memory and the implications are global. It is clear that Chaparral's ratepayers are negatively impacted by this downturn. For example, working ratepayers face the prospects of lower earnings/unemployment/uncertainty while retired ratepayers face the likelihood of significantly reduced value of retirement income due to declines in the stock market which negatively impact their 401-K or IRA values. It would be unfair for Chaparral to claim that its risk and/or required return should be higher at this time, which would create a doubly negative impact on its ratepayers. Stated differently, Chaparral's cost of capital and water/wastewater rates should not be higher due to the economic downturn. Such a situation would clearly not be a balancing of the interests of ratepayers and investors as is dictated by the Bluefield and Hope decisions.

I note that this perspective can be referred to as the "fairness" perspective. In essence, it indicates that the conditions that contribute to the misfortunes of the utility's ratepayers should not be used as a rationale to provide higher returns to the utility, in essence insulating it from the economic conditions that affect virtually all other aspects of the economy, both individuals and businesses.

Q. What do you mean by the second perspective stated above?

A. It is widely recognized that the cost of capital concept, whether for a regulated utility or a competitive firm, is prospective in nature. The prospective nature of cost of capital is partially based on the concept that current capital market conditions reflect expectations of the future. At the present time, there is unprecedented uncertainly in the capital markets, as is evidenced by the extreme volatility in stock prices and yields on debt

securities. This volatility reflects and incorporates the reaction to the seemingly never-ending stream of negative news about the world-wide economies.

At the present time, no one knows the length and severity of the downturn, but what should be clear is that the present situation should not be accepted as the norm for the future. It must be assumed that the economy will turn around sometime within the next year, especially with the unprecedented stimulus that has and is being applied by U.S. and global governments. As a result, it is proper to take a more "long-term" view of economic and financial conditions at this time. I believe that my recommendations in this proceeding, as well as the impact of the Staff Testimony perspective, is proper in this account. This is the case since both the Staff Testimony and my recommendation are not overly-reflective of the unusual and transitory conditions of the past two months.

I do not, on the other hand, think it is proper to focus on very short-term perspectives, such as stock prices and corporate interest rates over the past two months. This is the case since these prices and rates are overly influenced by the turmoil and uncertainty associated with the global economic crisis.

Q. You have stated that current and recent economic conditions are not normal, but are unusual and transitory. Can you provide any examples of why this is so?

A. Yes, I can. As an example of the seriousness of the current economic/financial situation, the Federal Reserve and U.S. government have taken extraordinary actions to minimize the impacts of the financial crisis and to attempt to stabilize the U.S. and global economies. The U.S. Congress authorized $700 billion as a "bail out" of the financial system in order to create confidence in the financial system and encourage lending in the economy. The Federal Reserve and U.S. government have taken the following actions:

Fannie Mae and Freddie Mac were effectively nationalized in an effort to strengthen the housing market,

AIG received over $100 billion in loans to AIG, essentially bailing it out of potential bankruptcy,

Goldman Sachs and Morgan Stanley were allowed to become bank holding companies, making them eligible for federal loans and direct investments from the federal government,

The Federal Funds rate has been lowered in a number of steps, to a level of 1.0 percent, the lowest level ever,

Mergers were arranged on an emergency basis to keep Wachovia from potentially failing, and

CitiGroup received loan guarantees in order to prevent its potential failing.

Q. What is the purpose of all these extraordinary actions?

A. The purpose of all of these actions, as well as a number of other actions by the federal government and Federal Reserve, is to:

Provide liquidity to the banking system,

Encourage banks to make loans to stimulate the economy,

Re-establish confidence in the financial system, and

Keep major financial institutions from failing.

The significance of these actions is that they are collectively designed to lower the cost of capital in the U.S. and worldwide in order to get the economies back on a growth tract. Clearly, these actions should not be used as a rationale to make utilities insulated from the negative impacts of the downturn and raise their cost of capital at the same time that efforts are being undertaken to lower the cost of capital.

Q. Does this conclude your surrebuttal testimony?

A. Yes, it does.

EXHIBIT
A-18
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS AGUA FRIA WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT.	DOCKET NO. W-01303A-08-0227
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 MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227

REVISED DIRECT TESTIMONY
OF
PAUL G. TOWNSLEY
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
JUNE 20, 2008

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TABLE OF CONTENTS

EXECUTIVE SUMMARY iii
I INTRODUCTION AND QUALIFICATIONS 1
II PURPOSE OF TESTIMONY 2
III ARIZONA-AMERICAN'S FINANCIAL CONDITION 3
IV WHITE TANKS PLANT UPDATE 7
A NEED FOR WHITE TANKS PLANT 7
B PARTNERSHIP WITH MARICOPA WATER DISTRICT 10
C FUNDING THE WHITE TANKS PLANT 13
V ACHIVEMENT INCENTIVE PAY ("AIP") 15

EXECUTIVE SUMMARY

Paul G. Townsley testifies that:

Arizona-American's current financial condition is poor; timely and adequate rate relief from the Commission is critically important.

Arizona-American has reached agreement with the Maricopa County Municipal Water Conservation District Number One ("MWD") which provides MWD an option to participate in the White Tanks Plan. Arizona-American's requests to extend the expiration date of the Agua Fria Hook-up Fees and to include construction work in progress in rate base are appropriate.

Arizona-American's Achievement Incentive Pay benefits our customers.

American Water is now a publicly-traded company.

I INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Paul G. Townsley. My business address is 19820 N. 7th St. Suite 201, Phoenix, AZ 85024.

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

A. I am the President of Arizona-American Water, New Mexico-American Water and Hawaii-American Water, subsidiaries of American Water Works Company, Inc. ("American Water").

Q. PLEASE DESCRIBE ARIZONA-AMERICAN WATER ("ARIZONA-AMERICAN") AND ITS BUSINESS.

A. Arizona-American is a wholly-owned subsidiary of American Water. Arizona-American is a public service corporation engaged in providing water and wastewater utility service in portions of Maricopa, Mohave, and Santa Cruz Counties. Arizona-American is Arizona's largest investor-owned water and wastewater utility, serving approximately 100,000 water customers and 50,000 sewer customers in the state. To serve its water customers, Arizona-American owns, operates and maintains potable water production, treatment, storage, transmission, and distribution facilities. To serve its wastewater customers, Arizona-American owns, operates, and maintains collection and treatment facilities. Arizona-American also provides treated effluent to customers for irrigation and other uses.

Q. WHAT ARE YOUR RESPONSIBILITIES AS THE PRESIDENT OF ARIZONA-AMERICAN?

A. As President, I am responsible for maintaining Arizona-American's financial health; enhancing the operating efficiency and reliability of the business; and for assuring that all

functions (e.g. planning, engineering, construction, production, distribution, customer service, accounting, regulatory and human resources) are carried out in compliance with all local, state, and federal laws and regulations, and standards of good business practice. I am also ultimately responsible for assuring that we meet our customers' needs.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. I received a Bachelor of Science degree in Mechanical Engineering from the United States Merchant Marine Academy in 1980.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. I have been employed by American Water since 2002 as President of its Western Region and of various state regulated affiliates. Prior to that, I was employed by Citizens Utilities Company in a variety of positions spanning twenty years, including Vice President, Citizens Water Resources; Vice President, Arizona Energy; Vice President, Arizona Electric; and Vice President, Mohave Sector.

Q. ARE YOU A REGISTERED PROFESSIONAL ENGINEER?

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

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE REGULATORY COMMISSIONS?

A. Yes. I have testified before the Arizona Corporation Commission ("Commission") on numerous occasions. I have also testified before the California Public Utilities Commission, the New Mexico Public Regulatory Commission, the Hawaii Public Utilities Commission, and the Illinois Commerce Commission.

II <u>PURPOSE OF TESTIMONY</u>

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

A. Please see the executive summary of my direct testimony.

III ARIZONA-AMERICAN'S FINANCIAL CONDITION

Q. WHAT IS ARIZONA-AMERICAN'S CURRENT FINANCIAL CONDITION?

A. Unfortunately, there is no way to sugarcoat Arizona-American's poor financial condition. Most of Arizona-American's operating districts have under-earned for several years and Arizona-American, as a whole, has lost nearly $30 million since American Water purchased the assets of Citizens Water Resources in 2002. This unfortunate trend continues. Arizona-American again had a net income loss of $4.6 million in 2007 and expects to continue to operate at a loss in 2008 and 2009 until new rates are implemented.

The Commission is already aware of Arizona-American's poor financial condition. For example, in Decision No. 69730, the Commission evaluated Arizona-American's "Times Interest Earned Ratio", or "TIER" and stated that "TIER represents the number of times earning will cover interest expense on short-term and long-term debt.... [A] TIER of less than 1.0 is not sustainable in the long-term ...."[1] The Commission further concluded that Arizona-American's TIER was only 0.44 at the end of 2006, meaning that Arizona-American cannot be a viable long term water utility unless it can improve its TIER. So far, despite an equity infusion of $15 million in 2007, TIER has not improved. As of December 31, 2007, Arizona-American's TIER was still only 0.72.

Q. WHAT FACTORS CONTRIBUTED TO ARIZONA-AMERICAN'S CURRENT FINANCIAL CONDITION?

A. Arizona-American's current financial condition can be attributed to at least three factors. First, in Decision No. 65453, dated December 12, 2002, the Commission imposed a moratorium on filing rate case application from January 2003 until January 2006. This

[1] P. 3, ln. 18-21.

largely prevented Arizona-American's from transferring capital investments into rate-base and from recovering increased operating expenses.

Second, Decision No. 63584 included a provision that assets purchased from Citizens would be not be immediately included in rate base, but would instead be amortized into rate-base over a period ranging from six and one-half years to ten years. Despite the resulting delay in recognizing these assets, Arizona-American had agreed to this condition with Staff, but was assuming only a one-year rate moratorium. The Commission-imposed three-year moratorium meant that Arizona-American could only begin to recover these assets after the moratorium expired, new rate cases were filed, and the Commission approved recovery. The first case to approve recovery of any portion of the amortizations was Decision No. 69440, dated May 1, 2007, for our Mohave Water District. As of April 30, 2008, Arizona-American has been authorized rate recovery for only $25 million of the total $125 million of deferred AIAC and CIAC.

Third, the nature of historic test years in Arizona automatically causes a lag between the date a company expends capital and the date that the company starts to earn a return on and of that capital. This is a particular issue for companies like Arizona-American that must invest to meet the needs of its customers in fast growing areas3 like Maricopa and Mohave Counties.

Q. HAS THE COMMISSION AUTHORIZED SOME MECHANISMS TO PROVIDE ARIZONA-AMERICAN RATE RELIEF?

A. Yes and I would be remiss if I didn't acknowledge how the Commission has helped Arizona water utilities, including Arizona-American. The most significant assistance has been the availability of the Commission's Arsenic Cost Recovery Mechanism ("ACRM") and the lifting of the three-year moratorium as it applied to the Paradise Valley Water

District. In Decision No. 68310, dated November 14, 2005, the Commission authorized Arizona-American to use ACRMs for its Havasu Water, Agua Fria Water, and Sun City West water districts. Then, in Decision No. 68858, dated July 28, 2006, the Commission authorized Arizona-American to use an ACRM for its Paradise Valley Water District. The ACRMs have allowed Arizona-American to begin recovering $42.7 million in arsenic-remediation investments, without the usual regulatory lag and the need to file rate cases. Without these ACRMs, Arizona-American's financial condition would be that much worse. The Commission has also helped Arizona-American by approving innovative financing proposals for fire-flow projects in its Paradise Valley Water District and for a regional surface water treatment facility in its Agua Fria Water District.[2]

Q. WHAT ARE THE CONSEQUENCES OF ARIZONA-AMERICAN'S POOR FINANCIAL CONDITION?

A. Arizona-American could not have made all the necessary capital investment in Arizona without American Water's willingness to infuse new equity and make long-term borrowing at a very attractive rate to Arizona-American. I don't know how much longer Arizona-American's access of capital from or through its parent will continue if Arizona-American continues to suffer net income losses. Without American Water's financial commitment to Arizona-American, Arizona-American could face the threat of financial restructuring or capital restrictions if its financial condition does not improve soon.

Q. WHAT STEPS HAS ARIZONA-AMERICAN TAKEN TO PREVENT FURTHER DETERIORATION OF ITS FINANCIAL CONDITION?

A. First, Arizona-American has not paid a dividend since 2003 to its parent, American Water. This has helped slow the erosion of Arizona-America's equity balance.

[2] Decision No. 68858, dated July 28, 2006; Decision No. 69914, dated September 27, 2007.

Second, despite Arizona-American's failure to pay dividends, or even to generate positive earnings, American Water has still been willing to infuse new equity to offset the equity ratio erosions caused by these continuing losses and the need to issue new debt to fund capital projects. American Water infused $35 million of equity in 2006, $15 million more in 2007, and may another $30 million in 2008. The goal of these equity infusions is to maintain Arizona-American's equity ratio near the Commission's 40% target.[3]

Third, Arizona-American will also continue to provide quality water and wastewater services to our customers, but we must minimize operating losses by carefully managing operating expenses and eliminating discretionary projects that do not have Commission-approved funding mechanism.

Fourth and finally, this rate application seeks timely and adequate rates relief. It is a critical part of our strategy to restore Arizona-American's long-term financial health.

Q. WHY IS TIMELY AND ADEQUATE RELIEF FROM THE COMMISSION IN THIS CASE CRITICAL TO ARIZONA-AMERICAN'S LONG TERM FINANCIAL HEALTH?

A. In order to be a financially viable and stable water and wastewater utility to our customers and investors, Arizona-American must make a return on and return of the investment made by our shareholder. Currently, only $160 million of Arizona-American's investment is in rate base. In other words, although our customers in Arizona are enjoying the benefit of $364.8 million worth of Arizona-American's capital investment, they are only paying for approximately 44% of the assets. In this case, we are seeking to put additional $143.8 million of our capital investment in rate base.

[3] Decision No. 68858, dated July 28, 2006

It is also important that the Commission timely approve the requested rate relief. The last two Arizona-American's rate cases (Docket Nos. W-01303A-06-0403 and WS-01303A-06-0491) experienced prolonged delays during the Commission-approval process, resulting in approximately $3.7 million lost in revenue. The revenue lost from these two delays can never be recovered by Arizona-American. Given the magnitude of the rate relief sought in this case, while operating losses are expected to continue in 2008 and 2009, Arizona-American cannot bear any delays in obtaining timely Commission approval of the rate increases requested in this application

IV WHITE TANKS PLANT UPDATE

A NEED FOR WHITE TANKS PLANT

Q. WHAT IS THE WHITE TANKS SURFACE WATER TREATMENT PLANT?

A. The White Tanks Surface Water Treatment Plant ("White Tanks Plant") is a regional water treatment facility, designed to treat Colorado River Water delivered through facilities owned by the Central Arizona Project ("CAP water"). As discussed in Mr. Gross' testimony, the White Tanks Plant is presently under construction and is scheduled to be in service in 2010.

Q. WHY IS ARIZONA-AMERICAN CONSTRUCTING THE WHITE TANKS PLANT?

A. Over the last 50 years, the West Valley has developed largely based on groundwater resources. As a result, groundwater overdraft and depletion in the area has been severe. Arizona-American and other entities serving the West Valley have access to CAP water; however, treatment is required before CAP water can meet current drinking-water standards.

In 1997, a number of western Maricopa County municipalities and private water companies holding CAP water contracts formed WESTCAPS to develop cooperative regional solutions for use of the region's CAP water allocations and other renewable water supplies. This effort was driven by the concerns of the Arizona Department of Water Resources ("ADWR") and West Valley water providers about the long-term consequences of continuing to use only groundwater to support population growth. Continuing to rely solely on groundwater would be imprudent because of accelerated groundwater level declines, land subsidence, declining well-production rates, and the increasing number of wells that could not meet Safe Drinking Water Act water quality standards.

In April 2001, WESTCAPS released its Regional Water Supply Plan. Groundwater modeling studies, conducted by ADWR and by the Bureau of Reclamation as part of the WESTCAPS study, warned that continued reliance on groundwater to support new development will result in long-term groundwater declines that approach or exceed the ADWR Assured Water Supply limit of 1000 feet below land surface. This would also accelerate land-subsidence problems. The Regional Water Supply Plan concluded that the area's water suppliers should maximize their uses of CAP water and other surface water resources. To treat that water, WESTCAPS recommended the construction of two regional treatment facilities.

One of those recommended treatment facilities has become the White Tanks Plant. The WESTCAPS study selected the site of the proposed White Tanks Plant (Cactus and Perryville Road, on the Beardsley canal) because of its location on the canal and its proximity to multiple water provider service areas. The 45-acre plant site is large enough to support a facility that could ultimately treat up to 80 million gallons per day ("MGD").

Q. DOES ARIZONA-AMERICAN AGREE THAT THE WHITE TANKS PLANT IS NEEDED?

A. Yes. Arizona-American's recent experience underscores the need for the White Tanks Plant. Most recently constructed wells within the Agua Fria Water District have exhibited poor water quality and low rates of water production. Over the last few years, levels of arsenic, fluoride, nitrate, chromium, or other constituents in excess of Federal and State drinking water standards have become all-too common in new wells constructed within the Agua Fria Water District south of Greenway Road. These wells will require expensive wellhead treatment systems to remove the contaminants at a considerably higher total capital and operation and maintenance cost than needed for wells only a few years ago. To locate water, deeper drilling has been necessary, which raises capital costs and increases pumping costs (electricity). In addition, well yields below Greenway have been lower than for new wells north of Greenway. Overall, Arizona-American's recent experience with new well construction—whether drilled by the Company or by a developer—highlights the need for surface water treatment plant capacity to minimize long-term water costs for Arizona-American's customers in its Agua Fria District.

Q. HOW WILL ARIZONA-AMERICAN USE THE WHITE TANKS PLANT?

A. Arizona-American holds a CAP-water subcontract for 11,093 acre-feet per year, or nearly one-half billion gallons. When the White Tanks Plant is completed, Arizona-American will be able to treat its full allotment of CAP water and deliver it to its Agua Fria customers. This will preclude the need to pump almost one-half billion gallons of ground water each year.

In addition, Arizona-American expects that, through future expansions, the White Tanks Plant will be available to treat up to 21,000 acre-feet per year of Agua Fria River Water for delivery to Agua Fria customers within the MWD service territory.

B PARTNERSHIP WITH MARICOPA WATER DISTRICT

Q. DOES ARIZONA-AMERICAN HAVE ANY POTENTIAL PARTNERS TO SHARE THE COST OF THE WHITE TANKS PLANT?

A. Yes. As discussed above, the White Tanks Plant has long been planned to be a regional water treatment plant, serving not only customers of Arizona-American but also residents from other West Valley communities. To facilitate regional use of the White Tanks Plant, Arizona-American entered into a Joint Development Agreement ("JDA") with the Maricopa Water District ("MWD") in November 2007. The JDA creates a partnership between Arizona-American and MWD for possible future expansion of the White Tanks Plant for regional uses.

Q. WHAT ARE THE KEY TERMS OF THE JOINT DEVELOPMENT AGREEMENT BETWEEN ARIZONA-AMERICAN AND MWD?

A. Under the JDA, Arizona-American will proceed with the construction of its 13.5 MGD treatment capacity ("Phase 1A"). MWD has the option until November 15, 2008, to demand and fund the construction of 6.5 MGD of additional capacity ("Phase 1B"). If MWD declines or fails to exercise the option by November 15, 2008, Arizona-American retains the right to build Phase 1B of the White Tanks Plant.

If MWD elects to partner with Arizona-American to expand the White Tanks Plant, Arizona-American and MWD will enter into a series of agreements outlining the ownership, construction, management, and operation arrangement for the expanded

facility. The terms of these agreements have already been negotiated between Arizona-American and MWD, and are ready to be executed once MWD exercise its option.

As stated, if MWD exercises its option, it will fund and construct the Phase 1B expansion. Once both Phase 1A and 1B are completed, MWD will own 32.5% of the White Tanks Plant, with Arizona-American owning the remaining 67.5%. To pay for its share, MWD will pay Arizona-American 32.5% of the total project cost, with a credit to MWD for its costs associated with constructing Phase 1B.

MWD and Arizona-American will jointly coordinate with other entities desiring treatment services through future expansions of the White Tanks Plant. Both parties have the right, but not the obligation, to take a 50% interest in providing services to such entities. The parties will cooperate with future plant expansions, but each party can proceed unilaterally with plant expansion if agreement cannot be reached.

Q. HOW WOULD THE JDA BENEFIT CUSTOMERS?

A. Because it will share common infrastructure already completed for Phase 1A, the cost per MGD of constructing Phase 1B will be substantially less than the cost per MGD of constructing Phase 1A. When MWD purchases its 32.5% share of the entire plant, this will reduce Arizona-American's rate base associated with the White Tanks Plant. Therefore, hook-up fees will more quickly recover the cost of the White Tanks Plant.

Another JDA provision would further reduce plant costs. Arizona-American will swap the land under the plant for another MWD parcel of equal value, and MWD will lease an undivided portion of the plant site to Arizona-American for 99 years at no cost. This would reduce rate base by the cost of the land.

The JDA would also reduce operating costs. First, MWD already provides low-cost power to several Arizona-American facilities. Under the JDA, MWD commits to also provide electricity to the White Tanks Plant. This could be a significant benefit if it is able to obtain preference power from federal hydropower projects. Second, with its 32.5% ownership interest, MWD would also be required to pay 32.5% of O&M costs that do not vary with usage.

Q. YOU HAVE DISCUSSED RATE BENEFITS OF THE JDA; ARE THERE OTHER BENEFITS?

A. Certainly. First, once MWD exercises its option to participate in the White Tanks Plant, it makes it much less likely that MWD would construct its own competing treatment facility. Second, as a quasi-municipal water provider, MWD's participation should make other municipal water providers more willing to serve as customers being served by future expansions. These two benefits will make possible greater economies of scale for the White Tanks Plant.

MWD participation also provides water-supply benefits. First, owning the underlying land and a share of the White Tanks Plant will let MWD use a future phase of the plant to treat up to 21,000 acre-feet per year of Agua Fria River Water for delivery to Agua Fria customers within the MWD service territory. This water will become available to Agua Fria Water District customers as the district builds out and residential and commercial uses replace irrigation uses. Because MWD's service territory is largely contained within Arizona-American's Agua Fria Water CC&N, Agua Fria Water customers would ultimately be able to annually receive over 800 million gallons of treated, renewable surface water instead of groundwater. Second, the JDA commits the parties to develop a regional solution, including the use of existing MWD irrigation wells, to meet potable groundwater demands. This would reduce the need to drill additional wells.

Q. WHAT IS THE STATUS OF MWD'S PARTICIPATION UNDER THE JDA?

A. MWD has not yet exercised its option to participate in the White Tanks Plant, but I remain optimistic. Arizona-American will update the Commission when it has new information.

C FUNDING THE WHITE TANKS PLANT

1 HOOK-UP FEE SUNSET DATE

Q. HOW DOES ARIZONA-AMERICAN PLAN TO FUND THE CONSTRUCTION OF THE WHITE TANKS PLANT?

A. The construction of the White Tanks Plant is currently being funded by the Hook-Up Fee increase approved by the Commission in Decision No. 69914. The increase was approved last September and is scheduled to sunset on December 15, 2015.

Q. WILL THE INCREASED HOOK-UP FEES GENERATE SUFFICIENT PROCEEDS TO PAY FOR THE WHITE TANKS PLANT CONSTRUCTION?

A. No. Based on our current projection, it now appears that Arizona-American will not collect enough Hook-Up Fee proceeds to fund the White Tanks Plant. At the time Arizona-American filed its application with the Commission, the real estate market in Arizona was robust. Since that time, the overall real estate market has cooled dramatically. As a result, Arizona-American now projects that new Agua Fria Water District connections will be only 1,400 in 2008. Mr. Gross sponsors the revised customer forecast.

Q. WHAT DOES ARIZONA-AMERICAN PROPOSE TO DO TO ADDRESS THE SHORTFALL?

A. Arizona-American first proposes to extend the Hook-Up Fee sunset date to December 31, 2020. Arizona-American initially requested a sunset date for the increased Hook-Up

Fees, based on the customer projection made in 2005, when the real estate market was robust. In 2007, as the market began to slow, Arizona-American revised its sunset-date request to 2015, which was reflected in Decision No. 69914. Based on its most recent projection, Arizona-American now forecasts that it could be late 2027 before the White Tanks Plant is fully paid for using Hook-Up Fee proceeds. Such a late date is unacceptable and Mr. Broderick proposes to include $25 million of White Tanks Plant CWIP in rate base as well as request an O&M recovery mechanism similar to an ACRM.

2 WHITE TANKS PLANT – CWIP IN RATE BASE

Q. HOW ELSE CAN THE COMMISSION HELP ARIZONA-AMERICAN DEAL WITH THE DECLINE IN HOOK-UP FEE REVENUES?

A. As noted earlier in my testimony, Arizona-American is a company in serious financial difficulty. The current construction slowdown, with the associated decline in Hook-Up Fees, will result in substantial negative cash flows for years to come. As a result we are asking the Commission to authorize including some post-test year Construction Work in Progress ("CWIP") in rate base. While we appreciate the Commission's allowing us to defer depreciation expense and to record post-in-service AFUDC, these approvals do not help the negative cash flows we will be experiencing. Including CWIP in rate base will reduce negative cash flows associated with this project and ultimately, the project's costs (due to the deferred financing costs) to customers.

Q. HOW MUCH CWIP DOES ARIZONA-AMERICAN PROPOSE TO INCLUDE IN RATE BASE?

A. We propose that $25 million, approximately the forecasted CWIP balance at June 2008, be placed in rate base.

Q. WHAT WILL ARIZONA-AMERICAN NEED TO DO IF IT CANNOT RECOVER A PORTION OF POST-TEST-YEAR CWIP IN RATE BASE?

A. Arizona-American will have no choice but to file another rate case a few months before the White Tanks Plant enters service and request the entire amount be included in rate base.

3 WATER FACILITIES HOOK-UP FEE INCREASE

Q. DID ARIZONA-AMERICAN CONSIDER INCREASING THE EXISTING HOOK-UP FEE TO GENERATE MORE WHITE-TANKS FUNDS?

A. Yes. However, although Arizona-American would consider a proposal to increase Hook-Up Fees, the current real estate market may make it difficult for developers to support such a proposal. Further, any significant Hook-Up Fee increase could have the unintended consequence of reducing number of new connections in our Agua Fria Water District, which would further reduce Hook-Up Fee proceeds.

V ACHIVEMENT INCENTIVE PAY ("AIP")

Q. PLEASE DESCRIBE THE REASONS WHY ARIZONA-AMERICAN IS PROVIDING AN AIP?

A. To attract and retain high quality personnel, Arizona-American needs to insure that the "total compensation" offered to its employees is competitive with other companies. Total compensation is a combination of key items including base salary, incentive pay, pension, 401K, group insurance and some other lesser benefit items. The total value of all of these items makes up the total compensation. Adjusting any one of these components will require an offsetting adjustment in another component to maintain the value of the total compensation offered to our employees. When used properly, incentive pay helps to align the employee's work activities with the goals of the company and its customers in a way that straight salary dollars, no matter how large, cannot achieve as

effectively. A well-designed incentive-pay plan can pull people together, direct them in to achieve the goal you want them to achieve, and helps us better compete in today's competitive environment.

Q. DO ARIZONA-AMERICAN CUSTOMERS BENEFIT FROM A WELL-DESIGNED INCENTIVE PAY PLAN?

A. Yes, for the following reasons. First, being able to attract and retain qualified employees to manage and operate Arizona-American operations is certainly in the best interest of the Arizona-American customers. However, even more importantly, the AIP is designed to encourage and reward exactly the corporate results and employee behaviors that matter to these customers. I will have more to say about this concept below.

Q. PLEASE DESCRIBE ARIZONA-AMERICAN'S AIP.

A. All full-time management, professional and technical employees of Arizona-American who are employees as of December 31st, 2007 or retired during the AIP plan year are eligible to participate in the AIP. The AIP is designed to award participants for the performance results they attain during the plan year. There are three performance components: financial, operational, and individual.

Q. WHAT ARE THE FINANCIAL COMPONENT MEASURES?

A. Arizona-American's operating income is the key financial measure. We believe that this measure is the most critical gauge of our business success and is consistent with other affiliated business units. Operating income is essentially the profit generated before any interest income or expense, AFUDC and income taxes.

Q. HOW DOES THE FINANCIAL COMPONENT BENEFIT CUSTOMERS?

A. Operating income relates to the portion of the financial statements which are most closely linked to the majority of the employees and is a critical precursor to key external items

such as Net Income and Cash Flow. These external measures are used to evaluate the financial health of not only Arizona-American, but its parent American Water. Consistently meeting these projections is a critical part of Arizona-American's ability to encourage more investment from American Water to fund discretionary projects that benefit our customers.

Q. WHAT ARE THE OPERATIONAL COMPONENTS INCLUDED IN THE AIP?

A. The Operational component includes three parts: (1) Customer Service, (2) Environmental and (3) Health and Safety.

Q. PLEASE DESCRIBE EACH PART OF THE OPERATIONAL COMPONENT.

A. Under the Customer Service measure, we are striving on an annual basis for:

1. Favorable results in the regular customer satisfaction study; and
2. Favorable results in the customer service quality study;

For the Environmental measures, our annual goal is no public notification or customer advisories in violation of drinking water or wastewater regulations. Again, customers are the obvious beneficiaries. For the Health and Safety measure, our annual goal is meeting specified targets for Lost Workday Case Rate. In this case, customers benefit from well-trained, careful employees operating in a safe, well-maintained workplace.

Q. WHAT IS THE INDIVIDUAL COMPONENT?

A. The individual component is based on the overall performance rating for the employee as provided by the employee's supervisor in the employee's annual review.

Q. HOW DO THE PERFORMANCE RATINGS SUPPORT ARIZONA-AMERICAN'S PERFORMANCE

A. Each employee works with the employee's supervisor at the beginning of the plan year to determine their annual performance objectives. These performance objectives reward employee for activities that align with Arizona-American's performance objectives

Q. HOW DO PERFORMANCE RATING BENEFIT CUSTOMERS

A. Many of the objectives are directly related to improved customer service. Other relate to improving employee skills such as team-working and problem solving. Overall, the objectives support Arizona-American's overall performance, which circles back to the customer benefit that I just discussed.

Q. HOW ARE THE THREE AIP COMPONENTS (FINANCIAL, OPERATIONAL, AND INDIVIDUAL) WEIGHTED IN DETERMINTING AN EMPLOYEE'S AWARD?

A. One of our key incentive principles is that participants should be measured on performance they can directly influence. Therefore, different employee classes have different component weightings. For example, senior employees can more directly influence financial goals, so the financial category is more heavily weighted for these employees.

Q. WHAT ARE THE AIP EXPENSES FOR THE TEST YEAR?

A. In 2007, Arizona-American employees earned $ ~~349,612~~ $427,519 in AIP as part of our employees' compensation package.

Q. HAS AMERICAN WATER COMPLETED ITS INITIAL PUBLIC OFFERING ("IPO")?

A. Yes. The IPO was held on April 23, 2008. American Water is now traded on the New York Stock Exchange under the symbol "AWK."

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

A. Yes.

EXHIBIT
A-19
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

KRISTIN K. MAYES, Chairman
GARY PIERCE
BOB STUMP
PAUL NEWMAN
SANDRA D. KENNEDY

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 AGUA FRIA WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT	DOCKET NO. W-01303A-08-0227
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 MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227

REBUTTAL TESTIMONY
OF
PAUL G. TOWNSLEY
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
FEBRUARY 11, 2009

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TABLE OF CONTENTS

	EXECUTIVE SUMMARY	iii
I	INTRODUCTION AND QUALIFICATIONS	1
II	PURPOSE OF TESTIMONY	1
III	ARIZONA-AMERICAN'S FINANCIAL CONDITION	1
IV	WHITE TANKS PLANT	4
V	WISHING WELL WASTEWATER TREATMENT PLANT	11
VI	DISTRICT CONSOLIDATION FOR RATEMAKING PURPOSES	11

EXECUTIVE SUMMARY

Paul G. Townsley testifies that:

Arizona-American's current financial condition continues to be poor - timely and adequate rate relief from the Commission is necessary. In addition, management at Arizona-American is undertaking a number of actions to improve Arizona-American's financial performance by reducing costs, staffing, and capital expenditures.

Arizona-American's request to establish a deferral account for O&M costs for the White Tanks plant is reasonable. In addition, Arizona-American's request to extend the expiration date of the Agua Fria hook-up fees and to include construction work in progress in rate base is appropriate.

Staff and RUCO recommendations regarding the White Tanks Water Treatment Plant and the Wishing Well Wastewater Treatment Plant will cause harm to Arizona-American and should be rejected.

There are long-term benefits to customers of consolidation for ratemaking purposes between Arizona-American districts. Arizona-American supports consolidation of its districts but needs to insure that the consolidation process does not cause further financial harm to Arizona-American through delays in this case.

1 I **INTRODUCTION AND QUALIFICATIONS**

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

3 A. My name is Paul G. Townsley. My business address is 19820 N. 7th Street, Suite 201,
4 Phoenix, AZ 85024.

5 **Q. ARE YOU THE SAME PAUL TOWNSLEY WHO PROVIDED DIRECT**
6 **TESTIMONY IN THIS CASE?**

7 A. Yes.

8 II **PURPOSE OF TESTIMONY**

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

10 A. Please see the executive summary of my rebuttal testimony.

11 III **ARIZONA-AMERICAN'S FINANCIAL CONDITION**

12 **Q. WHAT IS ARIZONA-AMERICAN'S CURRENT FINANCIAL CONDITION?**

13 A. Unfortunately, there is still no way to sugarcoat Arizona-American's poor financial
14 condition. Most of Arizona-American's operating districts have under-earned for several
15 years and Arizona-American, as a whole, has lost over $31 million since American Water
16 purchased the assets of Citizens Water Resources in 2002. This unfortunate trend
17 continues. Arizona-American had a net loss of $1.8 million in 2008, which was an
18 improvement over its $4.6 million loss in 2007. Further, I expect that Arizona-
19 American's losses will continue through at least 2009, until new rates are implemented.
20 However, if the parties' various recommendations to deny Arizona-American's requested
21 rate treatments and accounting approvals for the White Tanks Plant prevail, then financial
22 losses will escalate and continue into 2010 and beyond. I described the contributing
23 factors to this poor financial condition in my Direct Testimony so I will not repeat them
24 here, however I will describe actions that management at Arizona-American has
25 undertaken to improve financial performance.

Q. WHAT STEPS HAS ARIZONA-AMERICAN TAKEN TO PREVENT FURTHER DETERIORATION OF ITS FINANCIAL CONDITION?

A. It is important to note that the continuing financial losses and resulting actions by management impact not only Arizona-American's shareholder, but also its customers. Because of diminished returns to the shareholder, there is diminished investment in Arizona-American, diminished staffing, diminished spending, and as a result diminished service to Arizona-American's customers.

In my Direct Testimony, I described one very important step we already took. In 2003, Arizona-American suspended dividend payments to its corporate parent – American Water. Suspending dividends has helped reduce Arizona-American's the rate of equity erosion, but continuing losses are still eroding equity. 2008 adds another year to Arizona-American's string. This is now the sixth straight year that Arizona-American's corporate parent has received no return on its Arizona investment.

During the entire period that dividends have been suspended, American Water has still invested new equity into Arizona-American. However, because American Water continues to lose money in Arizona, there are no current plans for American Water to invest any more equity in Arizona.

Q. HAS ARIZONA-AMERICAN TAKEN OTHER STEPS TO PREVENT FURTHER DETERIORATION OF ITS FINANCIAL CONDITION?

A. Yes. Arizona-American has cut its planned capital expenditures over the next five years by almost fifty percent. Over $92.5 million of specific Company-funded capital projects have been either deferred or eliminated, which represents a 46% reduction from Arizona-American's previous capital plan. In addition, almost $3 million of recurring project capital funding has been deferred or eliminated in 2009 and 2010, which represents a 10% reduction in capital from Arizona-American's most recent plan. Excluding the

capital expenditures for the White Tanks Water Treatment Plant ("White Tanks Plant"), Arizona-American must rely solely on internally generated funds. As I stated, there are no further planned equity investments from American Water.

Q. WHAT ELSE IS ARIZONA-AMERICAN DOING TO REDUCE COSTS?

A. For 2009 and beyond, Arizona-American is reducing staff positions by 25, which represent $1.1 million in gross salary dollar savings. These position reductions come from the deferral or elimination of planned positions and the consolidation of existing positions as vacancies occur. Management has also examined all costs in the business and has reduced its budget for controllable costs compared to its previous plan including a variety of measures including reductions in office expenses, reductions in telecommunication expenses, reductions in training and travel expenses, elimination of all business-development costs, reductions or deferral of certain maintenance expenses, and other items.

Q. HOW ELSE CAN ARIZONA-AMERICAN PREVENT FURTHER DETERIORATION OF ITS FINANCIAL CONDITION?

A. Rate relief is critical. The current rate application seeks timely and adequate rate relief. This is the most critical part of our strategy to restore Arizona-American's long-term financial health.

In order to be a financially viable and stable water and wastewater utility for our customers and investors, Arizona-American must earn a return on and return of the investment made by our parent shareholder. As described in my Direct Testimony, only $210 million of Arizona-American's investment is in rate base. In other word, although our customers in Arizona are enjoying the benefit of $355.3 million worth of Arizona-American's capital investment, they are only paying for approximately 59% of the assets.

In this case, we are seeking to put additional ~~$189~~ $89 million of our capital investment in rate base.

It is also important that the Commission timely approve the requested rate relief. Given the magnitude of the rate relief sought in this case, and the continued expected operating loss in 2009, Arizona-American cannot bear any delays in obtaining timely Commission approval of the rate increases requested in this application.

IV WHITE TANKS PLANT

Q. WHAT IS CURRENT STATUS OF THE WHITE TANKS PLANT?

A. The White Tanks Plant is a regional water treatment facility, designed to treat Colorado River Water delivered through facilities owned by the Central Arizona Project ("CAP"). The White Tanks Plant is presently under construction and is scheduled to be in service in late 2009. Currently it is over 50% complete and testing is expected to commence in October of this year.

Q. DO YOU AGREE WITH COMMISSION STAFF AND RUCO POSITIONS ON THE WHITE TANKS PLANT?

A. Yes and no. I do agree with the Arizona Corporation Commission Staff ("Staff") and the Residential Utility Consumer Office ("RUCO") positions to extend the sunset for the expiration of hook-up fees for the White Tanks Plant. However I disagree with Staff's positions on the exclusion of CWIP in ratebase for the White Tanks Plant, and I also disagree with the Staff position on denial of an accounting order to defer certain operating expenses for the White Tanks Plant until a future rate case.

Q. WHY DO YOU DISAGREE WITH STAFF'S AND RUCO'S POSITIONS ON THE EXCLUSION OF CWIP IN RATEBASE FOR THE WHITE TANKS PLANT?

A. First of all, Arizona-American is not requesting all CWIP to be placed in ratebase. Arizona-American is only requesting that $25 million of the White Tanks Plant's CWIP be placed in ratebase which is less than half of the total project cost. The White Tanks Plant is Arizona-American's single largest and most expensive project ever. As described in the rebuttal testimony of Chris Buls, the exclusion of a portion of CWIP in ratebase will cause Arizona-American to suffer further financial damage and use up much of its short-term debt due to the unprecedented slowdown in the collection of new customer hook-up fees in its Agua Fria District. As I have pointed out in my Direct Testimony and again here in my Rebuttal Testimony, Arizona-American is a company in deep financial trouble. Management is doing all it can to improve the financial condition of Arizona-American, while continuing to provide adequate service to its customers. However the damage done if the Commission were to adopt Staff's and RUCO's proposals would be a serious blow to our financial condition and further put off the time when Arizona-American can return to some modicum of profitability. It will also inevitably affect our ability to invest capital in the State and into improved service to customers.

Q. WHY DO YOU DISAGREE WITH THE STAFF AND RUCO REJECTION OF THE WHITE TANK PLANT O&M EXPENSE DEFERRAL ACCOUNT?

A. If adopted by the Commission, Staff's and RUCO's positions would cause even further financial harm to Arizona-American if it has no opportunity to recover the O&M costs of a plant providing service to its customers until Arizona-American's next rate case. Arizona-American anticipates approximately $1.1 million in net annual costs to operate the White Tanks Plant, after considering the approximately $800,000 in reduced well-production costs (electricity and chemicals) discussed by Mr. Cole in his rebuttal testimony. Using the following assumptions; (i) the plant goes into service November 1, 2009, (ii) annual operating costs are $1.1 million per year, and (iii) Arizona-American's next Agua Fria Water District test year ends December 31, 2009 and the Commission

orders rates effective August 31, 2011, Arizona-American will have operated the plant for 22 months at a cost of $91,167 per month, which is equal to a total loss of over $2.0 million. For any company the size of Arizona-American this is a sizeable impact; for a company which is already hemorrhaging money it is truly devastating.

Moreover, as discussed in the White Tanks Plant proceedings before the Commission (Docket W-01303A-05-0718), our request to establish an accounting order to defer these costs was recognized as being in the public interest by the Commission in its Opinion and Order (Findings of Fact 35, 36, 37). Furthermore, neither Staff nor RUCO opposed Arizona-American's request for such an accounting order in the White Tanks Plant proceeding and RUCO actually supported Arizona-American's request.

Q. WHY IS ARIZONA-AMERICAN SO CONCERNED WITH STAFF'S AND RUCO'S PROPOSALS ON THE WHITE TANKS PLANT?

A. I cannot overemphasize the huge financial impact to Arizona-American and its resulting ability to continue to effectively operate as a utility in Arizona if the Commission were to adopt Staff's and RUCO's positions on this issue. Projects like the White Tanks Plant take a long time to implement and a longer time to be paid off. As the Commission is aware, Arizona-American has been working on this since the mid 1990s and deferred the project as long as possible without risking running out of water given the projected customer growth rates at the time. Arizona-American also sought out innovative ratemaking for the project so as to minimize the impact on current customers. Unfortunately, no one could have foreseen the implosion of the new housing market in our Agua Fria Water District at the time we committed to construction. The hook-up fees for new construction, which were to pay for the project and its carrying costs, have all but disappeared. As described in Mr. Buls' rebuttal testimony, two years ago Arizona-American projected that the entire $60 million plant could be paid for by hook up fees by

the end of 2013. In direct testimony for this case filed nine months ago, Arizona-American revised its estimate of hook-up fees downwards for the five year period 2009 – 2013 to approximately $23 million. Mr. Buls now testifies that hook-up fees may only amount to $8 million over this period. At this hook-up fee rate, we could never even pay off any of the original investment. All of the hook-up fees would go toward AFUDC.

The White Tanks Plant was initiated based on sound water resource planning, engineering, and forecasting methods. It provides benefit to both current and future customers by utilizing renewable surface water supplies and reducing reliance on diminishing groundwater in the west valley. Recognizing the precarious financial position of Arizona-American, we have gone to great lengths to minimize the impact of this large project on Arizona-American, while still working to provide benefits to our customers. Unfortunately in spite of all of this we are still facing serious harm to Arizona-American and we cannot simply absorb the financial hit without impacting the business and its customers.

Q. IF THE COMMISSION WERE TO REJECT THE REQUEST TO INCLUDE A PORTION OF CWIP IN RATEBASE AND TO DEFER O&M EXPENSES, WHAT WOULD ARIZONA-AMERICAN DO?

A. I am not prepared to say at this time what measures that Arizona-American management might need to undertake if the Commission rejects Arizona-American's proposal to include a portion of CWIP in ratebase and to defer and later recover legitimate operating and maintenance expenses. Because of the large magnitude of the expected $1.1 million in net White Tanks Plant annual operating costs, and the inability under GAAP to recognize all the post-in-service AFUDC and deferred depreciation, Arizona-American will find itself in a very difficult position indeed. Our earnings, that have slowly improved from large annual losses to smaller annual losses, will reverse downwards

immediately. Management will need to evaluate and act on all available options to offset the impacts to earnings. We will forthwith critically review further reductions in spending in other parts of the business, further staff reductions, and further reductions in capital expenditures. We will also take a very hard look at the shut-down or sale of the White Tanks Plant. These options can't help but have a negative impact on customer service.

The ability to place a portion of CWIP in ratebase and to defer the O&M expenses for the White Tanks Plant onto Arizona-American's balance sheet until it has the opportunity to recover them in a future rate case is vitally important to Arizona-American. I strongly encourage the Commission to grant these requests.

Q. IS THE MARICOPA WATER DISTRICT STILL A POTENTIAL PARTNER FOR THE WHITE TANKS PLANT?

A. Yes. Because the White Tanks Plant has long been planned to be a regional water treatment plant—serving not only customers of Arizona-American, but also residents from other West Valley communities—Arizona-American entered into a Joint Development Agreement ("JDA") with the Maricopa Water District ("MWD") in November 2007. Under the JDA, Arizona-American proceeded with the construction of its 13.5 MGD treatment capacity ("Phase 1A"). MWD originally had the option until November 15, 2008, to participate in and fund the construction of 6.5 MGD of additional capacity ("Phase 1B"). MWD has been in negotiations with the City of Goodyear ("Goodyear") to utilize its capacity to treat Goodyear's CAP allocation and deliver it to Goodyear. As I understand it, negotiations have taken longer than expected, and in November MWD requested an extension to the deadline to exercise its option under the JDA. Arizona-American agreed to extend the option deadline until January 15, 2009, but

MWD still was unable to come to suitable terms with Goodyear by that date. As a result, the deadline for the option exercise expired.

Q. DOES THIS MEAN THAT MWD WILL NO LONGER PARTICIPATE IN THE WHITE TANKS PLANT?

A. The answer to that question is unclear. Arizona-American has told MWD that while the deadline for the exercise option has expired and that it has no contractual obligation to partner with MWD, it would still consider an agreement to partner with MWD in the future, if the timing and terms of the agreement were beneficial to Arizona-American. It is my understanding that MWD and Goodyear may still be discussing some sort of arrangement but that no deal is pending.

Q. IF MWD'S EXERCISE OPTION EXPIRED, WHY WOULD ARIZONA-AMERICAN STILL CONSIDER PARTNERING WITH MWD?

A. Arizona-American would only consider partnering with MWD if it made sense to do so. Having said that, there are a number of compelling reasons for Arizona-American and MWD to team up on the project.

During the Commission's Open Meeting in September 2007 concerning Arizona-American's White Tanks application, Arizona-American and MWD were encouraged to work together to find ways in which to partner on a regional surface water supply project rather than pursuing competing projects.

If MWD were to participate in the project, it would provide Arizona-American with capital in the form of a Contribution in Aid of Construction. This would reduce Arizona-American's investment in the project. Also, because of economies of scale, once both Phase 1A and 1B of the project are completed, the investment-cost-per MGD of capacity would be reduced. Finally, Arizona-American would be able to swap the land under the

plant for another MWD parcel of equal value, further reducing rate base by the cost of the land.

The potential partnership would also reduce operating costs. First, MWD would be able to provide low-cost preference power from federal hydropower projects to the White Tanks Plant. Second, with its share of plant capacity, MWD would be paying a corresponding share of fixed O&M costs that do not vary with usage.

If MWD were to participate in the White Tanks Plant, it would be less likely to construct its own competing treatment facility. Also as a quasi-municipal water provider, MWD's participation could make other municipal water providers more willing to serve as customers being served by future expansions, providing even greater economies of scale for the White Tanks Plant.

MWD participation also provides water-supply benefits. First, owning the underlying land and a share of the White Tanks Plant would let MWD use a future phase of the plant to treat up to 80 million gallons of renewable treated Agua Fria River water for delivery to Arizona-American's Agua Fria customers within the MWD service territory, in lieu of additional groundwater pumping. This water will become available to residential customers as the Agua Fria Water District builds out and residential and commercial uses replace irrigation uses within MWD's service area. In addition MWD would work with Arizona-American to develop a regional solution, including the use of existing MWD irrigation wells, to meet potable groundwater demands, further reducing the need to drill additional wells.

All of these reasons would reduce costs to customers and increase the use of renewable surface water, as compared to Arizona-American completing and operating the White

Tanks Plant alone, so it is for these reasons that we have left the possibility of MWD's participation open, subject to acceptable timing and terms of an agreement.

V WISHING WELL WASTEWATER TREATMENT PLANT

Q. DO YOU AGREE WITH STAFF'S RECOMMENDATION TO EXCLUDE THE WISHING WELL WASTEWATER TREATMENT PLANT FROM RATEBASE?

A. No. I do not. Staff's recommendation to exclude the Wishing Well Wastewater Treatment Plant expansion from ratebase is inconsistent with the testimony of Staff engineering expert Dorothy Hains that the expansion is used and useful. It is also inconsistent with Staff witness McMurray's inclusion of depreciation expense for the plant in revenue calculations. The Commission should reject Staff's unsubstantiated position.

Q. WERE ARIZONA-AMERICAN'S INVESTMENTS IN THE WISHING WELL UPGRADES AND EXPANSION PRUDENT?

A. Yes. Mr. Joseph Gross extensively discusses the need for the investment upgrades and expansion and concludes that it was prudent.

Q. WHAT IS YOUR RECOMMENDATION CONCERNING THE APPROPRIATE RATEMAKING TREATMENT FOR THE WISHING WELL PLANT?

A. I recommend that the Commission include the Wishing Well plant in ratebase as is appropriate for a utility investment of this type. This would be consistent with ratemaking principles previously applied by the Commission.

VI DISTRICT CONSOLIDATION FOR RATEMAKING PURPOSES

Q. CHAIRMAN MAYES ASKED ARIZONA-AMERICAN TO DISCUSS CONSOLIDATION OF DISTRICTS IN THIS CASE? DOES ARIZONA-AMERICAN SUPPORT CONSOLIDATING DISTRCTS IN THIS RATE CASE

A. I need to answer this question with a conditional "yes." There are a number of reasons that I will discuss below, including improved rate case efficiency, improved ability to make needed capital investments in smaller districts without imposing burdensome rate increases, improved ability to acquire small troubled water systems, and a desire to bring the tariff structure of water and wastewater utilities more in line with those of other regulated utilities in Arizona, that all support consolidation on a philosophical basis.

Rate consolidation of water and wastewater utilities is a topic being addressed by a number of public utility commissions in the country. Historically water company districts in Arizona have tended to have separate tariffs for each district based on the unique history of each district, and because each district is likely to be physically disconnected from other districts. Yet this historic approach overlooks important aspects of how (at least our) water company districts operate and has created consequences that if left unchecked can cause customer harm in the long term.

While it is true that the physical distribution infrastructure (piping, wells, tanks, etc.) of each Arizona-American water district is in most cases separate from other districts, the water supply (that is the underground water source or the surface water source) is clearly not separate between districts. So in this important sense, many of our districts are connected. Other major utilities including electric utilities (Arizona Public Service and Tucson Electric Power), natural gas utilities (Southwest Gas and Unisource) and phone utilities (QWEST and Citizens Communications), tend to have unified tariff structures across Arizona (or in some cases a few separate tariff structures) even though they serve many different communities. Their physical distribution infrastructures rely on common supply (electric power plants, natural gas transmission lines, or backbone communication network, respectively) not unlike our common water supplies, so the justification as to why water companies should be on unique tariffs for each district, and the other utility

segments not being on unique district-based tariffs based only on physical infrastructure is not compelling.

Q. TURNING SPECIFICALLY TO ARIZONA-AMERICAN, HOW COULD RATE CONSOLIDATION BENEFIT ARIZONA-AMERICAN?

A. There are many challenges and problems associated with having numerous rate-making districts within Arizona-American. One challenge of having multiple rate-making districts (Arizona-American has 13) is that it is more costly to prepare and prosecute rate cases for all parties involved. Currently, Arizona-American is required to file an application with separate costs identified and tariffs established for each district, the Commission is required to issue separate findings, separate rate-base schedules, separate cost-of-service studies, separate sets of tariffs, etc. This is not efficient. Commission Staff and RUCO also have larger workloads due to their involvement in multiple district rate cases rather than participating in fewer rate cases with consolidated districts.

Another large challenge with having multiple districts for rate making purposes is the imbalance of district-based capital needs and the number of customers. Small districts tend to face disproportionally larger rate increases due to necessary capital investments than larger districts do.

Rate consolidation would lessen each of these areas of concern.

Q. CAN YOU PROVIDE ANY EXAMPLES OF SMALLER DISTRICTS BEARING DISPROPORTIONATELY LARGER RATE INCREASES DUE TO CAPITAL INVESTMENTS?

Let me provide a couple of examples within Arizona-American. In our Mohave Wastewater District, Arizona-American's customers are potentially facing a very large rate increase because of the severely needed multi-million dollar Wishing Well

Wastewater Treatment Plant upgrade and expansion. If this investment had been spread across a larger customer base, the per-customer rate increase would be much lower.

In our Tubac Water District, an arsenic treatment facility needed to comply with EPA requirements will probably cost over $2 million and could lead to a very large rate increase, just for this one item. Spreading investment costs among a larger number of customers typically provides for lower cost increases on a per-customer basis. This would lead to greater rate stability in the smaller districts, but potentially among larger districts as well.

Q. ARE THERE ANY OTHER CONSEQUENCES OF OPERATING MULTIPLE WATER DISTRICTS?

Yes. Multiple rate making districts inhibits a company's ability to take on small troubled water systems. Many of these systems today are not meeting state and federal standards and do not have the financial, technical, and managerial capability to do so. In most cases, if a larger water or wastewater utility were to acquire one or more of these systems, significant capital investments would be needed to bring them up to current standards. However, because these necessary capital improvements would be borne by only the customers in those systems, the resulting rate increases could be extremely high. This leads to customer opposition and disappointing results at the Commission. As a consequence, the acquisition is not made, the system remains inadequate, and its customers are at risk

Q. CAN YOU PROVIDE AN EXAMPLE OF AN ACQUISITION THAT WAS NOT MADE BECAUSE OF THE CURRENT MULTI-DISTRICT MODEL?

Yes. Sabrosa Water is a small troubled water system located near Arizona-American's Anthem Water District. The owner of Sabrosa Water walked away from the system and the State of Arizona was faced with the unenviable task of cleaning up the legal and

financial mess left by the owner. Arizona-American operated this system for a number of years on behalf of the Arizona Corporation Commission and made hundreds of thousands of dollars in investments to the system to enable it to deliver water more reliably. Other custodial operators of Sabrosa Water after Arizona-American may have also made investments. However, the system still requires a huge investment to bring it up to current standards.

If Arizona-American were to acquire Sabrosa Water and make the hundreds of thousands of dollars in necessary capital investments, customer rates for the few hundred accounts there would increase by well over 100%. On the other hand, if Sabrosa were consolidated into Arizona-American's other water districts, statewide rates in both districts would only have to go up a small amount to recover the necessary investments in the Sabrosa Water system.

Sabrosa Water is far from the only small troubled water system in this State. The Commission is aware of many other systems that are candidates for acquisition, but haven't been taken on because of the issues I have described above (along with disappointing overall returns on Arizona investments). Rate consolidation would certainly encourage larger well-run utilities to address these small troubled systems.

Rate consolidation as a public policy matter should be debated, but my strong personal philosophical opinion is that the old multiple-district tariff model does not work as well as it could, will not allow Arizona to address the numerous small troubled systems that exist in the state, tends to retard administrative efficiency for water utilities and the Commission, and will perpetuate the current climate of high customer costs and/or insufficient investments in smaller water and wastewater districts.

Q. DO YOU HAVE CONCERNS ABOUT RATE CONSOLIDATION AMONG ARIZONA-AMERICAN'S DISTRICTS?

A. Yes. I answered a previous question about my support for rate consolidation as a conditional "yes". I have significant concerns about rate consolidation impacts in the short term and cannot support it if it further damages the financial condition of Arizona-American. While I strongly support rate consolidation from a philosophical perspective, the practicalities of district consolidation present significant challenges to both the Commission and Arizona-American. For instance, average customer water bills across Arizona-American's systems range from about $12 per month in Sun City to about $70 per month in Paradise Valley. While some of this disparity is due to differences in customer consumption levels, it is also due to differences in net-plant investment per customer between districts. Proposals for rate consolidation in the short term are likely to cause significant public and political consternation with a likely result being an extension to the rate case schedule, a delay in Arizona-American receiving a reasonable return on its investments, and further financial harm to the business. Arizona-American simply cannot tolerate any delays in this case and resulting further financial damage.

Q. GIVEN YOUR CONCERNS, DO YOU HAVE A RECOMMENDATION ON HOW THE COMMISSION CAN BEGIN CONSOLIDATION BETWEEN DISTRICTS?

A. Yes. There is one step the Commission could take toward consolidation. The key to being able to ultimately consolidate Arizona-American's districts, is to begin to levelize the net-plant-investment per customer across districts. If the net-plant-investment per customer were more aligned, then the primary remaining differences between districts would be a function of differences in production costs, i.e. the cost of treating surface water vs. the cost of treating groundwater.

To begin to levelize the net-plant investment costs per customer, the Commission could consider implementing a surcharge across all districts to pay down the investment levels in higher level districts over time. The proceeds from this surcharge would be used as Contributions in Aid of Construction ("CIAC") and credited to Arizona-American thereby reducing its net-plant (ratebase) in these districts. The proposal for this surcharge would be similar in concept to what has been used by electric utilities as systems-benefit charges in certain circumstances. I provide this as an idea that Staff and RUCO may want to respond to in their surrebuttal testimony, rather than a firm proposal from Arizona-American.

Normally a utility is not in favor of reducing its ratebase, because it is only on ratebase that it has the opportunity to earn a return on investment. Arizona-American is no different – we do not support reducing ratebase under normal circumstances. However in this particular circumstance, for a limited period of time and with certain protections, Arizona-American could support a systems-benefit charge. The surcharge would be reviewed in Arizona-American's next rate case and adjusted accordingly based on the CIAC received, the resulting net-plant investment per customer, and the desired timing for rate consolidation. In future rate cases, as net-plant-investment-per-customer between districts begins to converge, the Commission could order rate consolidation without as much concern of disparity in rates across districts.

Q. HOW COULD THIS SYSTEMS-BENEFIT CHARGE WORK?

A. Under this approach, the Commission would order that a systems-benefit charge be assessed on the variable usage rate per gallon. The same charge would be applied to usage in every district. Water-usage charges would be used for the benefit of crediting net plant in water districts and wastewater usage charges would be used for the benefit of crediting net plant in wastewater districts. Funds generated by the systems-benefit

charges would be accounted for separately by Arizona-American and would be credited as an offset against ratebase in those districts with high net-plant-investment per customer. The funds would be applied first against each water and wastewater district, respectively, with the highest net-plant investment per customer until they reached an equivalent level as the second highest district's net-plant investment per customer. At that point the surcharge proceeds would be credited as an offset to ratebase in both the highest district and the second highest district respectively until their net-plant investment per customer reached an equivalent level with the third highest district, as applicable. This process would be reviewed in Arizona-American's next rate case and adjustments or suspension of the surcharge would be made as appropriate. At the time of the appropriate rate case, the districts would be consolidated for rate making purposes. Arizona-American would be required to file annual reports on the status of the program.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY IN THIS CASE?

A. Yes.

EXHIBIT
A-20
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

KRISTIN K. MAYES, Chairman
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

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 AGUA FRIA WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT	DOCKET NO. W-01303A-08-0227
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 MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227

REBUTTAL TESTIMONY
OF
CHRISTOPHER C. BULS
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
DATED FEBRUARY 11, 2009

REBUTTAL TESTIMONY
OF
CHRISTOPHER C. BULS
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
DATED FEBRUARY 11, 2009

TABLE OF CONTENTS

EXECUTIVE SUMMARY iii
I INTRODUCTION AND QUALIFICATIONS 1
II TO REDUCE FUTURE RATE IMPACTS, ARIZONA-AMERICAN PROPOSED USING HOOK-UP FEES TO FINANCE THE PLANT 3
III HOOK-UP FEE RECEIPTS HAVE DECLINED PRECIPITOUSLY 3
IV THE DECLINE IN HOOK-UP FEES WILL SERIOUSLY HURT ARIZONA-AMERICAN 4
V OTHER OPTIONS COULD MITIGATE THE FINANCIAL HARM 8
VI THE POTENTIAL CONSEQUENCES IF ARIZONA-AMERICAN CANNOT GET SUFFICIENT FINANCIAL RELIEF IN THIS CASE 9

EXECUTIVE SUMMARY

Christopher C. Buls testifies as follows:

To Reduce Future Rate Impacts, Arizona-American Proposed Using Hook-Up Fees to Finance the Plant

Arizona-American carefully considered a number of factors in making this decision. First, Company leadership realized that this plant needed to be built sooner rather than later, as it improves the overall groundwater situation and provides a benefit to our existing customers. A second consideration was the high cost of constructing a "Greenfield" facility such as the White Tanks Plant. $60 Million for the initial phase while the second increment of 6.5 MGD is expected to cost less than $5 Million. Another consideration was an attempt by Arizona-American to minimize the rate impact of this project on our current customers. Finally, because of the dire financial condition of Arizona-American, Arizona-American needed to minimize the negative financial impacts associated with a project of this size.

The use of hook-up fees would potentially reduce the financial impacts to current customer without further exacerbating the already difficult financial situation Arizona-American was in.

Hook-Up Fee Receipts Have Declined Precipitously

Our projection of these fees has dropped precipitously. In Case W-01303A-05-0718, which was filed roughly two years ago, Arizona-American projected that the entire $60 million plant could be paid for by hook-up fees by the end of 2013. Current projections now show that we will only collect about $8 million over that same time frame.

The decline in cash flow from the hook-up fees will impact our ability to rely on hook-up fees in numerous ways. To deal with this state of events, Arizona-American proposed including $25 million of CWIP in rate base.

The Decline in Hook-Up Fees Will Seriously Hurt Arizona-American

Without some mitigation, the impact of this decline will have serious consequences for Arizona-American. An immediate impact is that Arizona-American is experiencing a sharp increase in short-term debt levels. Another impact is that the cost of the plant which includes AFUDC, is growing at a faster pace than the original projections. Additionally, shortly after the plant goes in service in late 2009, Arizona-American will immediately begin to suffer severe, negative impacts on net income.

The driver of the growth in total costs lies in the calculation of the AFUDC. AFUDC for this project is calculated on a "net" basis meaning the base for the calculation is the construction costs to date less the applicable hook-up fees. Because the hook-up fees have been and will be much lower than originally estimated, the "net" amount is greater, and consequently the AFUDC is higher. This creates a situation where the amounts available to pay down the plant are lower, while the amount to pay down is growing.

Authorizing $25 million of CWIP in rate base will mitigate the problem, but will not provide a full solution. It will however allow for some additional time and, most importantly, slow down the growth of the balance related to the plant. Without placing CWIP into rate base Arizona-American will be forced to try to carry a large asset with no cost recovery. From a GAAP

perspective, even with the existing authorization, Arizona-American will still suffer from diminished earnings in the near term as hook-up fees are inadequate.

Excluding all O&M, depreciation and other associated expenses the required return on the $60 million plant would be approximately $8.3 million annually. This compares to expected hook-up fees of roughly $1 million per year for the first two years of operation. This difference, less taxes, represents the lost net income or financial harm to Arizona-American.

Based on the current assumptions it is doubtful this project will ever get paid off. By 2029 the net unfunded balance is $58 million, roughly equal to the total of the original 2009 construction cost. Over that time-period, Arizona-American would have recovered a total of $68 million in post in-service AFUDC, without paying down a single dollar of the White Tanks Plant.

Other Options Could Mitigate the Financial Harm

Putting $25 million of CWIP into rate base is an important first step. The revenue requirement effect of including $25 million of White Tanks construction costs in rate base assuming Arizona-American's requested rate of return of 8.4% is approximately $3.476 million per year. If this were recovered via a customer charge to the Agua Fria district customers, the resulting charge would be $9.09 per month based on the average test year customer count of 31,882.

As an alternative, it would be acceptable to the Company to set the revenue requirement equal to that of putting CWIP in rate base using the White Tanks Plant Surcharge Mechanism that Mr. Broderick proposed in his Direct Testimony. This would be a temporary surcharge that would be in place only until completion of the next rate case.

Arizona-American would consider a variety of helpful options in addition to or alternatively to avoid further financial harm to Arizona-American. Creating some form of renewable-water-supply surcharge that would be added to customer bills is one such option. If the surcharge was expanded to cover all of our Valley water districts still on groundwater, that would lessen the amount of the surcharge.

Arizona-American Could Be Forced to Mothball or Sell the White Tanks Plant

The White Tanks Plant is very large relative to Arizona-American's total investment. Arizona-American cannot carry the cost of this project on hook-up fees alone. If the results of this rate case are disappointing, Arizona-American must consider mothballing or selling the facility.

I INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Christopher C. Buls. My business address is 19820 N. 7th Street, Suite 201, Phoenix, Arizona 85024

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

A. I am employed by American Water Works Service Company as Vice President of Finance.

Q. PLEASE DESCRIBE YOUR DUTIES AND RESPONSIBILITIES AS VICE PRESIDENT OF FINANCE.

A. In my capacity as Vice President of Finance, I direct the Financial Planning and Analysis, Rates & Regulatory, and Financial Controls and Compliance activities for the regulated subsidiaries in New Mexico, California, Arizona and Hawaii. I also have indirect management responsibility for the accounting services provided to these states. These services are supplied by personnel in the American Water Shared Services Center in Cherry Hill, New Jersey.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

A. I received a Bachelor of Arts degree in Chemistry from Indiana University – Bloomington in 1982 and a Master of Business Administration with a concentration in Finance also from Indiana University – Bloomington in 1987. Additionally, I have been a Certified Management Accountant since 1991.

Q. PLEASE OUTLINE YOUR BUSINESS EXPERIENCE.

A. Upon graduating from Indiana University in 1987 I joined Kidder, Peabody as a Registered Representative. In August 1988 I accepted employment with Air Products and Chemicals where I held numerous positions of increasing responsibility including

Financial Analyst, Plant Controller, Business Controller and various Financial Planning and Accounting Management positions at both a corporate and segment level. In 2001, I joined the Engineered Materials division of Cytec Industries as the Operations Controller, where I was responsible for Planning, Budgeting and Accounting for six manufacturing locations across the United States. In 2004 I joined American Water as the Vice President of Finance for the southeast states and early in 2007 I transferred into the same role with similar responsibility for the western states.

Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS CASE?

A. No.

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

A. I am responding to the testimony of Staff and RUCO regarding Arizona-American's proposal to include $25 Million of CWIP related to the White Tanks Plant as a part of rate base. Specifically I will describe:

1. Why Arizona-American attempted to utilize hook-up fees as a financing means for the project;
2. What has happened to projected hook-up fees since the Commission approved hook-up fee financing;
3. The financial harm Arizona-American will experience if the CWIP request is denied;
4. Proposed alternatives, which would mitigate the undesirable impacts; and
5. The potential consequences if Arizona-American cannot get sufficient financial relief in this case.

II TO REDUCE FUTURE RATE IMPACTS, ARIZONA-AMERICAN PROPOSED USING HOOK-UP FEES TO FINANCE THE PLANT

Q. WHY DID ARIZONA-AMERICAN PROPOSE USING HOOK-UP FEES TO FINANCE THE WHITE TANKS PLANT?

A. Arizona-American carefully considered a number of factors in making this decision. First, Company leadership realized that this plant needed to be built sooner rather than later, because, as Mr. Gross has described, this project improves the overall groundwater situation and provides a benefit to our existing customers. A second consideration was the high cost of constructing a "Greenfield" facility such as the White Tanks Plant. With a "Greenfield" facility the first increment of capacity is routinely the most expensive. The initial increment includes not only the equipment directly linked to that particular increment of volume but also all the infrastructure and utilities for the site. This is demonstrated by the fact that for White Tanks the first 13.5 MGD increment will cost roughly $60 Million while the second increment of 6.5 MGD is expected to cost less than $5 Million. Another consideration was an attempt by Arizona-American to minimize the rate impact of this project on our current customers. Finally, because of the dire financial condition of Arizona-American, Arizona-American needed to minimize the negative financial impacts associated with a project of this size.

Arizona-American has seen hookup fees work effectively elsewhere and for other purposes. Given the explosive growth Arizona-American had already experienced in this area and projections for future growth, we viewed the hook-up fees as an efficient way to finance the plant. The use of hookup fees would potentially reduce the financial impacts to current customer without further exacerbating the already difficult financial situation Arizona-American was in.

III HOOK-UP FEE RECEIPTS HAVE DECLINED PRECIPITOUSLY

Q. HOW SEVERELY HAVE HOOK-UP FEES DECLINED?

A. Our projection of these fees has dropped precipitously. In Case W-01303A-05-0718, which was filed roughly two years ago, Arizona-American projected that the entire $60 million plant could be paid for by hook-up fees by the end of 2013. Arizona-American revised its estimate for this case which was filed roughly nine months ago. In the original testimony for this case Arizona-American estimated that for the five year period 2009 – 2013, we would collect approximately $23 million. Current projections now show that we will only collect about $8 million over that same time frame.

Q. HOW DOES ARIZONA-AMERICAN PROPOSE TO DEAL WITH THE PRECIPITOUS DROP IN HOOK-UP FEES?

A. The unprecedented decline in the housing market, which has been particularly focused in the West Valley, has virtually eliminated the possibility of relying on hook-up fees to fund the majority of the project, let alone to fully fund the project as had been earlier planned. The decline in cash flow from the hook-up fees will impact our ability to rely on hook-up fees in numerous ways. To deal with this state of events, Arizona-American proposed including $25 million of CWIP in rate base.

IV <u>THE DECLINE IN HOOK-UP FEES WILL SERIOUSLY HURT ARIZONA-AMERICAN</u>

Q. HOW WILL THE DECLINE IN HOOK-UP FEES HURT ARIZONA-AMERICAN?

A. Without some mitigation, the impact of this decline will have serious consequences for Arizona-American. An immediate impact is that Arizona-American is experiencing a sharp increase in short-term debt levels. Another impact is that the cost of the plant which includes AFUDC, is growing at a faster pace than the original projections.

Additionally, shortly after the plant goes in service in late 2009, Arizona-American will immediately begin to suffer severe, negative impacts on net income.

Q. WHY DOES THE DECLINE IN HOOK-UP FEES LEAD TO AN INCREASE IN SHORT TERM DEBT?

A. Arizona-American had planned for the cash coming in from hook-up fees to offset a significant portion of the required cash outflows needed to construct the plant. While the construction has continued, the hook-up fees have not kept pace. From year end 2007 to year end 2008 Arizona-American's short term debt balance has grown from $19.1 million to $51.2 million (unaudited). The increased reliance on short term debt makes Arizona-American vulnerable to sudden shifts in the financial markets such as those experienced over the past months and further degrades many of Arizona-American's financial ratios. Given the continued financial losses and the current state of financial measures, Arizona-American would almost certainly have faced a stark choice if it had been an independent company – either stop construction of the White Tanks Plant or head for the bankruptcy court. If our parent, American Water, runs out of patience, Arizona-American will fail. The Commission's own measure of viability, such as Debt Service Coverage Ratios and Times Interest Earned Ratios show that the status quo is not sustainable for Arizona-American.

Q. WHY IS THE COST OF THE PLANT GROWING FASTER THAN ORIGINALLY PLANNED?

A. In overall terms the cost of the plant includes the actual cash outlays, plus the AFUDC. The construction costs have not changed materially. The driver of the growth in total costs lies in the calculation of the AFUDC. AFUDC for this project is calculated on a "net" basis meaning the base for the calculation is the construction costs to date less the applicable hook-up fees. Because the hook-up fees have been and will be much lower

than originally estimated, the "net" amount is greater, and consequently the AFUDC is higher. This creates a situation where the amounts available to pay down the plant are lower, while the amount to pay down is growing.

Q. WHAT NEGATIVE FINANCIAL IMPACTS DOES ARIZONA-AMERICAN ANTICIPATE IF CWIP IS NOT ALLOWED IN RATE BASE?

A. First, we need to emphasize that given the magnitude of the housing decline; authorizing $25 million of CWIP in rate base will mitigate the problem, but will not provide a full solution. It will however allow for some additional time and, most importantly, slow down the growth of the balance related to the plant. In the original case, Arizona-American had outlined a fairly specific process on how the fees would be applied. Essentially, the fees would first go to recover any "post in-service AFUDC", they would next offset depreciation expense and finally the remainder would pay down the balance of the project. This allowed Arizona-American to build the project and avoid the negative impacts of carrying a $60 million plant. Key, however, was a level of fees sufficient to pay for each of these components. Unfortunately, under the current outlook the fees will not be sufficient to even recover the post in-service AFUDC, let alone the depreciation or paying down the plant. Without placing CWIP into rate base Arizona-American will be forced to try to carry a large asset with no cost recovery. I am not confident that we will be able to do that.

Q. DID THE COMMISSION PROVIDE AN ACCOUNTING ORDER THAT WOULD ALLOW RECOGNITION OF THE POST IN-SERVICE AFUDC?

A. Yes. While the Commission's order was helpful for rate-making purposes; GAAP does not allow Arizona-American to recognize a profit that will be earned in a future period for plant that is in-service and that is why Arizona-American proposed applying hook-up fee proceeds each month to recover the post-in-service AFUDC immediately in cash.

From a GAAP perspective, even with the existing authorization, Arizona-American will still suffer from diminished earnings in the near term as hook-up fees are inadequate. Given Arizona-American's current position, these near-term impacts would create a severe hardship.

Q. DID THE COMMISSION PROVIDE AN ACCOUNTING ORDER THAT WOULD ALLOW ARIZONA-AMERICAN TO DEFER DEPRECIATION?

A. Yes. FAS 71 specifically allows Arizona-American to defer expenses as ordered by the Commission. It is important to remember however that by deferring the depreciation the net value of the asset will stay the same. Said another way, even with various accounting orders we will still need to recover the plant and deferred depreciation in cash at some point in the future.

Q. WHAT WOULD THE REVENUE REQUIREMENT ON THE ASSET BE FIGURING ONLY THE RETURN ON THE ASSET?

A. Excluding all O&M, depreciation and other associated expenses the required return on the $60 million plant would be approximately $8.3 million annually. This compares to expected hook-up fees of roughly $1 million per year for the first two years of operation. This difference, less taxes, represents the lost net income or financial harm to Arizona-American.

Q. IF ARIZONA-AMERICAN WERE TO RELY SOLELY ON HOOK-UP FEES, CONTINUED TO RECORD POST IN-SERVICE AFUDC, AND DEFER DEPRECIATION, HOW LONG WOULD IT TAKE FOR FEES TO COMPLETELY PAY FOR THE PROJECT?

A. Based on the current assumptions it is doubtful this project will ever get paid off. Exhibit CCB-R1 shows the Annual Hook-up Fee Versus Post In-Service AFUDC and Exhibit

CCB-R2 shows the Annual Hook-up Fee versus the Unfunded Balance. These Exhibits show projections of data related to hook-up fees and project costs through 2020. We can see that by 2020 the net unfunded balance is $58 million, roughly equal to the total of the original 2009 construction cost. Over that time-period, Arizona-American would have recovered a total of $68 million in post in-service AFUDC while just beginning to pay down the White Tanks Plant.

Q. WITHOUT RECOVERY OF THE AFUDC WHAT WOULD THE RECOVERY PERIOD BE?

A. First, without the recovery of the AFUDC Arizona-American would suffer financial harm of roughly $5.4 million per year as we would be carrying a $60 million dollar asset with no return. Based on current forecasts the cumulative hook-up fees would equal the construction costs in late 2019 or early 2020.

V <u>OTHER OPTIONS COULD MITIGATE THE FINANCIAL HARM</u>

Q. WHAT OPTIONS WOULD ARIZONA-AMERICAN CONSIDER?

A. Putting $25 million of CWIP into rate base is an important first step. The revenue requirement effect of including $25 million of White Tanks construction costs in rate base assuming Arizona-American's requested rate of return of 8.4% is approximately $3.476 million per year. If this were recovered via a customer charge to the Agua Fria district customers, the resulting charge would be $9.09 per month based on the average test year customer count of 31,882.

Both Staff and RUCO have expressed concerns with putting CWIP into rate base, particularly with regard to the limited number of precedents for this type of action and questions on future reviews. As an alternative, it would be acceptable to the Company to set the revenue requirement equal to that of putting CWIP in rate base using the White

Tanks Plant Surcharge Mechanism that Mr. Broderick proposed in his Direct Testimony. This would be a temporary surcharge that would be in place only until completion of the next rate case. At the time of the next case, the plant is expected to be fully operational and, we will have an updated visibility into the housing outlook. Arizona-American would then propose a permanent solution. The permanent solution could, at that point, include a standard review of the plant as an asset that is used and useful and also incorporate an updated view of the long-term housing market and associated hook-up fees.

Q. ARE THERE ANY OTHER OPTIONS ARIZONA-AMERICAN WOULD CONSIDER?

A. Arizona-American would consider a variety of helpful options in addition to or alternatively to avoid further financial harm to Arizona-American. Creating some form of renewable-water-supply surcharge that would be added to customer bills is one such option. If the surcharge was expanded to cover all of our Valley water districts still on groundwater, that would lessen the amount of the surcharge.

Arizona-American will eventually need to request that 100% of the unrecovered plant net of contributions be put into rate base.

VI <u>THE POTENTIAL CONSEQUENCES IF ARIZONA-AMERICAN CANNOT GET SUFFICIENT FINANCIAL RELIEF IN THIS CASE</u>

Q. WHAT WILL BE THE CONSEQUENCES IF ARIZONA-AMERICAN CANNOT GET SUFFICIENT FINANCIAL RELIEF IN THIS CASE?

The White Tanks Plant is very large relative to Arizona-American's total investment. Arizona-American cannot carry the cost of this project on hook-up fees alone. If the

results of this rate case are disappointing, Arizona-American must consider mothballing or selling the White Tanks Plant.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

Exhibit CCB-R1

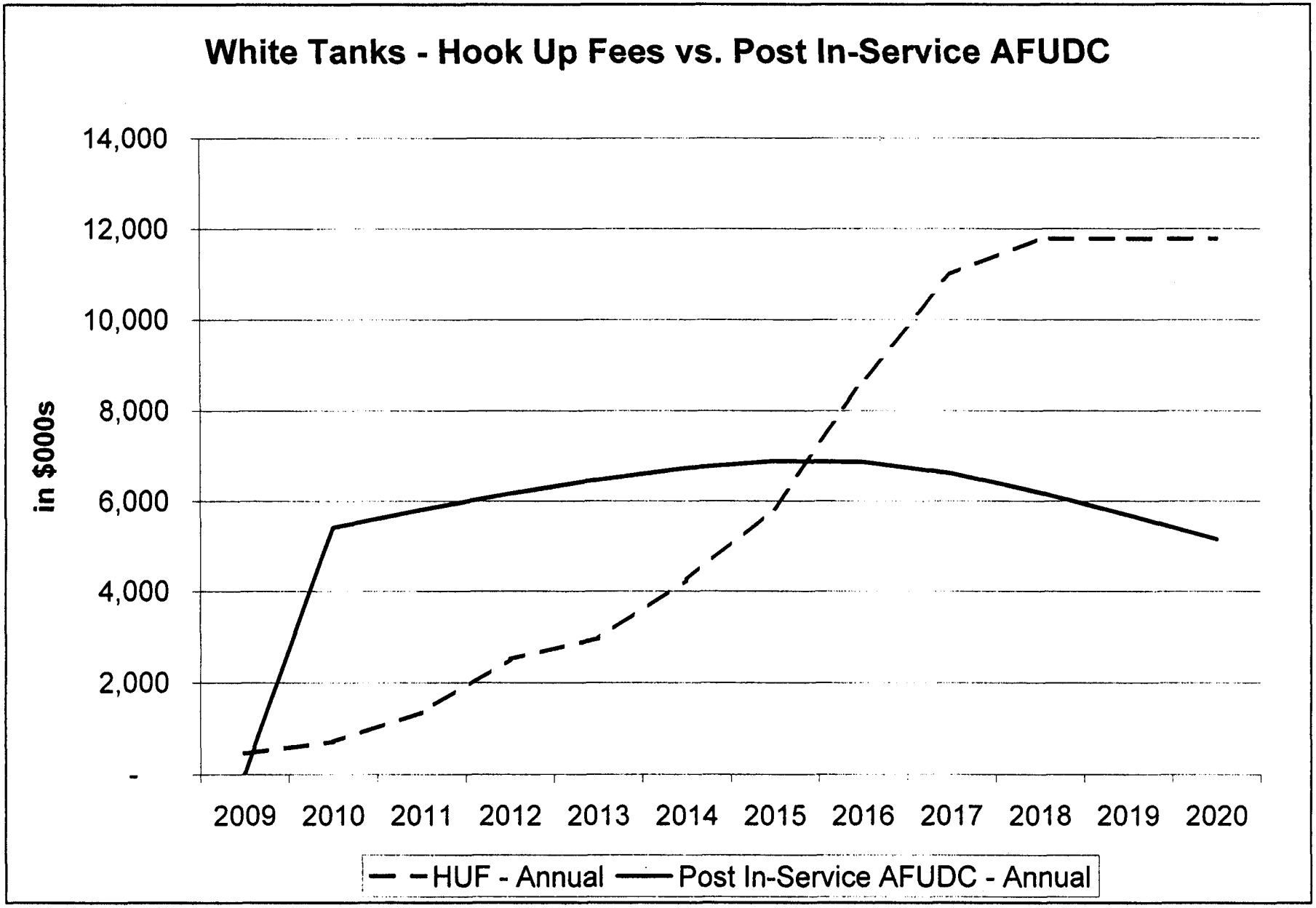
White Tanks - Hook Up Fees vs. Post In-Service AFUDC
in $000s
14,000
12,000
10,000
8,000
6,000
4,000
2,000
-
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
HUF - Annual
Post In-Service AFUDC - Annual

Exhibit CCB-R2

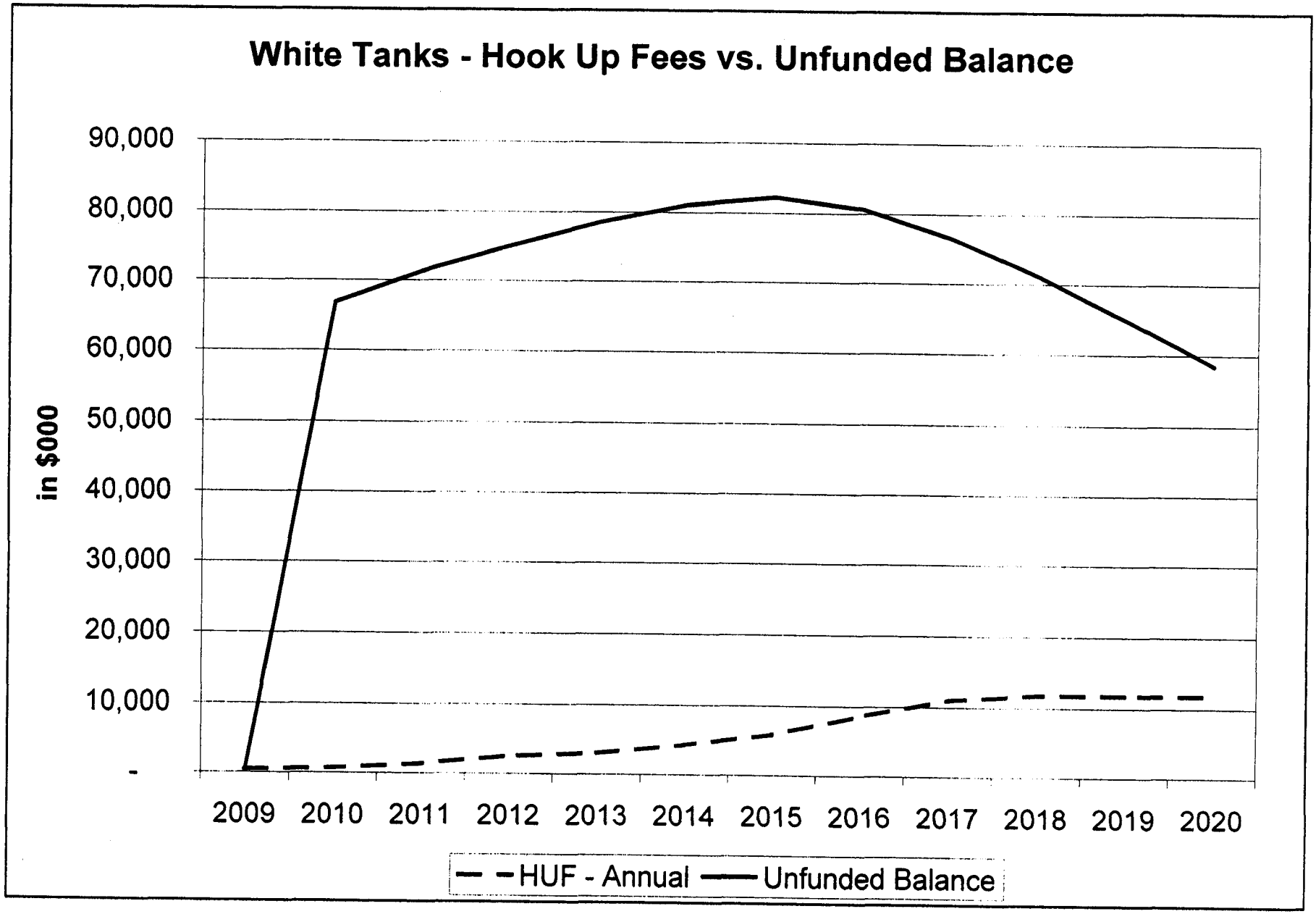
White Tanks - Hook Up Fees vs. Unfunded Balance
in $000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
-
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
HUF - Annual
Unfunded Balance

EXHIBIT
A-21
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

IN THE MATTER OF THE APPLICATION OF ARIZONA -AMERICAN WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS AGUA FRIA WATER DISTRICT, ANTHEM WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT	DOCKET NO. W-01303A-08-____
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 AGUA FRIA WASTEWATER DISTRICT, ANTHEM WASTEWATER DISTRICT, AND MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-____.

DIRECT TESTIMONY
OF
JOHN C. (JAKE) LENDERKING
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
APRIL 30, 2008

DIRECT TESTIMONY
OF
JOHN C. (JAKE) LENDERKING
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
APRIL 30, 2008

TABLE OF CONTENTS

	EXECUTIVE SUMMARY	iii
I	INTRODUCTION AND QUALIFICATIONS	1
II	PURPOSE OF TESTIMONY	2
III	WATER CONSERVATION	2
IV	PARADISE VALLEY WATER – CAP SURCHARGE MODIFICATION	6

EXECUTIVE SUMMARY

Mr. Lenderking testifies as follows:

WATER CONSERVATION

Arizona-American presently spends approximately $40,000 annually in Sun City Water, Sun City West Water and Agua Fria Water Districts on water conservation. This amount was authorized by Commission Decision No. 60172, issued on May 7, 1997. This level of funding has been used in part to assist Arizona American to meet ADWR conservation regulations.

Arizona-American's conservation program is called Save H2O. The Save H2O program encourages and promotes water conservation in many ways, including:

- Participation in community events;
- Water conservation messages in customer bills
- Providing water conservation kits (upon request);
- Home Water Audits;
- Internet communication;
- Financial assistance and staff participation in the Regional "Water Use it Wisely" Campaign; and
- RinseSmart Program.

As a compliance requirement, a report to the Commission is provided each year that provides greater detail.

Arizona-American is considered by ADWR to be a "municipal water provider," which makes it subject to ADWR regulation. The new ADWR water conservation program is known as the Modified Non-Per Capita Conservation Program ("MNPCCP"). Because Arizona-American already implements conservation measures, the effects of the MNPCCP on the Arizona-American districts will be minimal.

CAP SURCHARGE MODIFICATION

Because of a failure at the Miller Road Treatment Facility, untreated water from the PCX-1 well owned by the Salt River Project ("SRP"), a well contaminated with trichloroethylene was introduced into the district's water supply. There were no health effects, but the incident highlighted the risk of using the PCX-1 well as part of the district's water supply. Among other things, Arizona-American has determined that it will no longer use the PCX-1 well as part of the water supply for its Paradise Valley Water District.

Arizona-American has secured an allotment of CAP water for the benefit of its Paradise Valley Water District customers. However, it has no economical way to physically deliver and treat the CAP water for delivery to customers. Arizona-American was able to make use of its CAP allocation through an exchange with SRP where it exchanged its CAP allocation with SRP in return for rights to water pumped from the PCX-1 well. The exchange allowed Arizona-American to take water from the PCX-1 well, treat it at the Miller Road Treatment Facility to remove TCE, and then blend it with other water sources for delivery to Paradise Valley Water District customers.

The current SRP water delivery charges and the SRP administrative charges total $22.62 per acre foot. The current CAP annual Municipal and Industrial water service charges are $91 per acre

foot and the Municipal and Industrial capital charges are $21 per acre foot. The seventh revised CAP Surcharge, authorized by Commission Decision No. 61831, recovers both the SRP and CAP costs.

Arizona-American has added storage for the Paradise Valley Water District and presently has enough capacity to run the system without the PCX-1 well. Further, as discussed by Mr. Gross in his testimony, Arizona-American is, among other things, replacing Well 12 with a new well, which will return its production to its original level of 2200 gallons per minute.

Arizona-American will store and recover the district's 3,231 acre-feet allocation of CAP water at the Tonopah Desert Recharge Project, owned by the Central Arizona Water Conservation District ("CAWCD"). The stored CAP water will then be "recovered" from wells in the Paradise Valley Water District. The cost to store water is much lower than the cost to exchange water with SRP. The current price to store water at a CAWCD facility in the Phoenix AMA is $8 per acre foot while the cost to exchange water with SRP is $22.62 per acre foot.

I INTRODUCTION AND QUALIFICATIONS

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

A. My name is John Carroll (Jake) Lenderking. My business address is 19820 N. 7th Street, Suite 201, Phoenix, Arizona 85024, and my telephone number is 623-445-2410.

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

A. I am employed by Arizona-American Water Company ("Arizona-American") as its Water Resources Manager.

Q. PLEASE BRIEFLY OUTLINE YOUR RESPONSIBILITIES AS ARIZONA-AMERICAN'S WATER RESOURCES MANAGER.

A. I am responsible for all water resource activities including: Arizona Department of Water Resources ("ADWR") annual reports, water resource planning, water resource allocation, permitting, and attending and participating in regional water policy forums. I also oversee all water conservation activities in the State.

Q. DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. I received a Bachelor of Science degree (summa cum laude) from Arizona State University in Environmental Resource Management with a concentration in Watershed Ecology.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. I joined Arizona-American in 2007. Before joining Arizona-American, I was employed by the City of Phoenix in its Water Conservation office, where I worked towards the development of the City's demand management plan, a plan that is still under development. I also oversaw the implementation of the city's retrofit and audit program, where we visited single-family homes, performed water audits, and replaced older

inefficient plumbing fixtures with new efficient ones. Before I joined the City of Phoenix, I was employed by ADWR as part of its Phoenix Active Management Area ("AMA") section. At the time I left ADWR, I was responsible for the regulation and permitting of all recharge activities in the Phoenix AMA.

Q. ARE YOU A MEMBER OF ANY ASSOCIATIONS?

A. I am a member of Colorado River Water Users Association and the Arizona Hydrological Society.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. No.

II PURPOSE OF TESTIMONY

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

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

III WATER CONSERVATION

Q. PLEASE DESCRIBE ARIZONA-AMERICAN'S WATER CONSERVATION PROGRAM.

A. Presently, approximately $40,000 is spent annually in Sun City Water, Sun City West Water and Agua Fria Water Districts on water conservation. This amount was authorized by Commission Decision No. 60172, issued on May 7, 1997. This level of funding has been used in part to assist Arizona American to meet ADWR conservation regulations.

Arizona-American's conservation program is called Save H2O. The Save H2O program encourages and promotes water conservation in many ways, including:

- Participation in community events;
- Water conservation messages in customer bills
- Providing water conservation kits (upon request);

- Home Water Audits;
- Internet communication;
- Financial assistance and staff participation in the Regional "Water Use it Wisely" Campaign; and
- RinseSmart Program.

As a compliance requirement, a report to the Commission is provided each year that provides greater detail.

Q. YOU MENTIONED "ADWR CONSERVATION REGULATIONS." HOW DOES ADWR REGULATE WATER PROVIDERS?

A. Arizona-American is considered by ADWR to be a "municipal water provider," which makes it subject to ADWR regulation. For many years ADWR has relied upon the total Gallons Per-Capita per Day ("GPCD") program to regulate large municipal water providers within AMAs. Under this program, ADWR had given municipal water providers target GPCD rates and dates at which the municipal provider was to be at or below the target GPCD rate. Generally, the GPCD rate was to go down over time. The GPCD based program had many obstacles that made it difficult for municipal water providers to comply with the rates. There were also obstacles for ADWR's implementation.

Q. WERE THERE ANY PARTICULAR OBSTACLES FOR PRIVATE WATER COMPANIES?

A. Yes. Private water companies cannot control water use and development within their certificated area, and thus have little ability to decrease consumption and meet the target GPCD rates. ADWR took note of these problems and asked for the public's input in developing a new program. ADWR surveyed and interviewed many of the municipal

water providers and developed a stakeholder process which began in 2006. The stakeholder process has since been completed and a new program has been developed.

Q. WHAT IS THE NEW ADWR WATER CONSERVATION PROGRAM?

A. New legislation required modification of ADWR's Third Management Plan to incorporate the new ADWR program, known as the Modified Non-Per Capita Conservation Program ("MNPCCP"). The modification of the Third Management Plan mandates that all large municipal providers that are not designated as having an assured water supply will be regulated under the modified MNPCCP. This is to begin in 2010 or sooner. The modification requires large municipal providers regulated under the MNPCCP to implement up to ten water conservation measures from a list of measures included in the program depending upon the number of connections. All municipal providers regulated under the MNPCCP must have a public education program. Additionally there are three tiers that a district will fall into, each tier containing more conservation requirements than the previous one. The first tier is for districts that have up to 5,000 connections, the second is for districts with 5,001 to 30,000 connections, and the third tier is for districts with over 30,000 connections. The tiers require one, five, and ten additional conservation measures respectively.

Q. HOW DOES THE NEW ADWR WATER CONSERVATION PROGRAM AFFECT ARIZONA-AMERICAN?

A. The Agua Fria, Sun City, Sun City West, Anthem, Tubac and Paradise Valley water districts will all be regulated in this program. However, because Arizona-American already implements conservation measures, the effects of the MNPCCP on the Arizona-American districts will be minimal.

Tubac Water has approximately 570 connections and is therefore in the first tier. This district already meets the required level of conservation by having conservation materials

available, the use of bill inserts for conservation messaging, and meter replacements. The new regulations have no effect on this system.

Paradise Valley Water has approximately 4,800 connections, so it is also in the first tier. It already meets the required level of conservation by having conservation materials available, providing bill inserts for conservation messaging, and offering meter replacements. The new regulations have no effect on this system at this time, but in the future this district will be over 5,000 connections and in the second tier. When this occurs, this district may require some funding to meet the five additional conservation requirements. The Paradise Valley District's conservation program will be reworked and Arizona-American may ask the Commission to authorize additional funding in the next rate case to remain in compliance.

However, because of very high water consumption in Paradise Valley Water district, Arizona-American witness Mr. Thomas M. Broderick proposes in his testimony enhancements to the existing conservation-oriented rate design for residential customers. He also proposes a system benefits surcharge to fund, among other things, a landscape conversion program the Town of Paradise Valley will propose later in this case.

Although Sun City Water is not included in this rate case, it contains approximately 23,000 connections and so is in the second tier which requires five ~~more~~ conservation measures ~~than the first tier~~. As mentioned earlier, this district already spends a portion of the $40,000 each year toward conservation, as required by Decision No. 60172. Compliance will not be an issue.

Sun City West Water has approximately 15,500 connections. This puts it in the second tier, which requires five ~~more~~ conservation measures ~~than the first tier~~. As mentioned

earlier, this district already spends a portion of the $40,000 each year toward conservation, as required by Decision No. 60172. Compliance will not be an issue.

Anthem has been rapidly growing and today has approximately 8,600 connections. This puts it in the second tier, which requires five ~~additional~~ conservation measures ~~compared to the first tier~~. This is the only Arizona-American district above the first tier without a conservation budget authorized by the Commission. Arizona-American asked the Commission to authorize $7,500 annually to fund water conservation in the pending Anthem Water rate case. This amount should allow the appropriate conservation measures to be implemented.

Agua Fria Water contains well over 30,000 connections and thus is in the third tier. This tier requires ten ~~more~~ conservation measures ~~than the first tier~~. As mentioned earlier, this district already spends a portion of the $40,000 each year toward conservation, as required by Decision No. 60172. With some reworking, this district will likely meet or exceed the required ten ~~additional~~ conservation measures. However, the MNPCCP begins in 2010 and the reworking of the Agua Fria district's conservation is not yet complete. This district may require some additional funding to meet the ten ~~additional~~ conservation requirements. As the conservation program is reworked and ADWR reviews it, Arizona-American may ask the Commission to authorize additional funding in the next rate case to remain in compliance.

Finally because they are not in an AMA, the Mohave Water and Havasu Water districts are not affected by the new requirements.

IV <u>PARADISE VALLEY WATER – CAP SURCHARGE MODIFICATION</u>

Q. ARE YOU FAMILIAR WITH THE RECENT WATER CONTAMINATION ISSUE IN THE PARADISE VALLEY WATER DISTRICT?

A. Yes. Because of a failure at the Miller Road Treatment Facility, untreated water from the PCX-1 well owned by the Salt River Project ("SRP"), a well contaminated with trichloroethylene ("TCE") was introduced into the district's water supply. There were no health effects, but the incident highlighted the risk of using the PCX-1 well as part of the district's water supply.

Q. WHAT HAS ARIZONA-AMERICAN DONE AS A RESULT OF THE CONTAMINATION INCIDENT?

A. Among other things, Arizona-American has determined that it will no longer use the PCX-1 well as part of the water supply for its Paradise Valley Water District.

Q. HOW WAS IT THAT ARIZONA-AMERICAN WAS ABLE TO USE AN SRP WELL AS PART OF ITS WATER SUPPLY?

A. Arizona-American has secured an allotment of CAP water for the benefit of its Paradise Valley Water District customers. However, it has no economical way to physically deliver and treat the CAP water for delivery to customers.

Arizona-American was able to make use of its CAP allocation through an exchange with SRP. Arizona-American exchanged its CAP allocation with SRP in return for rights to water pumped from the PCX-1 well. This changed the legal characteristic of the PCX-1 well water to CAP water. In turn, the CAP water provided to SRP legally became groundwater.

Normally, SRP cannot provide water to areas outside its geographic boundaries. The exchange allowed Arizona-American to take water from the PCX-1 well, treat it at the Miller Road Treatment Facility to remove TCE, and then blend it with other water sources for delivery to Paradise Valley Water District customers.

Q. HOW DID ARIZONA-AMERICAN RECOVER THE COSTS ASSOCIATED WITH ITS "CAP WATER" FROM SRP'S PCX-1 WELL?

A. The current SRP water delivery charges and the SRP administrative charges total $22.62 per acre foot. The current CAP annual Municipal and Industrial water service charges are $91 per acre foot and the Municipal and Industrial capital charges are $21 per acre foot. The seventh revised CAP Surcharge, authorized by Commission Decision No. 61831, recovers both the SRP and CAP costs.

Q. HOW WILL ARIZONA-AMERICAN SUPPLY ADEQUATE WATER TO ITS PARADISE VALLEY WATER CUSTOMERS WITHOUT THE PCX-1 WELL?

A. Arizona-American has added storage for the Paradise Valley Water District and presently has enough capacity to run the system without the PCX-1 well. Further, as discussed by Mr. Gross in his testimony, Arizona-American is, among other things, replacing Well 12 with a new well, which will return its production to its original level of 2200 gallons per minute.

Q. WHAT WILL ARIZONA-AMERICAN DO WITH ITS CAP WATER ALLOCATION?

A. Arizona-American will store and recover the district's 3,231 acre-feet allocation of CAP water. ADWR encourages these arrangements because they are good water management. Arizona-American will store 3,231 acre feet of CAP water at the Tonopah Desert Recharge Project. This facility is owned by the Central Arizona Water Conservation District ("CAWCD"). Arizona-American already has a storage agreement with CAWCD, so it was able to immediately start storing the CAP water.

The stored CAP water will then be "recovered" from wells in the Paradise Valley Water District. Physically, the water from the wells will be groundwater, but legally it will be

considered CAP water. This allows Arizona-American to fully utilize the district's CAP water in alignment with the Phoenix AMA goal of safe yield.

Q. HOW DOES THE STORAGE CHARGE COMPARE TO THE CHARGE TO EXCHANGE WATER WITH SRP?

A. The cost to store water is much lower than the cost to exchange water with SRP. The current price to store water at a CAWCD facility in the Phoenix AMA is $8 per acre foot while the cost to exchange water with SRP is $22.62 per acre foot.

Q. ISN'T THE TONOPAH DESERT RECHARGE PROJECT LOCATED A LONG WAY FROM THE PARADISE VALLEY WATER DISTRICT?

A. Yes, this is the short-term solution as Arizona-American already holds a contract to store at the Tonopah Desert Recharge Project. Further, Arizona-American intends to evaluate in the future other storage options closer to the district.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

EXHIBIT
A-22
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

KRISTIN K. MAYES, Chairman
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

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 AGUA FRIA WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT	DOCKET NO. W-01303A-08-0227
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 MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227

REJOINDER TESTIMONY
OF
JOHN C. (JAKE) LENDERKING
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
MARCH 11, 2009

REJOINDER TESTIMONY
OF
JOHN C. (JAKE) LENDERKING
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
MARCH 11, 2009

TABLE OF CONTENTS

	EXECUTIVE SUMMARY	**iii**
I	**INTRODUCTION**	**1**
II	**RESPONSE TO MARSHALL MAGRUDER**	**1**

EXECUTIVE SUMMARY

Mr. Lenderking testifies as follows:

Marshall Magruder cites a statutory provision that allows some water providers to prevent exempt wells from being drilled within their service area. However, this provision does not apply to Arizona-American's Tubac Water District. This statute clearly disallows exempt wells within the lands served by a municipal provider with an assured water supply designation. However, Arizona-American's Tubac Water District, which is considered to be a municipal provider, has not received an assured water supply designation. Therefore, Arizona-American cannot prevent exempt wells in its service area.

Certificates of assured water supply places the burden and costs of proving 100 years of water. In Tubac this burden was placed on the developer.

While developers obtained many certificates of assured water supply in the Tubac Water District, Arizona-American has been exploring the possibility of obtaining an assured water supply designation. An issue which will impede Arizona-American's progress is the development of new assured water supply rules by the Arizona Department of Water Resources. This may substantially delay, or prevent Arizona-American from obtaining an assured water supply designation.

I INTRODUCTION

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

A. My name is John C. (Jake) Lenderking. My business address is 19820 N. 7th Street, Suite 201, Phoenix, Arizona 85024, and my telephone number is 623-445-2410.

Q. ARE YOU THE SAME JAKE LENDERKING WHO PREVIOUSLY SUBMITTED DIRECT TESTIMONY IN THIS DOCKET?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR REJOINDER TESTIMONY?

A. The purpose of my rejoinder testimony is to discuss an issue raised by Mr. Magruder in his rebuttal testimony concerning exempt wells.

II RESPONSE TO MARSHALL MAGRUDER

Q. AT PAGE 11, LINE 4 OF HIS REBUTTAL TESTIMONY, MR. MAGRUDER CLAIMS THAT ARIZONA-AMERICAN IS NOT COMPLYING WITH A.R.S. §45-454C CONCERNING THE DRILLING OF EXEMPT WELLS. ARE MR. MAGRUDER'S STATEMENTS REGARDING EXEMPT WELLS CORRECT?

A. No. Mr. Magruder does correctly cite a statutory provision that allows some water providers to prevent exempt wells from being drilled within their service area. However, this provision does not apply to Arizona-American's Tubac Water District.

Q. ON PAGE 12 LINE 8 MR. MAGRUDER ARGUES THAT THIS STATUTE DOES APPLY, WHY DOES THIS STATUTE NOT APPLY TO ARIZONA-AMERICAN'S TUBAC WATER DISTRICT?

A. A.R.S. § 45-454 provides for the drilling of exempt wells. The portion to which Mr. Magruder refers to is in paragraph C, which reads:

> On or after January 1, 2006, an exempt well otherwise allowed by this section may not be drilled on land if any part of the land is within one hundred feet of the operating water distribution system of a municipal provider with an assured water supply designation within the boundaries of an active management area established on or before July 1, 1994, as shown on a digitized service area map provided to the director by the municipal provider and updated by the municipal provider as specified by the director. (Emphasis added.)

This statute clearly disallows exempt wells within the lands served by a municipal provider with an assured water supply designation. However, Arizona-American's Tubac Water District, which is considered to be a municipal provider, has not received an assured water supply designation. Therefore, Arizona-American cannot prevent exempt wells in its service area.

Q. IF ARIZONA-AMERICAN'S TUBAC WATER DISTRICT DOES NOT HAVE AN ASSURED WATER SUPPLY DESIGNATION, DOES THAT MEAN THAT NEW SUBDIVISIONS ARE NOT MEETING THE ASSURED WATER SUPPLY RULES?

A. No, individual developers have been and continue to be responsible for obtaining certificates of assured water supply for 100 years.

Q. WHY DOES ARIZONA-AMERICAN NOT HAVE AN ASSURED WATER SUPPLY DESIGNATION FOR ITS TUBAC WATER DISTRICT IF HAVING ONE CAN PREVENT EXEMPT WELLS FROM BEING DRILLED?

A. As mentioned above, the Tubac Water District developed by a different mechanism. Developers have obtained certificates of assured water supply for 100 years for each subdivision instead of the municipal water provider obtaining an assured water designation for 100 years. Before the above statutory change and its commencement in 2006 the two mechanisms provided the same benefits. Additionally, using certificates of assured water supply placed the burden and costs of proving 100 years of water on the

developer, but gaining an assured water supply designation places the burden and costs on the water provider.

Although many certificates of assured water supply have been obtained in the Tubac Water District, we have been exploring the possibility of obtaining an assured water supply designation. A big issue which will impede Arizona-American's progress is the development of new assured water supply rules by the Arizona Department of Water Resources ("ADWR"). The assured supply designation application process is lengthy and may span well over a year. Should ADWR complete the new assured water supply rules before completing the assured water supply designation for the Tubac Water District, ADWR would in all likelihood require that new rules then be followed and thus restart the application process. This may substantially delay, or prevent Arizona-American from obtaining an assured water supply designation.

Q. DOES THIS CONCLUDE YOUR REJOINDER TESTIMONY?

A. Yes.

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

KRISTIN K. MAYES, Chairman
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

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 AGUA FRIA WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT	DOCKET NO. W-01303A-08-0227
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 MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227 **NOTICE OF FILING REJOINDER TESTIMONY AND REJOINDER SCHEDULES**

Arizona-American Water Company ("Arizona-American") hereby files testimony in the above-captioned case from the following five witnesses:

- Ian C. Crooks
- Linda J. Gutowski
- Sheryl L. Hubbard
- Bente Villadsen
- John C. (Jake) Lenderking

- Arizona-American also files the attached rejoinder schedules.

RESPECTFULLY SUBMITTED on March 11, 2009.

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Original and 15 copies **filed**
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By: _____
Courtney Appelhans

EXHIBIT
A-23
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS AGUA FRIA WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT.	DOCKET NO. W-01303A-08-0227
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REVISED DIRECT TESTIMONY
OF
PAUL R. HERBERT
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
JUNE 20, 2008

REVISED DIRECT TESTIMONY
OF
PAUL R. HERBERT
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
JUNE 20, 2008

TABLE OF CONTENTS

	EXECUTIVE SUMMARY	iii
I	INTRODUCTION AND QUALIFICATIONS	1
II	PURPOSE OF TESTIMONY	2
III	COST OF SERVICE	3
IV	RATE DESIGN	6

EXECUTIVE SUMMARY

Mr. Herbert testifies as follows:

Mr. Herbert explains the cost-of-service and rate-design studies prepared for each of the operating districts submitted in this case. The purpose of the cost-allocation studies is to determine and allocate the total district cost of service to the several service classifications served by the Agua Fria, Havasu, Mohave, Paradise Valley, Sun City West and Tubac Water Districts and by the Mohave Wastewater District. The studies provide a basis for determining the extent to which the revenues to be derived from each classification are commensurate with the cost of serving that classification, within each district.

Mr. Herbert sponsors Schedules G-1 through G-9, and the proposed-rates portion of the H schedules.

I INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND ADDRESS

A. My name is Paul R. Herbert. My business address is 207 Senate Avenue, Camp Hill, Pennsylvania.

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

A. I am employed by Gannett Fleming, Inc.

Q. PLEASE DESCRIBE YOUR POSITION WITH GANNETT FLEMING, INC. AND BRIEFLY STATE YOUR GENERAL DUTIES AND RESPONSIBILITIES.

A. I am President of the Valuation and Rate Division. My duties and responsibilities include the preparation of accounting and financial data for revenue requirement and cash working capital claims, the allocation of cost of service to customer classifications, and the design of customer rates in support of public utility rate filings.

Q. HAVE YOU PRESENTED TESTIMONY IN RATE PROCEEDINGS BEFORE A REGULATORY AGENCY?

A. Yes. I have testified before the Pennsylvania Public Utility Commission, the New Jersey Board of Public Utilities, the Public Utilities Commission of Ohio, the Public Service Commission of West Virginia, the Kentucky Public Service Commission, the Iowa State Utilities Board, the Virginia State Corporation Commission, the Tennessee Regulatory Authority, a The California Public Utilities Commission, the New Mexico Public Regulation Commission, the Illinois Commerce Commission and the Missouri Public Service Commission concerning revenue requirements, cost of service allocation, rate design and cash working capital claims. A list of the cases in which I have testified is provided at the end of my direct testimony.

Q. WHAT IS YOUR EDUCATIONAL BACKGROUND?

A. I have a Bachelor of Science Degree in Finance from the Pennsylvania State University, University Park, Pennsylvania.

Q. WOULD YOU PLEASE DESCRIBE YOUR PROFESSIONAL AFFILIATIONS?

A. I am a member of the American Water Works Association and have served as a member of the Management Committee for the Pennsylvania Section. I am also a member of the Pennsylvania Municipal Authorities Association. In 1998, I became a member of the National Association of Water Companies as well as a member of its Rates and Revenue Committee.

Q. BRIEFLY DESCRIBE YOUR WORK EXPERIENCE.

A. I joined the Valuation Division of Gannett Fleming Corddry and Carpenter, Inc., predecessor to Gannett Fleming, Inc., in September 1977, as a Junior Rate Analyst. Since then, I advanced through several positions and was assigned the position of Manager of Rate Studies on July 1, 1990. On June 1, 1994, I was promoted to Vice President and on November 1, 2003, I was promoted to Senior Vice President. On July 1, 2007, I was promoted to my current position as President.

While attending Penn State, I was employed during the summers of 1972, 1973 and 1974 by the United Telephone System - Eastern Group in its accounting department. Upon graduation from college in 1975, I was employed by Herbert Associates, Inc., Consulting Engineers (now Herbert Rowland and Grubic, Inc.), as a field office manager until September 1977.

II <u>PURPOSE OF TESTIMONY</u>

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

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

III COST OF SERVICE

Q. WHAT METHOD OF COST ALLOCATION WAS USED IN THE STUDIES?

A. I used the Commodity Demand Method which is described in AWWA Manual M1, "Principles of Water Rates, Fees and Charges" published in 2000 and prior additions of the manual. It is the method prescribed by Schedule G of the Commission filing requirements.

Q. PLEASE BRIEFLY DESCRIBE THE COMMODITY DEMAND METHOD.

A. The commodity demand method allocates each item of the cost of providing water service to the several cost functions – commodity, demand, which is further separated into maximum day and maximum hour costs, customer facilities, and customer accounting functions. These functional costs are then allocated to the several customer classifications served by the system.

Commodity costs are those that vary directly with the amount of water sold. Typical commodity costs include the use of power and chemicals purchased to treat and pump water to the distribution system.

Demand costs include operating and capital costs associated with facilities that provide peak demands on the system. These facilities include wells, pumping plant, transmission and distribution mains, and storage tanks. Demand costs are further separated into those facilities serving a maximum day function and those serving a maximum hour function.

Customer facilities costs are those associated with serving each customer at the point of the customer's connection to the system. These costs are further separated to include costs associated with the customer's service line and the customer's meter.

Customer accounting costs are those associated with meter reading, billing, and customer accounting and collections.

The functional costs are then allocated to customer classifications based on each classification's use of the commodities and facilities.

Q. PLEASE DESCRIBE THE CONTENTS OF YOUR EXHIBITS.

A. A cost of service allocation and rate design study was conducted for each operating district. Each study was prepared in response to Schedules G-1 through G-7 of the Commission's filing requirements which I sponsor. Each study used the test year revenue requirements developed by the Company in Schedules A through F and H. Schedules G-8 and G-9 are also provided to present a comparison of the allocated cost of service with revenues under present and proposed rates.

For each district, costs were allocated to each of the cost functions described earlier and then to the residential, commercial, other water utilities and private fire protection classifications.

Q. PLEASE DESCRIBE EACH OF THE SCHEDULES IN YOUR EXHIBITS.

A. I will use the Agua Fria Water District study and the test period revenue requirements to describe each of the schedules.

Schedule G-5 allocates the total original cost rate base by account to the several cost functions. The source of the utility plant in service by account and other rate base elements was taken from Schedules B-1 and B-2 prepared by the Company. The amount of rate base by account shown in column 3 was allocated to the several cost functions using the allocation factors referenced in column 2. The allocation factors were developed in Schedule G-7, which I will describe later.

A. Yes, they do. The same basic structure under present rate has been maintained and the revenues under proposed rates generally move toward the indicated cost of service by classification within each operating district.

Q. PLEASE EXPLAIN THE BASIC WATER RATE STRUCTURE.

A. The basic water rate structure includes a customer charge by meter size and a three-tier inclining block structure for the 5/8-inch residential customers and a two-tier inclining block structure for the remaining classes and meter sizes. The customer charges increase by size and are generally designed to recover the cost of meter reading, billing and collecting as well as the operating and capital costs of the meter and service line.

The three-tier block structure for 5/8-inch residential customers includes a first block of 4,000 gallons per month to cover a typical household's basic needs and is priced at rate that is below the average consumption rate. The second block ranges from the next 9,000 to 16,000 gallons and is generally priced at or just above the average rate. The third tier is for all usage above the second block and is priced at the highest rate to send the appropriate price signal to encourage conservation.

The two-tier block structure for the remaining residential customers and the non-residential customers includes a first block that increases by meter size and is priced at a rate that is equal to the second block rate for the 5/8-inch residential rate schedule. The second block is priced at a rate that is equal to the third block rate for the 5/8-inch residential rate schedule.

The exception to this basic rate structure is the proposed structure for Paradise Valley. The blocking structure for Paradise Valley includes 5 tiers which are designed to address the wide range of consumption patterns in this District. Please refer to Mr. Broderick's testimony for further explanation.

Certain other customers such as the irrigation customers, the State Prison, and Sales to other Water Utilities have a single block consumption rate.

Q. PLEASE DESCRIBE THE BASIC MOHAVE WASTEWATER TARIFF.

A. The rates for Mohave Wastewater are primarily flat rate charges per month except for two commercial customers that have metered usage. These rates also were increased to recover the proposed cost of service.

Q. HAVE YOU PREPARED A COMPARISON OF PRESENT AND PROPOSED RATES AND PROOF OF REVENUE?

A. The H Schedules compare present and proposed rated and prove revenues. Ms. Gutowski is responsible for the present-rates portions of the H schedules and I am responsible for the proposed-rates portions.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

EXHIBIT
A-24
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

KRISTIN K. MAYES, Chairman
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

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 AGUA FRIA WATER DISTRICT, ANTHEM WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT	DOCKET NO. W-01303A-08-0227
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 AGUA FRIA WASTEWATER DISTRICT, ANTHEM WASTEWATER DISTRICT, AND MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227

REBUTTAL TESTIMONY
OF
PAUL R. HERBERT
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
FEBRUARY 11, 2009

REBUTTAL TESTIMONY
OF
PAUL R. HERBERT
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
FEBRUARY 11, 2009

TABLE OF CONTENTS

	EXECUTIVE SUMMARY	iii
I	INTRODUCTION AND QUALIFICATIONS	1
II	PURPOSE OF TESTIMONY	1
III	COST-OF-SERVICE ALLOCATION	1

EXECUTIVE SUMMARY

In his rebuttal testimony, Mr. Herbert responds to the testimony of Staff Witness Mr. Steve Olea concerning the cost-of-service allocation studies submitted in this proceeding.

Mr. Olea contends that that the cost-of-service studies submitted in this case should be given little weight because certain data related to system delivery volumes were corrected. This is incorrect. Any corrections are trivial and do not affect the results of my cost-of-service study. The cost-of-service studies prepared and submitted in this case properly reflect the allocation of costs to the various classes of users and can be used as a guide to design the appropriate rates in this case

1 I **INTRODUCTION AND QUALIFICATIONS**

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

3 A. My name is Paul R. Herbert. My business address is 207 Senate Avenue, Camp Hill,
4 Pennsylvania.

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

6 A. I am employed by Gannett Fleming, Inc.

7 Q. **DID YOU SUBMIT DIRECT TESTIMONY IN THIS PROCEEDING?**

8 A. Yes, my direct testimony and exhibits were submitted with the Company's filing in April
9 2008.

10 II **PURPOSE OF TESTIMONY**

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

12 A. I will address the cost-of-service study issues raised in Staff witness Steve Olea's
13 testimony.

14 III **COST-OF-SERVICE ALLOCATION**

15 Q. **PLEASE ADDRESS MR. OLEA'S COMMENTS REGARDING YOUR COST-OF-**
16 **SERVICE ALLOCATION STUDIES.**

17 A. Mr. Olea contends that the cost-of-service studies submitted in this case should be given
18 little weight because certain data related to system delivery volumes were corrected.

19 Q. **DO YOU AGREE THAT THESE SYSTEM DELIVERY CORRECTIONS**
20 **WOULD AFFECT THE RESULTS OF YOUR STUDY?**

21 A. No I do not. The corrections to the system delivery data only affect the peak-day ratios
22 calculated for some of the districts and these corrections were very small. Since the
23 commodity-demand method does not use the system-coincident-peak-day factor for the
24 purposes of allocation, these corrections do not affect the results of the studies at all. The
25 consumption data recorded by class and used to allocate commodity and demand costs to

the various classes were appropriate and reflect the proper allocation of costs to the classes.

Just to put Mr. Olea's concerns in perspective, the system-delivery corrections he discussed for the Mohave Water District's Gateway System are only a tiny fraction of the total system delivery for the entire Mohave Water District. The Gateway System delivery of 8,685,000 gallons is only 0.34% of the total system delivery of 2,527,613,000 gallons for the Mohave Water District. Any correction to data representing less than one-half of one percent of the total water delivered will not affect the results of the cost-allocation study.

Q. WHAT DO YOU CONCLUDE WITH RESPECT TO MR. OLEA'S TESTIMONY?

A. Mr. Olea's contention that the cost-of-service studies submitted in this case should be rejected. The cost-of-service studies prepared and submitted in this case properly reflect the allocation of costs to the various classes of users and can be used as a guide to design the appropriate rates in this case

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

EXHIBIT
A-25
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS AGUA FRIA WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT.	DOCKET NO. W-01303A-08-0227
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 MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227

REVISED DIRECT TESTIMONY
OF
LINDA J. GUTOWSKI
ON BEHALF OF
ARIZONA AMERICAN WATER COMPANY
JUNE 20, 2008

REVISED DIRECT TESTIMONY
OF
LINDA J. GUTOWSKI
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
JUNE 20, 2008

TABLE OF CONTENTS

	EXECUTIVE SUMMARY	iii
I	INTRODUCTION AND QUALIFICATIONS	1
II	SCOPE AND PURPOSE OF TESTIMONY	2
III	RATE BASE	2
IV	ADJUSTED OPERATING REVENUE	13
V	COMPARATIVE STATEMENTS	18
VI	EFFECT OF PROPOSED TARIFF SCHEDULES	18

EXECUTIVE SUMMARY

Linda J. Gutowski testifies as follows:

RATE BASE

Ms. Gutowski sponsors rate base Exhibits B-1 through B-5. Rate base for each district follows:

Table 1 – Summary of Rate Base

District	OCRB
Agua Fria Water	$96,976,395
Havasu Water	$4,221,474
Mohave Water	$12,041,310
Paradise Valley	$40,864,986
Sun City West Water	$37,901,085
Tubac Water	$1,527,454
Mohave Wastewater	$ 4,740,149
Total All Districts	**$198,272,853**

Common Rate-Base Adjustments
Adjustment LJG-3 reallocates the UPIS balance from the Corporate District into the proper district, based on plant coding:

Adjustment LJG-4 allocates the Common, or Corporate, Plant and Accumulated Depreciation to each of the districts:

Adjustment LJG-5 is the opposite side of Adjustment LJG-3. It reverses the December 2007 Journal Entry and removes $753,965 from the Corporate Plant accounts.

Adjustment LJG-6 decreases Advances and/or Contributions in Aid of Construction for dollars associated with projects that are still in Construction Work in Progress ("CWIP").

Mr. Broderick has three adjustments on Schedule B-2. Adjustment TMB-7 is reserved for the Imputed Regulatory Advances in Aid of Construction. Adjustment TMB-8 is reserved for the Imputed Regulatory Contributions in Aid of Construction. Adjustment TMB-9 is reserved to remove the Acquisition Adjustment from the Citizens Utilities purchase.

Agua Fria Water Rate-Base Adjustments. Adjustment LJG-1 removes $76,503 from UPIS and $19,453 from Accumulated Depreciation. Adjustment LJG-2 removes Excess Hook-Up Fee Contribution for the White Tanks Project. Adjustment LJG-10 adds $25,000,000 of White Tanks Project Costs to Rate Base. Adjustment LJG-11 adds Post-Test-Year Additions of $3,214,033.

Havasu Water Rate-Base Adjustments. Adjustment LJG-1, corrects Accumulated Depreciation for Havasu Water District by decreasing it $20,809. Adjustment LJG-2 removes $77,319 of Plant and reduces Accumulated Depreciation by $29,047 for the Plant that the Commission found to be not useful in Decision 67093. Adjustment LJG-10 adds $94,996 to rate base for deferred ACRM O&M costs.

Mohave Water Rate-Base Adjustments. Adjustment LJG-1, adjusts the under-collection in the Accumulated Depreciation for rate-making purposes. Adjustment LJG-2 removes ($4,915) from

plant as a proposed retirement to go along with a Post-Test-Year addition recommended by Staff in the last rate case. Adjustment LJG-10 includes estimated project costs of $610,732 for the Mohave Water District's Big Bend Acres 0.25MG Reservoir.

Paradise Valley Water Rate-Base Adjustments. Adjustments LJG-1 and LJG-2 correct accumulated depreciation balances from the last rate case and the calculation going forward. Adjustment LJG-10 corrects an error in plant-account assignment. Adjustment LJG-11 adds $1,899,267 to UPIS associated with well replacements and rehabilitations. Adjustment LJG-12 corrects a refund of High Block Surcharge monies.

Sun City West Water Rate-Base Adjustments. Adjustment LJG-1 reduces Accumulated Depreciation for over-expensing.

Tubac Water Rate-Base Adjustments. Adjustment LJG-1 increases Accumulated Depreciation for an under-collection that has been building up since the last rate case, Decision No. 67093. Adjustment LJG-2 decreases UPIS by $1,624 for Plant Not Used.

Mohave Wastewater Rate-Base Adjustments. Adjustment LJG-1 reduced accumulated depreciation by $225,743. Adjustment LJG-10 adds $3,932,080 to UPIS for the Wishing Well Wastewater Treatment Plant project.

Schedule B-5. Ms. Gutowski sponsors the Materials & Supplies and Prepayment portions of the working capital calculation.

INCOME STATEMENT ADJUSTMENTS.

Ms Gutowski sponsors the following income-statement adjustments:

Adjustment LJG-1 removes unbilled revenues for each district.

Adjustment LJG-2 Blank

Adjustment LJG-3 provides various types of individual adjustments for the districts.

Adjustment LJG-4 (Agua Fria Water, Havasu Water, Paradise Valley, and Sun City West Water) moves the ACRM revenue collected during the test year from Other Revenue to Water Revenue. Other adjustments were made for Paradise Valley Water and Mohave Wastewater.

Adjustment LJG-5 annualizes customer revenues for each district.

E SCHEDULES

Ms. Gutowski prepared Schedule E-1, the Comparative Balance Sheet schedule for each district, and Schedule E-5, the Detail of Plant in Service schedule for each district.

H SCHEDULES

Ms. Gutowski sponsors the Present Rate portion of the H Schedules.

I INTRODUCTION AND QUALIFICATIONS

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

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

Q. IN WHAT CAPACITY AND BY WHO ARE YOU EMPLOYED?

A. I am a Senior Rate Analyst for Arizona-American Water Company. Arizona-American Water Company ("Arizona-American" or "the Company") is a wholly owned subsidiary of American Water.

Q. PLEASE DESCRIBE YOUR PRIMARY RESPONSIBILITIES FOR THE COMPANY.

A. I primarily prepare regulatory filings for Arizona-American.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AND EDUCATION.

A. I have a Bachelor of Arts degree in Economics from Susquehanna University. I studied accounting for two years at the Wharton School at the University of Pennsylvania. I have attended several utility seminars including the NARUC Rate Seminar, New Mexico State's Basics of Regulation and the Rate Making Process, Edison Electric Institute's Electric Rate Advanced Course, and Arthur Anderson's Advanced Regulatory Concepts School as well as many company-sponsored training sessions.

I worked for American Water in New Jersey as a Staff Accountant and then as a Rate Analyst from 1973 to 1976. I left to work as a financial analyst for a consulting firm of environmental engineers, Betz Converse Murdoch, building water and wastewater plants from 1976 through 1982. I was employed by the Arizona Corporation Commission as an

auditor and a rate analyst from 1983 until 1986. I then worked for six years in the rate department at Arizona Public Service Company, developing new rates and supporting regulatory filings. I returned to American Water in New Jersey as a rate analyst in 1993, and moved to Arizona-American's Phoenix Office in December of 2005.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes. I testified in May 2007, on behalf of Arizona-American in the Anthem Water and Anthem/Agua Fria Wastewater cases, Docket No. WS-01303A-06-0403. I also testified in the Sun City Water case, Docket No. W-01303A-07-0209 in January 2008. When I worked at the Commission, I testified concerning CC&N applications, fuel adjustor cases, and small rate cases. I have provided testimony before Commissions in Ohio, Maryland, and Missouri, and provided support for exhibits filed in 20 of the states in which Arizona-American or one of its regulated affiliates currently or formerly operates.

II SCOPE AND PURPOSE OF TESTIMONY

Q. WHAT IS THE SCOPE AND PURPOSE OF YOUR TESTIMONY?

A. The scope and purpose of my testimony are set forth in my Executive Summary.

III RATE BASE

Q. WHAT ARE ARIZONA-AMERICAN'S RATE BASE EXHIBITS?

A. Schedule B-1 contains Summary of the Fair Value Rate Base for each District. The Company has done an Original Cost Rate Base and did not conduct a study to determine rate base based on reconstruction cost net of depreciation ("RCND"). Therefore, the Original Cost Rate Base is what the Company is requesting as its Fair Value Rate Base.

Schedule B-2 contains Original Cost Rate Base Pro Forma Adjustment Schedules. The first two or three pages for each District are the summary pages. These are followed by detailed pages by year for each district, updating plant additions, retirements,

adjustments, and accumulated depreciation since the last rate case. Next are pages for the common plant and accumulated depreciation that are allocated to each District. These were built out from 2006, which is the test year for the Sun City Water rate case (W-01303A-07-0209). That is the most recent time that the corporate allocation was examined by Staff. These corporate allocation pages are the same in every district – just the Four-Factor allocation changes. Following these pages are individual exhibits of Rate Base Adjustments in the Schedule B-2's. Some of these vary for each district and some of these are the same adjustment, although different amounts, in each district.

Schedule B-3 is blank as it would be a summary of the RCND Rate Base, which we are not sponsoring. Schedule B-4, which would provide detail for the RCND plant accounts. is therefore also blank.

Schedule B-5 provides the Computation of Working Capital. Ms. Hubbard is supporting the Lead/Lag Study that resulted in the Cash Working Capital and I am supporting the 13-month Average of Materials and Supplies Inventories and the Prepayments, all of which comprise the Working Capital.

Q. COULD YOU SUMMARIZE RATE BASE BY DISTRICT?

A. Yes. The following table summarizes rate base for each district (from Schedule B-1):

Table 1 – Summary of Rate Base

District	OCRB
Agua Fria Water	$96,976,395
Havasu Water	$4,221,474
Mohave Water	$12,041,310
Paradise Valley	$40,864,986
Sun City West Water	$37,901,085
Tubac Water	$1,527,454
Mohave Wastewater	$ 4,740,149
Total All Districts	**$198,272,853**

Q. WHAT ARE THE COMMON RATE-BASE ADJUSTMENTS FOR THE DISTRICTS?

A. Adjustment LJG-3 spreads a December 2007 Journal Entry to each district's Utility Plant in Service ("UPIS"). The December Journal Entry erroneously allocated UPIS to the Corporate District. Adjustment LJG-3 reallocates the UPIS balance from the Corporate District into the proper district, based on plant coding.

Q. WHAT IS THE MAGNITUDE OF EACH ADJUSTMENT LJG-3, BY DISTRICT?

A. Please see the following table:

Table 2 – UPIS Reallocation by District

Districts	UPIS Moved
Agua Fria Water	$510,426
Havasu Water	$6,156
Mohave Water	$448
Paradise Valley	$93,988
Sun City West	$5,456
Total	**$616,474**

Q. WHAT ABOUT THE DISTRICTS THAT ARE MISSING FROM THE LISTING IN TABLE 2?

A. The Tubac Water and Mohave Wastewater districts had no work orders closed out in that Journal Entry.

Q. WHAT ARE THE NEXT COMMON RATE BASE ADJUSTMENTS?

A. Adjustment LJG-4 allocates the Common, or Corporate, Plant and Accumulated Depreciation to each of the districts. The Allocation is based on the Four-Factor Allocation Method using the column for Number of Customers.

The Corporate Plant is the total of the 7th Street Phoenix office, the Sun City office, and the Eastern Division office (which is comprised of less than $17,000 in computer equipment). These plant and accumulated depreciation dollars are spread across the

districts involved in this case, based on the district's percentage of total of metered customers for the company. We have chosen to show the Corporate allocation on a separate page for several reasons.

Q. CAN YOU PLEASE EXPLAIN THOSE REASONS?

A. Yes. The Commission recently examined Corporate Division Plant in the Sun City Water case, W-01303A-07-0209. It is only necessary to update this data from the test year which ended on December 31, 2006. Because the districts do not all have the same prior test years, it is much easier to have the Corporate Division on a separate sheet and allocate it from there.

Another reason is that we are now combining what were the Corporate, Central, and Eastern Divisions. These divisions were created for operating reasons and not for rate-making reasoning. For instance, many of the people who work out of the 7th Street and the Sun City offices have jobs affecting the entire state. Both Operating Managers, the one in charge of Central and the one in charge of Eastern, have offices and assistants in the Sun City office building.

Another reason to allocate from the test-year ending balances is that this accounts for customer growth. Agua Fria Water's allocation factors, for instance, have changed from 18.8% to 20.4% to 21.5% from 2005 through 2007, because this district has grown faster than other districts. If we were to spread the Corporate Plant each year, the allocations would change each year, while trying to show additions, retirements, and adjustments. That makes the distribution difficult and somewhat senseless.

Finally, if we did not allocate Corporate Plant from the test-year-ending balances, we would have to deal with changing depreciation rates from every rate case for most of the

districts. By holding the Corporate Plant out separately, we can set the depreciation rates and leave them stable.

Q. ARE THERE ANY MORE COMMON RATE BASE ADJUSTMENTS?

A. Yes. Adjustment LJG-5 on Schedule B-2 is the opposite side of Adjustment LJG-3. This reverses the December 2007 Journal Entry and removes it from the Corporate Plant accounts. The amount removed is $753,965 – and Table 2 above shows into which of the Districts in this case the amounts are going.

Next, Adjustment LJG-6 on Schedule B-2 decreases Advances and/or Contributions in Aid of Construction for dollars associated with projects that are still in Construction Work in Progress ("CWIP"). Since these project amounts had not been transferred from CWIP to Utility Plant in Service as of December 31, 2007, and therefore, are not part of the increase to Rate Base, the associated balances of Advances or Contributions should also not decrease Rate Base.

Q. HOW MUCH WERE THE ADVANCES OR CONTRIBUTIONS IN EACH DISTRICT REDUCED FOR THE PROJECTS THAT ARE IN CWIP AS OF THE END OF THE TEST YEAR?

A. Please see the following table:

Table 3 – Reductions of Advances or Contributions

Districts	Advances	Contributions
Agua Fria Water		$3,432,286
Havasu Water		$10,645
Mohave Water	$291,909	$94,452
Paradise Valley		$322,588
Sun City West Water		$17,318
Tubac Water		$20,266
Mohave Wastewater		$65,395
Total	**$291,909**	**3,962,948**

Q. MR. BRODERICK SPONSORS THREE ADJUSTMENTS THAT ARE COMMON TO THE DISTRICTS THAT APPEAR ON SCHEDULE B-2. CAN YOU DESCRIBE THEM AND THEIR NUMBERING?

A. Adjustment TMB-7 is reserved for the Imputed Regulatory Advances in Aid of Construction. The amortization of these runs out in July 2008, so these are fully amortized, and no adjustment is needed to decrease rate base in any district for the imputed advances.

Adjustment TMB-8 is reserved for the Imputed Regulatory Contributions in Aid of Construction. These imputed contributions are being amortized over a 10-year period rather than the 6.5-year period for the advances, so the Company is using the remaining, unamortized balances as of December 31, 2007.

Adjustment TMB-9 is reserved to remove the Acquisition Adjustment from the Citizens Utilities purchase. Because this acquisition is recorded in the Corporate Division, and because we allocate Corporate to the Districts, Paradise Valley had incorrectly received a piece of the acquisition adjustment, although it was not a part of the Citizens purchase.

Q. WILL YOU PLEASE SUMMARIZE MR. BRODERICK'S COMMON ADJUSTMENTS?

A. Certainly, please see the following table:

Table 4 – Summary of Broderick Adjustments

District	TMB-7	TMB-8	TMB-9
Agua Fria Water	$0	$796,965	$6,090,214
Havasu Water	$0	$113,427	$281,816
Mohave Water	$0	$1,157,044	$2,918,124
Paradise Valley	$0	$0	$876,064
Sun City West	$0	$392,368	$2,845,456
Tubac	$0	$58,023	$98,857
Mohave Wastewater	$0	$131,237	$226,486
Total	**$0**	**$2,649,064**	**$13,337,017**

Q. WHAT ARE THE REMAINING ADJUSTMENTS TO SCHEDULE B-2?

A. These are individual adjustments particular to each district. I first discuss the water districts, and then the Mohave Wastewater District.

Q. WHAT INDIVIDUAL RATE BASE ADJUSTMENTS WERE MADE FOR THE AGUA FRIA WATER DISTRICT?

A. Adjustment LJG-1 removes $76,503 from UPIS and $19,453 from Accumulated Depreciation. These are amounts that were found to be Plant not useful in the last rate case, Decision No. 67093. This is the first rate case for this district since that Decision.

Adjustment LJG-2 on Schedule B-2 removes the Excess Hook-Up Fee Contribution for the White Tanks Project. Decision No. 69914, effective September 27, 2007, allowed the Company to increase the Agua Fria hook-up fee to collect contributions to be used to fund the White Tanks Project. The excess amount of the new hook-up fees over the old hook-up fees is to be deducted from the Contributions in this rate case. Mr. Broderick further discusses this subject.

Adjustment LJG-10 adds $25,000,000 of White Tanks Project Costs to Rate Base. The funding schedule of the White Tanks Project has changed due to the downturn in the Arizona real estate market, and it is important to request this additional funding up front. Mr. Broderick discusses why this is appropriate.

My last adjustment, LJG-11, is to add Post-Test-Year Additions of $3,214,033. Arizona-American expects to complete the Sierra Montana 2.2 MG Reservoir by August 2008, and the project costs are expected to be $2,046,765. Also, we expect by October 2008 to complete the Distribution System Improvements Phase 2 projects – the Cool Well Waterline Connection, the Waddell Haciendas project, and the Reems Road Bypass. Those projects are expected to cost $1,167,268. Mr Gross further discusses these projects.

These adjustments bring the total rate base for the Agua Fria Water District to $99,268,524, as summarized on Schedule B-1. This is a 500% increase in rate base over the last rate case, which had a test year ending December 31, 2001. Over the last six years, Arizona-American has made enormous investments to serve this fast-growing district.

Q. WHAT INDIVIDUAL RATE BASE ADJUSTMENTS WERE MADE FOR THE HAVASU WATER DISTRICT?

A. Adjustment LJG-1, corrects Accumulated Depreciation for Havasu Water District by decreasing it $20,809. There were errors in booked depreciation beginning in September 2006. Then, there was an erroneous double correction in October 2006. Finally, one of the 300 plant accounts had the incorrect depreciation expense taken for 14 months in 2006 and 2007.

Adjustment LJG-2 removes $77,319 of Plant and reduces Accumulated Depreciation by $29,047 for the Plant that the Commission found to be not useful in Decision 67093. This is the first rate case for this district since that Decision.

In Decision No. 69162, dated December 5, 2006, Arizona-American was authorized to defer until the next rate case the O&M costs for media replacement at the Havasu Arsenic

Treatment Plant. The result is to mitigate the impact of the ACRM on the Havasu system by reducing the amount of the expected Step 2 increase by capitalizing, and thereby deferring, recovery of eligible O&M costs. The media replacement in Havasu did cost $88,300. We filed for the Havasu ACRM Step 2 rate increase on April 14, 2008, and expect to have the new rates in effect in August 2008. Adding AFUDC from then until the expected date of rates in this case, September 2009, adds $6,696 to the costs to be deferred. Adjustment LJG-10 adds $94,996 to rate base for deferred ACRM O&M costs.

Q. WHAT INDIVIDUAL RATE BASE ADJUSTMENTS WERE MADE FOR THE MOHAVE WATER DISTRICT?

A. The first adjustment, LJG-1, adjusts the under-collection in the Accumulated Depreciation for rate-making purposes. This amount has built to $139,328 up since the last rate case (Decision No. 69440). This amount comes from multiplying the plant amounts each month by the depreciation rates and comparing to the booked depreciation expense that was added to accumulated depreciation.

Adjustment LJG-2 removes ($4,915) from plant as a proposed retirement to go along with a Post-Test-Year addition recommended by Staff in the last rate case.

Arizona-American expects to complete the Mohave Water District's Big Bend Acres 0.25MG Reservoir by August 2008. Adjustment LJG-10 includes estimated project costs of $610,732 in rate base. Mr. Gross further discusses this project.

Q. WHAT INDIVIDUAL RATE BASE ADJUSTMENTS WERE MADE FOR THE PARADISE VALLEY WATER DISTRICT?

A. Adjustments LJG-1 and LJG-2 correct accumulated depreciation balances from the last rate case and the calculation going forward. LJG-1 increases accumulated depreciation by $107,315, an adjustment from Decision No. 68858. LJG-2 then reduces accumulated

depreciation by $50,277 for an over collection when the plant additions, retirements, and balances are multiplied by the depreciation rates.

Adjustment LJG-10 corrects an error in plant-account assignment. The Paradise Valley Arsenic Treatment Facility was assigned to account 304.1, Structures & Improvements Source of Supply instead of 304.3, Structures & Improvements Water Treatment. Changing the plant account does nothing to UPIS, but the Commission approved depreciation rate for 304.1 is 14.59%, whereas the depreciation rate for 304.3 is 2.00%. Changing the plant account to 304.3 decreases the accumulated depreciation balance from November 2006 through December 2007 by $1,883,984.

As discussed by Mr. Gross and Mr. Cole, two wells are being replaced or rehabilitated in Paradise Valley. Post Test Year Plant Additions and Retirements for Well No. 12 redrilling are expected to be $1,935,000 less a retirement of $159,974. The Additions and Retirements for the Well No. 17 rehabilitation are expected to be $288,080 less a retirement of $163,840. The net addition to UPIS on Adjustment LJG-11 is $1,899,267.

Adjustment LJG-12 corrects a refund of High Block Surcharge monies to three residential customers during the test year. The refund was put against Operating Revenue. The High Block Surcharge funds go into Contributions, so any refund should be applied to that account.

Q. WHAT INDIVIDUAL RATE BASE ADJUSTMENTS WERE MADE FOR THE SUN CITY WEST WATER DISTRICT?

A. Adjustment LJG-1 reduces Accumulated Depreciation for an over-expensing, due to the method I use to build-out accumulated depreciation which begins with the balance at the end of the last rate case with a test-year ended December 2001 and multiplies the

additions, retirements, and adjustments through December 2007 by the allowed depreciation rates compared to the book balance at December 2007.

Q. WHAT INDIVIDUAL RATE BASE ADJUSTMENTS WERE MADE FOR THE TUBAC WATER DISTRICT?

A. Adjustment LJG-1 increases Accumulated Depreciation for an under-collection that has been building up since the last rate case, Decision No. 67093. The amount of under-collection by the end of December 2007 is $1,624.

Adjustment LJG-2 decreases UPIS by $1,624 for Plant Not Used as recommended by Staff and accepted in Decision No. 67093. This is the first rate case for this district since that decision.

Q. WHAT INDIVIDUAL RATE BASE ADJUSTMENTS WERE MADE FOR THE MOHAVE WASTEWATER DISTRICT?

A. The approved accumulated depreciation in Decision No. 69440 with a test year ended June 24, 2005, is $82,199. The beginning book balance for this case was $335,786. Adjustment LJG-1 had to be made to bring accumulated depreciation down by $225,743 by the end of December 2007.

Adjustment LJG-10 adds Post Test Year Plant of $3,932,080 for the Wishing Well Wastewater Treatment Plant project which is projected to be completed in May of 2008. Mr. Gross further discusses this project.

Q. WHAT IS SCHEDULE B-5 AND WHAT PART OF IT DID YOU PREPARE?

A. Schedule B-5 shows the Working Capital computation. Working Capital is usually made up of Cash Working Capital derived from a Lead/Lag study, a 13-Month Average of Inventories, and any Prepayments on the Balance Sheet. As discussed earlier, Ms.

Hubbard is supporting the Lead/Lag computation and the resulting Cash Working Capital calculation. I calculated the 13-month average of the inventories, both plant material and chemical, if applicable, and the prepayment balances from the balance sheet. While each of the water districts has its own chemical inventory, the plant and material inventory is more centralized and shared. The Sun City inventory serves Sun City Water, Sun City West Water, and Agua Fria Water. The Paradise Valley inventory serves Paradise Valley, Anthem Water, and Tubac. Finally, the Mohave inventory serves Mohave Water and Havasu Water. I split each of the inventories based on Net Plant from the Four Factor Allocation worksheet for the test year.

Q. CAN YOU SUMMARIZE MATERIALS AND SUPPLIES INVENTORIES AND PREPAYMENTS FOR EACH DISTRICT?

A. Yes. Please see the following table:

Table 5 – Material and Supplies Inventories and Prepayments by District.

District	Mat'l & Supplies	Prepayments
Agua Fria Water	$192,139	$214,929
Havasu Water	$4,486	$4,556
Mohave Water	$8,897	$57,963
Paradise Valley	$38,726	$117,955
Sun City West	$56,510	$24,906
Tubac Water	$1,445	$1,598
Mohave Wastewater	$341	$3,661
Total	**$302,544**	**$425,568**

IV ADJUSTED OPERATING REVENUE

Q. YOU HAVE MADE SEVERAL ADJUSTMENTS TO OPERATING REVENUE IN THIS CASE. WHAT ARE THE COMMON OPERATING REVENUE ADJUSTMENTS FOR THE DISTRICTS?

A. Income Statement Pro Forma Adjustments, Schedule C-2, Adjustment LJG-1 is to remove Unbilled Revenue from the test year in every district. Unbilled Revenue is an estimate of the usage at the end of the year that has yet to be billed. For instance, those

customers who get billed early in December have usage throughout December that will not be billed again until January. The number of days remaining in December that they were not billed for, times average daily revenue gives the journal-entry estimate of unbilled revenue.

Q. WHY WOULD YOU DELETE UNBILLED REVENUE FROM THE TEST YEAR?

A. We perform a bill analysis that looks at 12 bills for each customer, or less if the customer was new during the year. Then we annualize the number of customers times usage and add revenue to fill out the number of customers during the year. Because we look at 12 bills and annualize, there is no need to add any unbilled revenue. The Test Year Adjusted Revenue dollars reflect 12 full bills.

Q. CAN YOU SUMMARIZE THE UNBILLED REVENUE ADJUSTMENT (LJG-1) BY DISTRICT?

A. Yes. Please see the following table.

Table 6 – Unbilled Revenue Removed from Test Year Booked Revenue.

District	LJG-1
Agua Fria Water	($271,793)
Havasu Water	$10,210
Mohave Water	($91,692)
Paradise Valley	($229,170)
Sun City West	($204,330)
Tubac Water	($2,957)
Mohave Wastewater	($19,166)
Total	**($808,898)**

Q. WHAT OTHER REVENUE ADJUSTMENT IS COMMON TO ALL THE DISTRICTS?

A. Adjustment LJG-5 is the one used to Annualize Customer Growth in every District. For the Water districts and the Sewer districts where rates are based on water volume, we used the Residential 5/8", ¾" and 1" Average Number of Customers and the Commercial

5/8", ¾", 1", 1-1/2", and 2" Average Number of Customers and compared that to the Test Year End Number of Bills by meter size to obtain the customer growth in bills. We took the Average Monthly Gallons for each one of these class and meter sizes and multiplied by the Customer Growth Bills to get the growth in volume. These factors by meter size were then billed out at the present rates for each district. I included the ACRM Step 1 rates in present rates in Agua Fria Water, Havasu Water, Paradise Valley Water, and Sun City West Water. In the Mohave Wastewater district, the sewer rates are flat rates so only the number of bills was used in the calculation.

Q. DID YOU ALSO ADJUST OPERATING EXPENSES WHEN YOU ADJUSTED REVENUE FOR THE INCREASE OR DECREASE IN TEST-YEAR CUSTOMERS?

A. Yes. For the water districts, I adjusted Purchased Water, Fuel & Power, and Chemical expense based on the increased or decreased volume of sales. For the wastewater districts, I adjusted Fuel & Power, Chemical Expense, and Waste Disposal Expense based on the increased or decreased number of bills. I used bills rather than volume for the Mohave Wastewater District, because these bills are flat-rate For both Water and Wastewater districts, I increased or decreased Postage Expense and Other Customer Accounting Expense based on the number of bills.

Q. CAN YOU SUMMARIZE ADJUSTMENT LJG-5 BY DISTRICT?

A. Yes. Please see the following table:

Table 7 – Customer Annualization, LJG-5

District	Resid Rev	Comm'l Rev	Total Rev	Oper Expense
Agua Fria Water	$41,605	$9,652	$51,257	$10,263
Havasu Water	($3,476)	($865)	($4,341)	($1,119)
Mohave Water	($435)	($378)	($813)	($138)
Paradise Valley	($10,237)	($6,651)	($16,888)	($2,465)
Sun City West	$915	($595)	$320	$19
Tubac Water	$669	$243	$912	$90

District	Resid Rev	Comm'l Rev	Total Rev	Oper Expense
Mohave Wastewater	$633	$0	$633	$198
Total All Districts	**$29,674**	**$1,406**	**$31,080**	**$6,848**

Q. ARE THERE ANY OTHER REVENUE ADJUSTMENTS THAT ARE COMMON FOR ALL THE DISTRICTS?

A. No.

Q. WHAT IS ADJUSTMENT LJG-4?

A. Agua Fria Water, Havasu Water, Paradise Valley, and Sun City West Water were all provided Step 1 ACRMs. All four districts were ordered by the Commission to file rate cases to roll these Step 1 rates into base rates and ask for Step 2 recovery as a surcharge, if appropriate. The Step 2 ACRM cases have all now been filed. Therefore, I moved the ACRM revenue collected during the test year from Other Revenue up to Water Revenue.

Q. DID YOU NEED TO TAKE A FURTHER STEP IN PARADISE VALLEY?

A. Yes. The Step 1 ACRM increase went into effect during the April revenue month, so I needed to annualize the revenue that would have been collected had the Step 1 rates been in effect the whole year. That annualization came to $599,146 for the more than three months that needed to be added.

Q. IS ADJUSTMENT LJG-4 USED FOR ANYTHING ELSE?

A. Yes. In Mohave Wastewater I had to increase revenue for an annual billing for effluent sales that had not been sent out during the test year. It is an annual billing based on acre feet and the rate changed May 1, 2007 with Decision No. 69440. The additional billing to be added in the test year, normalized to the new rate, is $41,299,

Q. CAN YOU PLEASE EXPLAIN ADJUSTMENTS LJG-3 BY DISTRICT?

A. Yes. Adjustment LJG-3 is reserved for various types of individual adjustments for the districts. For the Agua Fria Water District, Adjustment LJG-3 removes December 2006

revenue of $21,166 that was reallocated in January. It removes $2,871 of prepaid water expense booked to revenue in error. It removes $48,519, which is the 2006 portion of bulk water billing to Arizona Water that happened during the test year. And finally, it adds back $51,100 in miscellaneous credits and billings on the wrong rate schedules that occurred on the books during the test year.

For the Havasu Water District, Adjustment LJG-3 adds back a credit adjustment that was removed twice in error during the test year of $18,690.

For the Mohave Water District, I annualized the rate increase granted on May 1, 2007 in Decision 69440 by multiplying the billing factors from the H Schedules times the new rates. The adjustment is $212,262.

For the Paradise Valley Water District, Adjustment LJG-3 removes $12,906 for the 2006 Premium billing of the Paradise Valley Country Club. That was part of an old contract and will no longer be computed under the new contract. I added $7,399 to test year revenue for a turf account with a miscellaneous debit for additional revenue that was billed at present rates but not for the ACRM revenue. I added back the $20,291 High Block Surcharge credit given to three customers. This credit rightfully offsets Contributions, not Revenue and is the opposite of an adjustment made to rate base. I also added back $5,802 from test-year credit billing for a 2006 bill dispute resolution. And, I added back Residential credits of $28,107 and removed Commercial debits of ($1,145). These are miscellaneous credits and debits that happened during the test year.

For the Sun City West Water District, the adjustment corrects for miscellaneous credits and adjustments given during the test year totaling $4,167.

For the Mohave Wastewater District, I annualized the rate increase authorized in Decision 69440 effective May 1, 2007 for $57,282.

V COMPARATIVE STATEMENTS

Q. DID YOU PREPARE ANY OF THE E SCHEDULES?

A. Yes. I prepared Schedule E-1, the Comparative Balance Sheet schedule for each district, and Schedule E-5, the Detail of Plant in Service schedule for each district.

Q. HOW DID YOU PREPARE THE COMPARATIVE BALANCE SHEET SCHEDULE?

A. The Total Company Balance, Page 1 of Schedule E-1, comes right from the books and records for the years 2005, 2006, and 2007. Page 2 is the Balance Sheet for the District. The Corporate Division is allocated to the districts' trial balance based on the Four-Factor Allocation of number of customers.

Q. HOW WAS SCHEDULE E-5 DERIVED?

A. Plant balances are listed on Schedule B-2 annually since the last rate case. I took the amount for plant in service at 2006 and 2007 from that detail and used it on the E-5. The column in between is the difference and represents the additions, retirements, and adjustments during the test year. The second page of the schedule shows the detail of plant in service for the Corporate Division. I applied Allocation Factors to that total for each of the districts to calculate a district total including common plant allocation.

VI EFFECT OF PROPOSED TARIFF SCHEDULES

Q. CAN YOU BRIEFLY DESCRIBE THE H SCHEDULES?

A. Yes. Schedule H-1 is a summary of the revenue billed under present rates and the amount that would be generated by the proposed increase in metered water rates. Schedule H-2 is an analysis of revenue at present and proposed rates by class and meter

size in dollar amount and percentage. The average number of customers derived from the bill count is also shown by meter size and in total. Schedule H-3 presents a comparison of present and proposed rates and shows the changes by blocks. Schedule H-4 compares present and proposed rates and the percentage increase at various consumption levels. Schedule H-5 is the bill count of the bills during the test year.

Q. WHICH PORTION OF THE H SCHEDULES ARE YOU SPONSORING?

A. I am sponsoring the Present Rate portion of the H Schedules. These schedules, up to the Proposed Rates, were prepared by me or under my direction. The Company uses all the historic billing information and factors for the 12 months ending December 2007 for each District. The current rates were applied to the billing information.

I updated the currents rates for the Agua Fria Water, Havasu Water, Paradise Valley, and Sun City West Water Districts to include the Step 1 ACRM surcharges. I also updated the Mohave Water and Mohave Wastewater Districts to reflect rate increases that occurred during the test year.

All present rate revenue ties out to the Test Year Adjusted Present Rate Revenue in Schedule C-1 for the Water Revenue. These dollars by class are then brought over to Schedule A-1, so that class percentage increases can be shown. Mr. Herbert sponsors the Proposed Rate portion of the H Schedules.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

EXHIBIT
A-26
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

KRISTIN K. MAYES, Chairman
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

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 AGUA FRIA WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT	DOCKET NO. W-01303A-08-0227
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 MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227

REBUTTAL TESTIMONY
OF
LINDA J. GUTOWSKI
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
DATED FEBRUARY 10, 2009

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TABLE OF CONTENTS

	EXECUTIVE SUMMARY	**iv**
I	**INTRODUCTION AND QUALIFICATIONS**	**1**
II	**RATE BASE – UTILITY PLANT IN SERVICE**	**1**
A.	AGUA FRIA WATER DISTRICT	1
B.	HAVASU WATER DISTRICT	3
C.	MOHAVE WATER DISTRICT	3
D.	PARADISE VALLEY WATER DISTRICT	5
E.	SUN CITY WEST WATER DISTRICT	6
F.	TUBAC WATER DISTRICT	6
G.	MOHAVE WASTEWATER DISTRICT	7
III	**RATE BASE – ACCUMULATED DEPRECIATION**	**9**
A.	ALL DISTRICTS	9
B.	AGUA FRIA WATER DISTRICT	9
C.	HAVASU WATER DISTRICT	10
D.	MOHAVE WATER DISTRICT	10
E.	PARADISE VALLEY WATER DISTRICT	11
F.	SUN CITY WEST WATER DISTRICT	12
G.	TUBAC WATER DISTRICT	13
H.	MOHAVE WASTEWATER DISTRICT	13
IV	**RATE BASE – ADVANCES IN AID OF CONSTRUCTION**	**14**
A.	AGUA FRIA WATER DISTRICT	14
B.	HAVASU WATER DISTRICT	14
C.	MOHAVE WATER DISTRICT	14
D.	PARADISE VALLEY WATER DISTRICT	15
E.	SUN CITY WEST WATER DISTRICT	15
F.	TUBAC WATER DISTRICT	15
G.	MOHAVE WASTEWATER DISTRICT	15
V	**RATE BASE – CONTRIBUTIONS IN AID OF CONSTRUCTION**	**16**
A.	AGUA FRIA WATER DISTRICT	16
B.	HAVASU WATER DISTRICT	16
C.	MOHAVE WATER DISTRICT	16
D.	PARADISE VALLEY WATER DISTRICT	17
E.	SUN CITY WEST WATER DISTRICT	17
F.	TUBAC WATER DISTRICT	17
G.	MOHAVE WASTEWATER DISTRICT	18
VI	**RATE BASE – IMPUTED REGULATORY ADVANCES**	**18**
A.	AGUA FRIA WATER DISTRICT	18
B.	HAVASU WATER DISTRICT	18
C.	MOHAVE WATER DISTRICT	18
D.	PARADISE VALLEY WATER DISTRICT	19
E.	SUN CITY WEST WATER DISTRICT	19

F. TUBAC WATER DISTRICT 19
G. MOHAVE WASTEWATER DISTRICT 19
VII RATE BASE – DEFERRED DEBITS 20
A. AGUA FRIA WATER DISTRICT 20
B. HAVASU WATER DISTRICT 20
C. MOHAVE WATER DISTRICT 20
D. PARADISE VALLEY WATER DISTRICT 20
E. SUN CITY WEST WATER DISTRICT 20
F. TUBAC WATER DISTRICT 21
G. MOHAVE WASTEWATER DISTRICT 21
VIII RATE BASE – CASH WORKING CAPITAL 21
A. AGUA FRIA WATER DISTRICT 21
B. HAVASU WATER DISTRICT 22
C. MOHAVE WATER DISTRICT 22
D. PARADISE VALLEY WATER DISTRICT 22
E. SUN CITY WEST WATER DISTRICT 23
F. TUBAC WATER DISTRICT 23
G. MOHAVE WASTEWATER DISTRICT 24
H. SUMMARY OF REBUTTAL RATE BASE POSITIONS 24
IX REVENUE 25
A. HAVASU WATER DISTRICT 25
B. PARADISE VALLEY WATER DISTRICT 25
C. SUN CITY WEST WATER DISTRICT 25
X DEPRECIATION EXPENSE 26
A. AGUA FRIA WATER DISTRICT 26
B. HAVASU WATER DISTRICT 26
C. MOHAVE WATER DISTRICT 26
D. PARADISE VALLEY WATER DISTRICT 27
E. SUN CITY WEST WATER DISTRICT 27
F. MOHAVE WASTEWATER DISTRICT 28
G. ALL DISTRICTS 28

EXECUTIVE SUMMARY

Linda J. Gutowski responds to Staff and RUCO testimony concerning rate-base issues and then discusses revenue and depreciation expense.

I RATE BASE – UTILITY PLANT IN SERVICE

A AGUA FRIA WATER DISTRICT

In Rebuttal Adjustment LJG-1R, Arizona-American is reducing the cost of the Sierra Montana 2.2 MG Reservoir from an estimated amount to the actual cost. This adjustment reduces Plant in Service by $252,470.

Staff Rate-Base Adjustment No.1 would inappropriately disallow any recognition of the Rancho Cabrillo Subdivision On-Site Costs. These costs are currently estimated at $1,189,832. The project is in service, and Ms. Hains did not make any determination that the project is not used and useful. Therefore, the costs should be included in rate base.

Arizona-American accepts Staff Rate-Base Adjustment No.5 to include $1,167,268 in post-test-year additions for distribution system improvements.

Staff Rate-Base Adjustment No.5 would inappropriately exclude $2,046,765 in post-test-year additions for the Sierra Montana 2.2 Mg Reservoir. The project was placed in Utility Plant in Service in December 2008 at a cost of $1,794,295. .

Staff Rate-Base Adjustment No.6 would inappropriately exclude $25,000,000 in White Tanks Project CWIP. RUCO Rate-Base Adjustment No.7 is the same as Staff Rate Base Adjustment No. 6 and should also be rejected.

Arizona-American accepts RUCO Rate-Base Adjustment No.4 to increase rate base by $18,581 for two projects that are actually in the Agua Fria water district, but were mistakenly included in the Sun City West Water District.

B HAVASU WATER DISTRICT

Adjustment, LJG-2R is to move the Gateway water and wastewater plant from the Havasu Water District and put it properly into the Mohave Water District and into the Mohave Wastewater District. Gateway is geographically located half way between our Havasu District and our Mohave District, but is in our Mohave Water And Wastewater CC&N areas. The decrease to plant in service in Havasu is $814,761 and there is a companion decrease to accumulated depreciation discussed below.

C MOHAVE WATER DISTRICT

There are two rate base adjustments for the Mohave Water District. Rebuttal Adjustment LJG-1R updates the estimated cost for the 0.25 mg Big Bend Acres Reservoir to actual costs of $643,127. This increases plant by $32,395. Rebuttal Adjustment LJG-2R adds the Gateway Water Plant to the Mohave Water District in the amount of $721,333.

Staff Rate-Base Adjustment No.1 would inappropriately disallow $1,539,768 for three projects lacking supporting invoices. All three projects are in service and the plants are used and useful. All of the projects were built in accordance with other commission-approved line extension agreements. It would be punitive not to include a million-dollar project in rate base, just because we are having difficulty getting final paperwork.

Staff Rate Base Adjustment No. 5 would inappropriately disallow all of the estimated costs for the Big Bend Acres Reservoir in the amount of $610,732. The project was completed, and used and useful as of November 26, 2008.

D PARADISE VALLEY WATER DISTRICT

Arizona-American accepts Staff Rate-Base Adjustment No.1 to decrease plant in service by $180,916 to account for plant retirements. Arizona-American retired tanks and pumps as a result of building the arsenic treatment plant in the Paradise Valley Water District. However, these retirements were incorrectly booked in 2007 to our Sun City and Sun City West Water Districts

RUCO Rate-Base Adjustment No.5 would inappropriately decrease plant in service to account for plant retirements. The adjustment is for the same retirement-errors that Staff identified, but is not for the full amount.

Arizona-American accepts RUCO Rate-Base Adjustment No.3 to remove $2,109,032 of post test year plant, the estimated cost of the rehabilitation of Well No. 12. However, the correct amount is $1,775,026.

E SUN CITY WEST WATER DISTRICT

Arizona-American accepts RUCO Rate-Base Adjustment No.3 to increase plant in service by $76,672, to adjust for plant retirements that should have been made in the Paradise Valley Water District.

Arizona-American rejects Staff Rate-Base Adjustment No.1. This is a similar adjustment to RUCO RB-3. RUCO's adjustment is for the correct amount, as Staff did not retire $6,672 and made no adjustment to accumulated depreciation.

Arizona-American accepts RUCO Rate-Base Adjustment No.4 to decrease plant in service by $18,581 to adjust for two projects that belong in Agua Fria Water District instead of the Sun City West Water District.

F TUBAC WATER DISTRICT

There are no rate base adjustments for the Tubac Water District.

G MOHAVE WASTEWATER DISTRICT

Arizona-American makes three rebuttal adjustments for the Mohave Wastewater District. LJG-1R lowers accumulated depreciation for a change in depreciation rates approved in the previous rate case. LJG-2R for $94,978 adjusts for the Gateway Wastewater Plant being moved from the Havasu Water District and being placed in the Mohave Wastewater District. LJG-3R adds $343,959 to plant in service for the difference between the actual cost of the Wishing Well Wastewater Treatment Plant expansion and the estimated cost used in my direct testimony.

Staff Rate-Base Adjustment No.1 would inappropriately decrease plant in service by $306,362 by disallowing two projects that do not have invoices. It would be punitive to disallow including plant in rate base that is in service, just because all the final invoices have not been collected.

Staff Rate-Base Adjustment No.5 would inappropriately decrease plant in service by $3,932,808 by disallowing all costs associated with the upgrade and expansion of the Wishing Well Treatment Plant. Mr. Gross discusses why this would be inappropriate.

RUCO Rate-Base Adjustment No.4 would inappropriately decrease plant in service by $1,966,040 by deferring its estimate (50%) of the costs of the Wishing Well Treatment Plant. Mr. Gross discusses why this would be inappropriate.

II RATE BASE – ACCUMULATED DEPRECIATION

A ALL DISTRICTS

We reject RUCO Rate Base Adjustment No. 1. RUCO inappropriately recomputed depreciation expense for all districts claiming that the only acceptable methods of depreciation are mid-year or mid-month. RUCO is incorrect. Arizona-American changed from the mid-year method to the end of month method as of January 2003. The Company's depreciation methodology is accepted by our outside auditors and complies with all Sarbanes-Oxley requirements. All three methods give the same results over the life of the asset. Arizona-American's case is based on the actual depreciation expenses booked and approved by the auditors. RUCO would improperly substitute a fictional depreciation expense.

B AGUA FRIA WATER DISTRICT

Staff Rate Base Adjustment No. 1 would inappropriately decrease accumulated depreciation in the amount of $7,532. This appears to be the result of an arithmetical error.

C HAVASU WATER DISTRICT

Arizona-American made two adjustments. Adjustment LJG-1R decreases accumulated depreciation by $6,540 to reflect the depreciation rates that were effective on June 30, 2004 in Decision no. 67093. Adjustment, LJG-2R, decreases accumulated depreciation by $14,000 with the removal of the Gateway Plant discussed above.

RUCO's Rate-Base Adjustment No.1 is not entirely accurate. It is appropriate to adjust depreciation rates since June 30, 2004, but RUCO inappropriately uses its half-month convention.

D MOHAVE WATER DISTRICT

Rate Base Adjustment LJG-2R increases accumulated depreciation to adjust for the Gateway Water Facilities in the amount of $45,790.

Staff Rate Base Adjustment No. 1 would inappropriately remove $26,559 from accumulated depreciation. This adjustment corresponds to the improper rate-base reduction for three projects, which is discussed above.

RUCO's Rate-Base Adjustment No.1 would inappropriately adjust accumulated depreciation. The adjustment relies on RUCO's mid-month convention, which is improper. Second, RUCO improperly used several Havasu Water District depreciation rates instead of the currently approved rates for Mohave Water District.

E PARADISE VALLEY WATER DISTRICT

Arizona-American accepts Staff Rate Base Adjustment No. 1 to reduce accumulated depreciation. This adjustment corresponds to the rate-base adjustment for plant retirements, previously discussed.

Arizona-American accepts RUCO's Rate-Base Adjustment No.1 to adjust accumulated depreciation. The Company made a math error in decreasing Paradise Valley's accumulated depreciation instead of increasing it. The appropriate correction is $100,554.

RUCO's Rate-Base Adjustment No.5 would inappropriately adjust accumulated depreciation for Paradise Valley wells. RUCO should have included well #17 for $288,080 and not included well #12 for $1,935,000 since the company withdrew the project before computing accumulated depreciation. RUCO also should not have reduced accumulated depreciation in the post test year exhibit by a retirement for Well #12 that will not happen until the well project is undertaken sometime this year.

F SUN CITY WEST WATER DISTRICT

RUCO's Rate-Base Adjustment No.1 inappropriately adjusts accumulated depreciation by use of its half-month convention.

Arizona-American accepts RUCO's Rate-Base Adjustment No.3 to adjust accumulated depreciation to account for two retirements that were booked in Sun City West, but should have been attributed to Paradise Valley. One minor adjustment is needed to adjust for RUCO's improper mid-month convention.

Arizona-American accepts RUCO's Rate-Base Adjustment No.4 to adjust accumulated depreciation to account for plant booked to Sun City West, that should have been attributed to Agua Fria Water. However, RUCO took out accumulated depreciation of $860 in Sun City West and added accumulated depreciation to Agua Fria in the amount of $2,375. These amounts should both be $2,446, as the depreciation rates for these items were the same in the two districts. rate base .

G TUBAC WATER DISTRICT

RUCO's Rate-Base Adjustment No.1 inappropriately adjusts accumulated depreciation by use of its half-month convention.

H MOHAVE WASTEWATER DISTRICT

Rate Base Adjustment LJG-1R, calculates accumulate depreciation using correct rates and provides a decrease of $17,306.

Rate Base Adjustment LJG-2R increases accumulated depreciation by $7,621 to reflect the additional depreciation that should have been calculated in Mohave Wastewater to account for the transfer of the Gateway Wastewater Facilities.

RUCO's Rate-Base Adjustment No.1 inappropriately adjusts accumulated depreciation by use of its half-month convention.

III RATE BASE – ADVANCES IN AID OF CONSTRUCTION

A AGUA FRIA WATER DISTRICT

Staff Adjustment No. 1 improperly reduced advances for the Rancho Cabrillo project because it removed the associated plant from utility plant in service.

B MOHAVE WATER DISTRICT

RUCO's Rate Base Adjustment No. 2 would inappropriately add back $291,910 to advances for plant items that are still in CWIP, rather than in utility plant in service. If plant is not in rate base to begin with, it is inappropriate to reduce rate base for the amount of advances directly associated with that plant.

C TUBAC WATER DISTRICT

RUCO's Rate Base Adjustment No. 2 would inappropriately add back $20,266 to advances for plant items that are still in CWIP, rather than in utility plant in service. If plant is not in rate base to begin with, it is inappropriate to reduce rate base for the amount of advances directly associated with that plant.

D MOHAVE WASTEWATER DISTRICT

Staff inappropriately deducted the advances associated with used and useful plant that they disallowed for having no invoices in the amount of $306,362.

IV RATE BASE – CONTRIBUTIONS IN AID OF CONSTRUCTION

A AGUA FRIA WATER DISTRICT

RUCO's Rate Base Adjustment No. 2 would inappropriately add back $28,019 to contributions for plant items that are still in CWIP, rather than in utility plant in service. If plant is not in rate base to begin with, it is inappropriate to reduce rate base for the amount of contributions directly associated with that plant.

Arizona-American accepts RUCO Rate Base Adjustment No. 3 to move amortization of contributions from Mohave Water to Agua Fria Water.

B HAVASU WATER DISTRICT

RUCO's Rate Base Adjustment No. 2 would inappropriately add back $10,645 to contributions for plant items that are still in CWIP, rather than in utility plant in service. If plant is not in rate base to begin with, it is inappropriate to reduce rate base for the amount of contributions directly associated with that plant.

C MOHAVE WATER DISTRICT

RUCO's Rate Base Adjustment No. 2 would inappropriately add back $94,453 to contributions for plant items that are still in CWIP, rather than in utility plant in service. If plant is not in rate base to begin with, it is inappropriate to reduce rate base for the amount of contributions directly associated with that plant.

Arizona-American accepts RUCO Rate Base Adjustment No. 3 to move amortization of contributions from Mohave Water to Agua Fria Water. When the contribution balances were moved from Mohave Water, the associated amortization of these contributions did not get moved.

D PARADISE VALLEY WATER DISTRICT

RUCO's Rate Base Adjustment No. 2 would inappropriately add back $322,588 to contributions for plant items that are still in CWIP, rather than in utility plant in service. If plant is not in rate base to begin with, it is inappropriate to reduce rate base for the amount of contributions directly associated with that plant.

E SUN CITY WEST WATER DISTRICT

RUCO's Rate Base Adjustment No. 2 would inappropriately add back $17,318 to contributions for plant items that are still in CWIP, rather than in utility plant in service. If plant is not in rate base to begin with, it is inappropriate to reduce rate base for the amount of contributions directly associated with that plant.

F MOHAVE WASTEWATER DISTRICT

RUCO's Rate Base Adjustment No. 2 would inappropriately add back $65,395 to contributions for plant items that are still in CWIP, rather than in utility plant in service. If plant is not in rate base to begin with, it is inappropriate to reduce rate base for the amount of contributions directly associated with that plant.

V RATE BASE – IMPUTED REGULATORY ADVANCES

A AGUA FRIA WATER DISTRICT

Staff Rate Base Adjustment No. 3 would inappropriately add back $2,268,167 to imputed regulatory advances for the period January 1, 2008 through July 15, 2008. Mr. Broderick discusses this issue in his rebuttal testimony.

B HAVASU WATER DISTRICT

Staff Rate Base Adjustment No. 3 would inappropriately add back $34,679 to imputed regulatory advances for the period January 1, 2008 through July 15, 2008. Mr. Broderick discusses this issue in his rebuttal testimony.

C MOHAVE WATER DISTRICT

Staff Rate Base Adjustment No. 3 would inappropriately add back $348,557 to imputed regulatory advances for the period January 1, 2008 through July 15, 2008. Mr. Broderick discusses this issue in his rebuttal testimony

D PARADISE VALLEY WATER DISTRICT

Staff Rate Base Adjustment No. 3 would inappropriately add back $233,188 to imputed regulatory advances for the period January 1, 2008 through July 15, 2008. Mr. Broderick discusses this issue in his rebuttal testimony.

E SUN CITY WEST WATER DISTRICT

Staff Rate Base Adjustment No. 3 would inappropriately add back $1,006,408 to imputed regulatory advances for the period January 1, 2008 through July 15, 2008. Mr. Broderick discusses this issue in his rebuttal testimony.

F TUBAC WATER DISTRICT

Staff Rate Base Adjustment No. 3 would inappropriately add back $233,188 to imputed regulatory advances for the period January 1, 2008 through July 15, 2008. Mr. Broderick discusses this issue in his rebuttal testimony.

G MOHAVE WASTEWATER DISTRICT

Staff Rate Base Adjustment No. 3 would inappropriately add back $61,769 to imputed regulatory advances for the period January 1, 2008 through July 15, 2008. Mr. Broderick discusses this issue in his rebuttal testimony. Further, this amount should be only $14,090. Staff appears to have used the imputed ciac amount from Sun City West Water.

VI RATE BASE – DEFERRED DEBITS

A AGUA FRIA WATER DISTRICT

Arizona-American accepts Staff Rate Base Adjustment No. 4 and RUCO Rate Base Adjustment No. 5 to reduce deferred debits by $3,321,116 to correct an error in the original filing.

B HAVASU WATER DISTRICT

Arizona-American accepts Staff Rate Base Adjustment No. 4 and RUCO Rate Base Adjustment No. 5 to reduce deferred debits by$145,701 6 to correct an error in the original filing.

C MOHAVE WATER DISTRICT

Arizona-American accepts Staff Rate Base Adjustment No. 4 and RUCO Rate Base Adjustment No. 5 to reduce deferred debits by $1,649,972 to correct an error in the original filing.

D PARADISE VALLEY WATER DISTRICT

Arizona-American accepts Staff Rate Base Adjustment No. 4 and RUCO Rate Base Adjustment No. 5 to reduce deferred debits by $1,083,637 to correct an error in the original filing.

E SUN CITY WEST WATER DISTRICT

Arizona-American accepts Staff Rate Base Adjustment No. 4 and RUCO Rate Base Adjustment No. 5 to reduce deferred debits by $892,284 to correct an error in the original filing.

F TUBAC WATER DISTRICT

Arizona-American accepts Staff Rate Base Adjustment No. 4 and RUCO Rate Base Adjustment No. 5 to reduce deferred debits by $51,122 to correct an error in the original filing.

G MOHAVE WASTEWATER DISTRICT

Arizona-American accepts Staff Rate Base Adjustment No. 4 and RUCO Rate Base Adjustment No. 5 to reduce deferred debits by $7,071 to correct an error in the original filing.

VII RATE BASE – CASH WORKING CAPITAL

Arizona-American rejects the adjustments proposed by Staff and RUCO for each district. Ms. Hubbard has revised her lead-lag study. Based on this study, Arizona-American makes the following adjustments.

A AGUA FRIA WATER DISTRICT

The correct amount of cash working capital for the Agua Fria Water District is $ 60,105, a decrease to the original filing of $1,349,754.

B HAVASU WATER DISTRICT

The correct amount of cash working capital for the Havasu Water District is $46,992, a decrease to the original filing of $55,427.

C MOHAVE WATER DISTRICT

The correct amount of cash working capital for the Mohave Water District is $185,707, a decrease to the original filing of $181,855.

D PARADISE VALLEY WATER DISTRICT

The correct amount of cash working capital for the Paradise Valley Water District is $79,326, a decrease to the original filing of $469,708.

E SUN CITY WEST WATER DISTRICT

The correct amount of cash working capital for the Sun City West Water District is $77,120, a decrease to the original filing of $403,020.

F TUBAC WATER DISTRICT

The correct amount of cash working capital for the Tubac Water District is $21,683, a decrease to the original filing of $18,982.

G MOHAVE WASTEWATER DISTRICT

The correct amount of cash working capital for the Mohave Wastewater District is $425, a decrease to the original filing of $57,933.

VIII REVENUE

A HAVASU WATER DISTRICT

Arizona-American is adjusting present rate revenue for the annualization of the ACRM Phase 2 increase. This increases present rate revenue by $150,935.

B PARADISE VALLEY WATER DISTRICT

Arizona-American is adjusting present rate revenue for the annualization of the ACRM Phase 2 increase. This increases present rate revenue by $371,853

C SUN CITY WEST WATER DISTRICT

Arizona-American is adjusting present rate revenue for the annualization of the ACRM Phase 2 increase. This increases present rate revenue by $155,835.

IX DEPRECIATION EXPENSE

A AGUA FRIA WATER DISTRICT

Arizona-American reduced the plant accounts for the actual costs of the Sierra Montana 2.2 mg reservoir. This also would reduce annualized depreciation expense by $5,316.

B HAVASU WATER DISTRICT

In Decision No. 67093, the depreciation rates for the Havasu Water District changed. The new rates would increase annual depreciation expense by $9,761. Arizona-American also removed the Gateway Water and Wastewater Plant from Havasu District and added it to Mohave Water and Mohave Wastewater, respectively. This reduced annual depreciation expense by $22,440. the two changes result in a net decrease to depreciation expense of $12,679..

C MOHAVE WATER DISTRICT

Due to moving the Gateway Water Plant from the Havasu Water District to the Mohave Water District, plant increased by $721,333 and depreciation expense increases $16,386 for these facilities. The second change decreases depreciation expense for post test year plant by $334.

D PARADISE VALLEY WATER DISTRICT

The post test year amount for depreciation expense is reduced by $51,921 to $9,403 due to the delay in the well no. 12 rehabilitation project.

E SUN CITY WEST WATER DISTRICT

There were two rate base adjustments to utility plant in service that effect the annual depreciation expense in Sun City West Water District. The first was to add back $76,672 in retirements from November and December 2007 that belonged in Paradise Valley. The second was to remove additions that occurred in January and February 2005 in Sun City West Water that actually belonged in Agua Fria Water. The net result of the additions to plant is $2,606 in additional depreciation expense..

F MOHAVE WASTEWATER DISTRICT

Arizona-American has three rebuttal adjustments to annual depreciation expense for the Mohave Wastewater District.

Decision No. 69440 changed the approved depreciation rates for Mohave Wastewater District. This change in depreciation rates results in a decrease in annual depreciation expense of $23,880. The second adjustment is needed to account for moving the Gateway Wastewater Treatment Plant from the Havasu Water District to the Mohave Wastewater District. The additional plant results in additional depreciation expense of $2,406. The third adjustment to annual depreciation expense flows from including the actual costs of the Wishing Well Treatment Plant in plant. The actual costs were higher than the estimate by $343,959 and the resulting increase in annual depreciation expense is $10,627.

G ALL DISTRICTS

Arizona-American recommends the following common changes to depreciation rates that would apply to all districts.

Account 304510. Currently, staff is recommending a depreciation rate of 1.67%, or 60 years, for professional services, permits, fees, and other costs association with evaluating, developing, and

setting up our Corporate Offices on 7th Street. The life of the lease is seven years, so I recommend a rate of 14.28% to reflect depreciating the set up over the life of the lease.

Account 334100, meters. Arizona-American is on a program to change meters every 15 years. We recommend a rate of 6.7% for all districts. We currently have rates ranging from 2.51% (40 years) to Mohave's recently approved 6.53%.

Account 339600, Other Plant and Miscellaneous Equipment Comprehensive Planning Studies. Arizona-American uses this account for comprehensive planning studies, which are done every five years. Currently, we have 0% depreciation expense. Our internal audit department is questioning why the rate is not 20%. We recommend a 20% rate to reflect the five-year applicable period of these studies.

Account 340200, computer & peripheral equipment. Staff is recommending a 10% rate for Agua Fria, Paradise Valley, Sun City West, and Corporate, but is recommending rates of 4.47% for Havasu, 15.59% for Mohave Water, and 10.83% for Tubac. Arizona-American recommends using one rate of 10% for every district.

Account 341100, transportation equipment light trucks. This account is used for smaller pick-up trucks. Staff's recommended depreciation rate for our districts varies from 20% to 25%. We recommend that we use either rate consistently for all districts.

Account 341400, transportation equipment – other. This account reflects depreciation being taken on golf carts purchased for meter readers. The only approved rate is 0.93% in Paradise Valley. In April of 2008, we purchased golf carts in Agua Fria and Mohave Water. Golf carts last four to six years, so we recommend a consolidated rate of 20% for every district.

I INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME, ADDRESS, AND TELEPHONE NUMBER.

A. My name is Linda J. Gutowski. My business address is 19820 N. 7th Street, Suite 201, Phoenix, Arizona 85024, and my telephone number is 623-445-2401.

Q. ARE YOU THE SAME LINDA J. GUTOWSKI WHO PREVIOUSLY SUBMITTED DIRECT TESTIMONY IN THIS DOCKET?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. I will respond to Staff and RUCO testimony concerning rate-base issues. Please note that I have organized my rebuttal testimony to address each of the rate base topics separately by district (Sections II-VIII). Then, I discuss revenue (Section IX) and depreciation expense (Section X).

II RATE BASE – UTILITY PLANT IN SERVICE

A. AGUA FRIA WATER DISTRICT

Q. DO YOU HAVE ANY ADJUSTMENTS TO MAKE TO THE COMPANY'S APPLICATION?

A. Yes. In Rebuttal Adjustment LJG-1R, Arizona-American is reducing the cost of the Sierra Montana 2.2 MG Reservoir from an estimated amount to the actual cost. This adjustment reduces Plant in Service by $252,470.

Q. STAFF RATE-BASE ADJUSTMENT NO.1 WOULD DISALLOW ANY RECOGNITION OF THE RANCHO CABRILLO SUBDIVISION ON-SITE COSTS. DO YOU ACCEPT THIS ADJUSTMENT?

A. No. These costs are currently estimated at $1,189,832. The project is in service, and Ms. Hains did not make any determination that the project is not used and useful. Therefore,

the costs should be included in rate base. The estimated costs are based on engineering estimates, which are usually quite conservative. Although the developer claims to have submitted the final invoices, we do not believe that we have received them. We are still asking for anther copy. It would be punitive not to include a million-dollar project in rate base, just because we are having difficulty getting paperwork from the developer.

Q. STAFF RATE-BASE ADJUSTMENT NO.5 WOULD INCLUDE $1,167,268 IN POST-TEST-YEAR ADDITIONS FOR DISTRIBUTION SYSTEM IMPROVEMENTS. DO YOU ACCEPT THIS ADJUSTMENT?

A. Yes.

Q. STAFF RATE-BASE ADJUSTMENT NO.5 WOULD ALSO EXCLUDE $2,046,765 IN POST-TEST-YEAR ADDITIONS FOR THE SIERRA MONTANA 2.2 MG RESERVOIR. DO YOU ACCEPT THIS ADJUSTMENT?

A. No. As Mr. Gross says in his testimony, the project was placed in Utility Plant in Service in December 2008 at a cost of $1,794,295. As already discussed, Rebuttal Adjustment LJG-1R decreases the cost of the project from the estimated $2,046,765 to the actual cost of $1,794,295, a decrease in Plant of $252,470.

Q. STAFF RATE-BASE ADJUSTMENT NO.6 WOULD EXCLUDE $25,000,000 IN WHITE TANKS PROJECT CWIP. DO YOU ACCEPT THIS ADJUSTMENT?

A. No. Company witnesses Messrs. Townsley, Buls, Gross, and Broderick provide rebuttal testimony concerning this issue.

Q. RUCO RATE-BASE ADJUSTMENT NO.7 WOULD ALSO EXCLUDE $25,000,000 IN WHITE TANKS PROJECT CWIP. DO YOU ACCEPT THIS ADJUSTMENT?

A. No. RUCO Rate-Base Adjustment No.7 is the same as Staff Rate Base Adjustment No. 6.

Q. RUCO RATE-BASE ADJUSTMENT NO.4 WOULD INCREASE RATE BASE BY $18,581 FOR TWO PROJECTS THAT ARE ACTUALLY IN THE AGUA FRIA WATER DISTRICT, BUT WERE MISTAKENLY INCLUDED IN THE SUN CITY WEST WATER DISTRICT. DO YOU ACCEPT THIS ADJUSTMENT?

A. Yes.

B. <u>HAVASU WATER DISTRICT</u>

Q. ARE THERE ANY PLANT-IN-SERVICE ISSUES FOR THE HAVASU WATER DISTRICT?

A. Adjustment, LJG-2R is to move the Gateway Water and Wastewater Plant from the Havasu Water District and put it properly into the Mohave Water District and into the Mohave Wastewater District. Gateway is geographically located half way between our Havasu District and our Mohave District, but is in our Mohave Water and Wastewater CC&N areas (Decision 64039 dated August 20, 2001). The decrease to plant in service in Havasu is $814,761 and there is a companion decrease to Accumulated Depreciation discussed below.

C. <u>MOHAVE WATER DISTRICT</u>

Q. DO YOU HAVE ANY RATE BASE ADJUSTMENTS FOR THE MOHAVE WATER DISTRICT?

A. Yes. I have two adjustments to the Company's application.

Q. WHAT IS REBUTTAL ADJUSTMENT LJG-1R?

A. This adjustment updates the estimated cost for the 0.25 mg Big Bend Acres Reservoir to actual costs of $643,127. This increases Plant by $32,395.

Q. WHAT IS REBUTTAL ADJUSTMENT LJG-2R?

A. The adjustment adds the Gateway Water Plant to the Mohave Water District in the amount of $721,333 in Utility Plant in Service.

Q. STAFF RATE-BASE ADJUSTMENT NO.1 WOULD DISALLOW $1,539,768 FOR THREE PROJECTS LACKING SUPPORTING INVOICES. DO YOU AGREE?

A. No. These projects are in service, Ms. Hains did not make any determination that the projects are not used and useful and, in the case of Mira Monte, the invoices are attached herein. Furthermore, all of the projects were built in accordance with other Commission-approved line extension agreements. Therefore, the costs should be included in rate base using detailed engineering estimated costs. It would be punitive not to include a million-dollar project in rate base, just because we are having difficulty getting final paperwork.

The first project is the Villages at Stonebridge for $242,459. The developer went bankrupt and the project is now in the hands of the FDIC. The pipelines are finished in all three phases and there are existing homes we are serving in Phase 1. The FDIC has plans to finish Phases 2 and 3. Due to the bankruptcy, we cannot get copies of the invoices, but we do have the engineering estimate.

The second project is the Mira Monte at Fox Creek for $117,718. Attached as Rebuttal Exhibit LJG-R1 are the invoices for this project. The invoices total more than Staff's Mr. Becker reports because the project includes services and hydrants, as well as the main that Mr. Becker audited.

The third project is the Winterhaven Estates for $177,052. Again, the pipes are in place. There is a model home there and properties are for sale.

Q. STAFF RATE BASE ADJUSTMENT NO. 5 WOULD DISALLOW ALL OF THE ESTIMATED COSTS FOR THE BIG BEND ACRES RESERVOIR IN THE AMOUNT OF $610,732. DO YOU AGREE?

A. No. The project was completed, and used and useful as of November 26, 2008. There is no reason not to include it in rate base. Also note that Rebuttal Adjustment LJG-1R updated the estimated cost for the 0.25 mg Big Bend Acres Reservoir to actual costs of $643,127.

D. <u>PARADISE VALLEY WATER DISTRICT</u>

Q. STAFF RATE-BASE ADJUSTMENT NO.1 WOULD DECREASE PLANT IN SERVICE BY $180,916 TO ACCOUNT FOR PLANT RETIREMENTS. DO YOU AGREE?

A. Yes. Arizona-American retired tanks and pumps as a result of building the arsenic treatment plant in Paradise Valley Water District. However, these retirements were incorrectly booked in 2007 to our Sun City and Sun City West Water Districts. This adjustment reduces Paradise Valley Utility Plant and Accumulated Depreciation by $180,916.

Q. RUCO RATE-BASE ADJUSTMENT NO.5 WOULD ALSO DECREASE PLANT IN SERVICE TO ACCOUNT FOR PLANT RETIREMENTS. DO YOU AGREE?

A. No. The adjustment is for the same retirement-errors that Staff identified, but is not for the full amount. Therefore, Staff's adjustment is the correct one.

Q. RUCO RATE-BASE ADJUSTMENT NO.3 WOULD REMOVE $2,109,032 OF POST TEST YEAR PLANT, THE ESTIMATED COST OF THE REHABILITATION OF WELL NO. 12. DO YOU AGREE?

A. Yes, but not as to RUCO's amount. As Mr. Gross states, this project is delayed. However, the correct amount is $1,775,026, the amount that Arizona-American included in its Original Application on the Utility Plant line (which happened to be the net of $1,935,000 plant less $159,974 retirements). See Rate Base Adjustment LJG-1R.

E. <u>SUN CITY WEST WATER DISTRICT</u>

Q. RUCO RATE-BASE ADJUSTMENT NO.3 WOULD INCREASE PLANT IN SERVICE BY $76,672, TO ADJUST FOR PLANT RETIREMENTS THAT SHOULD HAVE BEEN MADE IN THE PARADISE VALLEY WATER DISTRICT. DO YOU AGREE?

A. Yes.

Q. STAFF RATE-BASE ADJUSTMENT NO.1 WOULD INCREASE PLANT IN SERVICE BY $70,000 TO ADJUST FOR PLANT RETIREMENTS THAT SHOULD HAVE BEEN MADE IN THE PARADISE VALLEY WATER DISTRICT. DO YOU AGREE?

A. No. This is a similar adjustment to RUCO RB-3, which I just discussed. RUCO's adjustment is for the correct amount, as Staff did not retire $6,672 and made no adjustment to Accumulated Depreciation.

Q. RUCO RATE-BASE ADJUSTMENT NO.4 WOULD DECREASE PLANT IN SERVICE BY $18,581 TO ADJUST FOR TWO PROJECTS THAT BELONG IN AGUA FRIA WATER DISTRICT INSTEAD OF THE SUN CITY WEST WATER DISTRICT. DO YOU AGREE?

A. Yes.

F. <u>TUBAC WATER DISTRICT</u>

Q. ARE THERE ANY PLANT-IN-SERVICE ISSUES FOR THE TUBAC WATER DISTRICT?

A. Not to my knowledge, based on reviewing Staff's and RUCO's testimony filings.

G. MOHAVE WASTEWATER DISTRICT

Q. HAS ARIZONA-AMERICAN MADE ANY REBUTTAL ADJUSTMENTS FOR THE MOHAVE WASTEWATER DISTRICT?

A. Yes. There are three adjustments to the Company's application. The first adjustment, LJG-1R, lowers Accumulated Depreciation for a change in depreciation rates approved in the previous rate case. I will discuss this under the Accumulated Depreciation section.

Q. WHAT IS THE SECOND ADJUSTMENT?

A. As previously discussed, Gateway Wastewater Plant is being moved from the Havasu Water District and being placed in the Mohave Wastewater District. The amount of plant that was moved is $94,978 on adjustment LJG-2R. See the section on Accumulated Depreciation for the depreciation balance on this plant.

Q. WHAT IS THE THIRD ADJUSTMENT?

A. Rate Base Adjustment LJG-3R shows the difference between the actual cost of the Wishing Well Wastewater Treatment Plant expansion and the estimated cost used in my direct testimony. It adds $343,959 to plant in service, bringing the total for this project to $4,276,767.

Q. STAFF RATE-BASE ADJUSTMENT NO.1 WOULD DECREASE PLANT IN SERVICE BY $306,362 BY DISALLOWING TWO PROJECTS THAT DO NOT HAVE INVOICES. DO YOU AGREE?

A. No. The Staff reduction to Plant and Advances is $170,432 for Mesa Vista and $135,930 for Sage Hill. Mesa Vista property is accepted and owned by us and there are

customers being served. The plant is used and useful and we have credible engineering estimates. The Sage Hill property is developed. There is another property south of there that is having trouble deeding us the land needed for a lift station due to problems with the County. That is expected to be accomplished this year. Sage Hill is used and useful and there are a few houses on a pipeline that doesn't have to use the lift station. It would be punitive to disallow including plant in rate base that is in service, just because all the final invoices have not been collected.

Q. STAFF RATE-BASE ADJUSTMENT NO.5 WOULD DECREASE PLANT IN SERVICE BY $3,932,808 BY DISALLOWING ALL COSTS ASSOCIATED WITH THE UPGRADE AND EXPANSION OF THE WISHING WELL TREATMENT PLANT. DO YOU AGREE?

A. No. First, the project is in service, and Ms. Hains did not make any determination that the project is not used and useful. Second, the majority of the project was for upgrades to the existing plant in the amount of $2,871,534, which is used to serve existing customers. Mr. Gross further discusses this issue in his rebuttal testimony.

Q. RUCO RATE-BASE ADJUSTMENT NO.4 WOULD DECREASE PLANT IN SERVICE BY $1,966,040 BY DEFERRING ITS ESTIMATE (50%) OF THE COSTS OF THE WISHING WELL PROJECT AS NOT USED AND USEFUL FOR THE CURRENT LEVEL OF CUSTOMERS. DO YOU AGREE?

A. No. This project both upgraded and expanded the old plant. The rebuttal testimony of Mr. Gross discusses this project. The total amount of the project associated with the expansion to 0.5 mgd is $1,405,233. Therefore, if the Commission were inclined to accept RUCO's recommendation to defer 50% of the costs to serve additional customers, that would be only $702,616.

III RATE BASE – ACCUMULATED DEPRECIATION

A. ALL DISTRICTS

Q. IN RUCO RATE BASE ADJUSTMENT NO. 1, RUCO HAS RECOMPUTED DEPRECIATION EXPENSE FOR ALL DISTRICTS CLAIMING THAT THE ONLY ACCEPTABLE METHODS OF DEPRECIATION ARE MID-YEAR OR MID-MONTH; DO YOU AGREE?

A. No. RUCO is incorrect. GAAP allows for mid-year depreciation or monthly depreciation. Under monthly, the methods are beginning of month, end of month, and mid-month. Arizona-American changed from the mid-year method to the end of month method as of January 2003. There is no prohibition against doing that. Our depreciation methodology is accepted by our outside auditors and complies with all Sarbanes-Oxley requirements.

All three methods give the same results over the life of the asset. RUCO's method takes one-half month depreciation in the month the asset enters service and one-half month in the month it is retired, the equivalent of one full month of depreciation. In the beginning-of-month method, the asset is not depreciated in the month it enters service, but it is depreciated in the month of retirement. This is also the equivalent of one full month of depreciation over the life of the asset. In the end-of-month method, the plant is depreciated in the month it is added, but is not depreciated in the month it is retired. Again, this is the equivalent of one full month of depreciation over the life of the asset.

Arizona-American's case is based on the actual depreciation expenses booked and approved by the auditors. RUCO would improperly substitute a fictional depreciation expense.

B. AGUA FRIA WATER DISTRICT

Q. STAFF RATE BASE ADJUSTMENT NO. 1 APPEARS TO DECREASE ACCUMULATED DEPRECIATION IN THE AMOUNT OF $7,532. DO YOU ACCEPT THIS ADJUSTMENT?

A. If the adjustment is intentional, I do reject it. However, this appears to be an incorrect sign in Column B.

C. <u>HAVASU WATER DISTRICT</u>

Q. HAS ARIZONA-AMERICAN MADE ANY ADJUSTMENTS TO ACCUMULATED DEPRECIATION?

A. Yes. I am making two adjustments to our application. The first adjustment, LJG-1R, decreases Accumulated Depreciation by $6,540 to reflect the depreciation rates that were effective on June 30, 2004 in Decision No. 67093. The Company was using the wrong rates. The second adjustment, LJG-2R, decreases Accumulated Depreciation by $14,000 with the removal of the Gateway Plant discussed above. These total a reduction to Accumulated Depreciation of $20,541.

Q. RUCO'S RATE-BASE ADJUSTMENT NO.1 ADJUSTS ACCUMULATED DEPRECIATION. DO YOU AGREE?

A. Not entirely. It is appropriate to adjust depreciation rates since June 30, 2004, but RUCO inappropriately uses its half-month convention to decrease Accumulated Depreciation by $4,659. The correct adjustment is to decrease Accumulated Depreciation by $6,540 using the end-of-month convention that Arizona-American actually uses. I have attached Exhibit Schedule B-2 Rebuttal, Pages 3 through 8, where I derive this figure.

D. <u>MOHAVE WATER DISTRICT</u>

Q. WHAT IS THE ADJUSTMENT TO ACCUMULATED DEPRECIATION FOR THE GATEWAY WATER FACILITIES?

A. The increase to Accumulated Depreciation is $45,790 based on plant in service dates. Please refer to Rate Base Adjustment LJG-1R and LJG-2R.

Q. STAFF RATE BASE ADJUSTMENT NO. 1 REMOVES $26,559 FROM ACCUMULATED DEPRECIATION; DO YOU ACCEPT THIS ADJUSTMENT?

A. No. This adjustment corresponds to the improper rate-base reduction for three projects, which I discussed above.

Q. RUCO'S RATE-BASE ADJUSTMENT NO.1 ADJUSTS ACCUMULATED DEPRECIATION; DO YOU AGREE?

A. No. First, the adjustment relies on RUCO's mid-month convention, which is improper. Second, RUCO improperly used several Havasu Water District depreciation rates instead of the currently approved rates for Mohave Water District.

E. <u>PARADISE VALLEY WATER DISTRICT</u>

Q. STAFF RATE BASE ADJUSTMENT NO. 1 REDUCES ACCUMULATED DEPRECIATION; DO YOU ACCEPT THIS ADJUSTMENT?

A. Yes. This adjustment corresponds to the rate-base adjustment for plant retirements, which I previously discussed.

Q. RUCO'S RATE-BASE ADJUSTMENT NO.1 ADJUSTS ACCUMULATED DEPRECIATION; DO YOU AGREE?

A. Yes. I made a math error in decreasing Paradise Valley's Accumulated Depreciation instead of increasing it. The appropriate correction is $100,554.

Q. RUCO'S RATE-BASE ADJUSTMENT NO.5 ADJUSTS ACCUMULATED DEPRECIATION FOR PARADISE VALLEY WELLS; DO YOU AGREE?

A. No. On RLM-3, Page 4 of 4, RUCO shows Wells & Springs on Line 17 at Test Year End as $1,436,130. On Exhibit RLM-4, Post Test Year Plant, RUCO should have included Well #17 for $288,080 and not included Well #12 for $1,935,000 since the Company withdrew the project before computing Accumulated Depreciation. Instead, RUCO shows a huge negative for plant leading to negative plant in service for wells of ($575,057). Further, they reduced Accumulated Depreciation in the Post Test Year Exhibit RLM-4 by a retirement for Well #12 that will not happen until the Well project is undertaken sometime this year.

F. <u>SUN CITY WEST WATER DISTRICT</u>

Q. RUCO'S RATE-BASE ADJUSTMENT NO.1 ADJUSTS ACCUMULATED DEPRECIATION; DO YOU AGREE?

A. No. RUCO improperly uses its half-month convention.

Q. RUCO'S RATE-BASE ADJUSTMENT NO.3 ADJUSTS ACCUMULATED DEPRECIATION TO ACCOUNT FOR TWO RETIREMENTS THAT WERE BOOKED IN SUN CITY WEST, BUT SHOULD HAVE BEEN ATTRIBUTED TO PARADISE VALLEY; DO YOU AGREE?

A. Yes, with one minor adjustment. The retirements occurred in November and December 2007, and under the Company's end of month depreciation methodology, would total $76,364. Using its improper mid-month convention, RUCO calculated a value of $76,531.

Q. RUCO'S RATE-BASE ADJUSTMENT NO.4 ADJUSTS ACCUMULATED DEPRECIATION TO ACCOUNT FOR PLANT BOOKED TO SUN CITY WEST, THAT SHOULD HAVE BEEN ATTRIBUTED TO AGUA FRIA WATER; DO YOU AGREE?

A. Yes, as long as it is correctly calculated. RUCO took out accumulated depreciation of $860 in Sun City West and added accumulated depreciation to Agua Fria in the amount of $2,375. These amounts should both be $2,446, as the depreciation rates for these items were the same in the two districts. Rate Base Adjustment LJG-1R calculates the correct amount.

G. <u>TUBAC WATER DISTRICT</u>

Q. RUCO'S RATE-BASE ADJUSTMENT NO.1 AGAIN ADJUSTS ACCUMULATED DEPRECIATION BASED ON ITS USE OF THE MID-MONTH CONVENTION; DO YOU AGREE?

A. Again, no.

H. <u>MOHAVE WASTEWATER DISTRICT</u>

Q. ARE THERE COMPANY ADJUSTMENTS TO ACCUMULATED DEPRECIATION?

A. Yes. New depreciation rates were ordered for this District in its last rate case, Decision No. 69440, effective May 1, 2007. This first adjustment, Rate Base Adjustment LJG-1R, calculates Accumulate Depreciation using those rates and provides a decrease of $17,306 from the Original Filing.

Q. WHAT IS THE ADJUSTMENT TO ACCUMULATED DEPRECIATION FOR THE GATEWAY WATER FACILITIES?

A. Accumulated depreciation was increased by $7,621 to reflect the additional depreciation that should have been calculated in Mohave Wastewater. This is Rate Base Adjustment LJG-2R.

Q. RUCO'S RATE-BASE ADJUSTMENT NO.1 AGAIN ADJUSTS ACCUMULATED DEPRECIATION BASED ON ITS USE OF THE MID-MONTH CONVENTION; DO YOU AGREE?

A. Again, no.

IV RATE BASE – ADVANCES IN AID OF CONSTRUCTION

A. AGUA FRIA WATER DISTRICT

Q. ARE THERE ANY ISSUES WITH ADVANCES FOR THE AGUA FRIA WATER DISTRICT?

A. Staff Adjustment No. 1 reduced advances for the Rancho Cabrillo project because it removed the associated plant from Utility Plant in Service. As I discussed above, we do not agree with either adjustment.

B. HAVASU WATER DISTRICT

Q. ARE THERE ANY ISSUES WITH ADVANCES FOR THE HAVASU WATER DISTRICT?

A. Not to my knowledge, based on reviewing Staff's and RUCO's testimony filings.

C. MOHAVE WATER DISTRICT

Q. RUCO'S RATE BASE ADJUSTMENT NO. 2 WOULD ADD BACK $291,910 TO ADVANCES FOR PLANT ITEMS THAT ARE STILL IN CWIP, RATHER THAN IN UTILITY PLANT IN SERVICE; DO YOU AGREE?

A. No. If plant is not in rate base to begin with, it is inappropriate to reduce rate base for the amount of advances directly associated with that plant. The reason Mr. Coley gives for opposing Arizona-American is that we have never asked for this treatment before, and all other utilities in Arizona are treated this way. It is true that Arizona-American has not previously treated advances in this matter, but that is irrelevant since each successive case

incorporates improvements to the process. The proposed accounting for advances is correct and consistent with Commission precedent. For example, Arizona Water excludes CWIP and excludes the associated advances and contributions. It makes no sense to reduce rate base for advances associated with plant that is not in rate base.

D. PARADISE VALLEY WATER DISTRICT

Q. ARE THERE ANY ISSUES WITH ADVANCES FOR THE PARADISE VALLEY WATER DISTRICT?

A. Not to my knowledge, based on reviewing Staff's and RUCO's testimony filings.

E. SUN CITY WEST WATER DISTRICT

Q. ARE THERE ANY ISSUES WITH ADVANCES FOR THE SUN CITY WEST WATER DISTRICT?

A. Not to my knowledge, based on reviewing Staff's and RUCO's testimony filings.

F. TUBAC WATER DISTRICT

Q. RUCO'S RATE BASE ADJUSTMENT NO. 2 WOULD ADD BACK $20,266 TO ADVANCES FOR PLANT ITEMS THAT ARE STILL IN CWIP, RATHER THAN IN UTILITY PLANT IN SERVICE; DO YOU AGREE?

A. No, for the reasons I just provided to reject RUCO's similar adjustment to the Mohave Water advance balance.

G. MOHAVE WASTEWATER DISTRICT

Q. ARE THERE ANY ISSUES WITH ADVANCES FOR THE MOHAVE WASTEWATER DISTRICT?

A. Staff deducted the advances associated with used and useful plant that they disallowed for having no invoices. We disagree with the plant disallowance and therefore with the advances disallowance of $306,362.

V RATE BASE – CONTRIBUTIONS IN AID OF CONSTRUCTION

A. AGUA FRIA WATER DISTRICT

Q. RUCO'S RATE BASE ADJUSTMENT NO. 2 WOULD ADD BACK $3,432,286 TO CONTRIBUTIONS FOR PLANT ITEMS THAT ARE STILL IN CWIP, RATHER THAN IN UTILITY PLANT IN SERVICE; DO YOU AGREE?

A. No, for the same reasons given above for advances in Mohave Water District.

Q. RUCO RATE BASE ADJUSTMENT NO. 3 WOULD MOVE AMORTIZATION OF CONTRIBUTIONS FROM MOHAVE WATER TO AGUA FRIA WATER; DO YOU AGREE?

A. Yes. Several years ago, the Company discovered a refund of Contributions was given and the amount was taken out of Mohave Water's contribution balance in error. A correction was made to move the refund to Agua Fria Water where it rightly belonged. When the Contribution balances were moved from Mohave Water, the associated amortization of these Contributions did not get moved. This was discovered in 2008 due to a response to one of Mr. McMurray's data requests about the balance in Amortization of Contributions. RUCO's adjustment corrects the error, which the Company has already made to its books.

B. HAVASU WATER DISTRICT

Q. RUCO'S RATE BASE ADJUSTMENT NO. 2 WOULD ADD BACK $10,645 TO CONTRIBUTIONS FOR PLANT ITEMS THAT ARE STILL IN CWIP, RATHER THAN IN UTILITY PLANT IN SERVICE; DO YOU AGREE?

A. No, for the reasons I just provided to reject RUCO's similar adjustment to the Agua Fria Water contribution balance.

C. MOHAVE WATER DISTRICT

Q. RUCO'S RATE BASE ADJUSTMENT NO. 2 WOULD ADD BACK $94,453 TO CONTRIBUTIONS FOR PLANT ITEMS THAT ARE STILL IN CWIP, RATHER THAN IN UTILITY PLANT IN SERVICE; DO YOU AGREE?

A. No, for the reasons I just provided to reject RUCO's similar adjustment to the Agua Fria Water contribution balance.

Q. RUCO RATE BASE ADJUSTMENT NO. 3 WOULD MOVE AMORTIZATION OF CONTRIBUTIONS FROM MOHAVE WATER TO AGUA FRIA WATER; DO YOU AGREE?

A. Yes. When the Contribution balances were moved from Mohave Water, the associated amortization of these Contributions did not get moved. RUCO's adjustment corrects the error, which the Company has already made to its books.

D. <u>PARADISE VALLEY WATER DISTRICT</u>

Q. RUCO'S RATE BASE ADJUSTMENT NO. 2 WOULD ADD BACK $322,588 TO CONTRIBUTIONS FOR PLANT ITEMS THAT ARE STILL IN CWIP, RATHER THAN IN UTILITY PLANT IN SERVICE; DO YOU AGREE?

A. No, for the reasons I just provided to reject RUCO's similar adjustment to the Agua Fria Water contribution balance.

E. <u>SUN CITY WEST WATER DISTRICT</u>

Q. RUCO'S RATE BASE ADJUSTMENT NO. 2 WOULD ADD BACK $17,318 TO CONTRIBUTIONS FOR PLANT ITEMS THAT ARE STILL IN CWIP, RATHER THAN IN UTILITY PLANT IN SERVICE; DO YOU AGREE?

A. No, for the reasons I just provided to reject RUCO's similar adjustment to the Agua Fria Water contribution balance.

F. <u>TUBAC WATER DISTRICT</u>

Q. ARE THERE ANY ISSUES WITH CONTRIBUTIONS FOR THE TUBAC WATER DISTRICT?

A. Not to my knowledge, based on reviewing Staff's and RUCO's testimony filings.

G. MOHAVE WASTEWATER DISTRICT

Q. RUCO'S RATE BASE ADJUSTMENT NO. 2 WOULD ADD BACK $65,395 TO CONTRIBUTIONS FOR PLANT ITEMS THAT ARE STILL IN CWIP, RATHER THAN IN UTILITY PLANT IN SERVICE; DO YOU AGREE?

A. No, for the reasons I just provided to reject RUCO's similar adjustment to the Agua Fria Water contribution balance.

VI RATE BASE – IMPUTED REGULATORY ADVANCES

A. AGUA FRIA WATER DISTRICT

Q. STAFF RATE BASE ADJUSTMENT NO. 3 WOULD ADD BACK $2,268,167 TO IMPUTED REGULATORY ADVANCES FOR THE PERIOD JANUARY 1, 2008 THROUGH JULY 15, 2008; DO YOU AGREE?

A. No. Mr. Broderick will discuss this issue in his Rebuttal Testimony.

B. HAVASU WATER DISTRICT

Q. STAFF RATE BASE ADJUSTMENT NO. 3 WOULD ADD BACK $34,679 TO IMPUTED REGULATORY ADVANCES FOR THE PERIOD JANUARY 1, 2008 THROUGH JULY 15, 2008; DO YOU AGREE?

A. No. Mr. Broderick will discuss this issue in his Rebuttal Testimony.

C. MOHAVE WATER DISTRICT

Q. STAFF RATE BASE ADJUSTMENT NO. 3 WOULD ADD BACK $348,557 TO IMPUTED REGULATORY ADVANCES FOR THE PERIOD JANUARY 1, 2008 THROUGH JULY 15, 2008; DO YOU AGREE?

A. No. Mr. Broderick will discuss this issue in his Rebuttal Testimony.

D. PARADISE VALLEY WATER DISTRICT

Q. STAFF RATE BASE ADJUSTMENT NO. 3 WOULD ADD BACK $233,188 TO IMPUTED REGULATORY ADVANCES FOR THE PERIOD JANUARY 1, 2008 THROUGH JULY 15, 2008; DO YOU AGREE?

A. No. The Paradise Valley Water District was not part of the Citizens acquisition and never received imputed advances. Mr. Broderick will discuss this issue in his Rebuttal Testimony.

E. SUN CITY WEST WATER DISTRICT

Q. STAFF RATE BASE ADJUSTMENT NO. 3 WOULD ADD BACK $1,006,408 TO IMPUTED REGULATORY ADVANCES FOR THE PERIOD JANUARY 1, 2008 THROUGH JULY 15, 2008; DO YOU AGREE?

A. No. Mr. Broderick will discuss this issue in his Rebuttal Testimony.

F. TUBAC WATER DISTRICT

Q. STAFF RATE BASE ADJUSTMENT NO. 3 WOULD ADD BACK $233,188 TO IMPUTED REGULATORY ADVANCES FOR THE PERIOD JANUARY 1, 2008 THROUGH JULY 15, 2008; DO YOU AGREE?

A. No. Mr. Broderick will discuss this issue in his Rebuttal Testimony. Further, this amount should be only $14,090. Staff appears to have used the Imputed CIAC amount from Sun City West Water.

G. MOHAVE WASTEWATER DISTRICT

Q. STAFF RATE BASE ADJUSTMENT NO. 3 WOULD ADD BACK $61,769 TO IMPUTED REGULATORY ADVANCES FOR THE PERIOD JANUARY 1, 2008 THROUGH JULY 15, 2008; DO YOU AGREE?

A. No. Mr. Broderick will discuss this issue in his Rebuttal Testimony.

VII RATE BASE – DEFERRED DEBITS

A. AGUA FRIA WATER DISTRICT

Q. STAFF RATE BASE ADJUSTMENT NO. 4 AND RUCO RATE BASE ADJUSTMENT NO. 5 WOULD REDUCE DEFERRED DEBITS BY $3,321,116. DO YOU AGREE?

A. Yes. These adjustments properly correct an error in Arizona-American's original filing.

B. HAVASU WATER DISTRICT

Q. STAFF RATE BASE ADJUSTMENT NO. 3 AND RUCO RATE BASE ADJUSTMENT NO. 5 WOULD REDUCE DEFERRED DEBITS BY $145,701. DO YOU AGREE?

A. Yes. These adjustments properly correct an error in Arizona-American's original filing.

C. MOHAVE WATER DISTRICT

Q. STAFF RATE BASE ADJUSTMENT NO. 4 AND RUCO RATE BASE ADJUSTMENT NO. 5 WOULD REDUCE DEFERRED DEBITS BY $1,649,972. DO YOU AGREE?

A. Yes. These adjustments properly correct an error in Arizona-American's original filing.

D. PARADISE VALLEY WATER DISTRICT

Q. STAFF RATE BASE ADJUSTMENT NO. 4 AND RUCO RATE BASE ADJUSTMENT NO. 5 WOULD REDUCE DEFERRED DEBITS BY $1,083,637. DO YOU AGREE?

A. Yes. These adjustments properly correct an error in Arizona-American's original filing.

E. SUN CITY WEST WATER DISTRICT

Q. STAFF RATE BASE ADJUSTMENT NO. 4 AND RUCO RATE BASE ADJUSTMENT NO. 5 WOULD REDUCE DEFERRED DEBITS BY $892,284. DO YOU AGREE?

A. Yes. These adjustments properly correct an error in Arizona-American's original filing.

F. <u>TUBAC WATER DISTRICT</u>

Q. STAFF RATE BASE ADJUSTMENT NO. 3 AND RUCO RATE BASE ADJUSTMENT NO. 5 WOULD REDUCE DEFERRED DEBITS BY $51,122. DO YOU AGREE?

A. Yes. These adjustments properly correct an error in Arizona-American's original filing.

G. <u>MOHAVE WASTEWATER DISTRICT</u>

Q. STAFF RATE BASE ADJUSTMENT NO. 4 AND RUCO RATE BASE ADJUSTMENT NO. 5 WOULD INCREASE DEFERRED DEBITS BY $7,071. DO YOU AGREE?

A. Yes. These adjustments properly correct an error in Arizona-American's original filing.

VIII <u>RATE BASE – CASH WORKING CAPITAL</u>

A. <u>AGUA FRIA WATER DISTRICT</u>

Q. STAFF RATE BASE ADJUSTMENT NO. 2 WOULD REDUCE CASH WORKING CAPITAL BY $1,474,153. DO YOU AGREE?

A. No. Please see Schedule B-5 Rebuttal, where I recalculate working capital by district. Ms. Hubbard will discuss her lead-lag study in her Rebuttal Testimony. Based on her revised lead-lag study, the correct amount of cash working capital for the Agua Fria Water Districtis $ 60,105, a decrease to the original filing of $1,349,754.

Q. RUCO RATE BASE ADJUSTMENT NO. 6 WOULD REDUCE CASH WORKING CAPITAL BY $1,318,023. DO YOU AGREE?

A. No. Based on Ms. Hubbard's revised lead-lag study, the correct amount of cash working capital for the Agua Fria Water Districtis $ 60,105 as discussed above.

B. <u>HAVASU WATER DISTRICT</u>

Q. STAFF RATE BASE ADJUSTMENT NO. 1 WOULD REDUCE CASH WORKING CAPITAL BY $124,904. DO YOU AGREE?

A. No. Based on Ms. Hubbard's revised lead-lag study, the correct amount of cash working capital for the Havasu Water District is $46,992, a decrease to the original filing of $55,427.

Q. RUCO RATE BASE ADJUSTMENT NO. 6 WOULD REDUCE CASH WORKING CAPITAL BY $57,366. DO YOU AGREE?

A. No. Based on Ms. Hubbard's revised lead-lag study, the correct amount of cash working capital for the Havasu Water District is $46,992 as discussed above.

C. <u>MOHAVE WATER DISTRICT</u>

Q. STAFF RATE BASE ADJUSTMENT NO. 2 WOULD REDUCE CASH WORKING CAPITAL BY $563,132. DO YOU AGREE?

A. No. Based on Ms. Hubbard's revised lead-lag study, the correct amount of cash working capital for the Mohave Water District is $185,707, a decrease to the original filing of $181,855.

Q. RUCO RATE BASE ADJUSTMENT NO. 6 WOULD REDUCE CASH WORKING CAPITAL BY $311,647. DO YOU AGREE?

A. No. Based on Ms. Hubbard's revised lead-lag study, the correct amount of cash working capital for the Mohave Water District is $185,707 as discussed above.

D. <u>PARADISE VALLEY WATER DISTRICT</u>

Q. STAFF RATE BASE ADJUSTMENT NO. 2 WOULD REDUCE CASH WORKING CAPITAL BY $589,957. DO YOU AGREE?

A. No. Based on Ms. Hubbard's revised lead-lag study, the correct amount of cash working capital for the Paradise Valley Water District is $79,326, a decrease to the original filing of $469,708.

Q. RUCO RATE BASE ADJUSTMENT NO. 7 WOULD REDUCE CASH WORKING CAPITAL BY $618,037. DO YOU AGREE?

A. No. Based on Ms. Hubbard's revised lead-lag study, the correct amount of cash working capital for the Paradise Valley Water District is $79,326 as discussed above.

E. <u>SUN CITY WEST WATER DISTRICT</u>

Q. STAFF RATE BASE ADJUSTMENT NO. 2 WOULD REDUCE CASH WORKING CAPITAL BY $522,003. DO YOU AGREE?

A. No. Based on Ms. Hubbard's revised lead-lag study, the correct amount of cash working capital for the Sun City West Water District is $77,120, a decrease to the original filing of $403,020.

Q. RUCO RATE BASE ADJUSTMENT NO. 6 WOULD REDUCE CASH WORKING CAPITAL BY $468,364. DO YOU AGREE?

A. No. Based on Ms. Hubbard's revised lead-lag study, the correct amount of cash working capital for the Sun City West Water District is $77,120 as discussed above.

F. <u>TUBAC WATER DISTRICT</u>

Q. STAFF RATE BASE ADJUSTMENT NO. 1 WOULD REDUCE CASH WORKING CAPITAL BY $2,332. DO YOU AGREE?

A. No. Based on Ms. Hubbard's revised lead-lag study, the correct amount of cash working capital for the Tubac Water District is $21,683, a decrease to the original filing of $18,982.

Q. RUCO RATE BASE ADJUSTMENT NO. 8 WOULD REDUCE CASH WORKING CAPITAL BY $24,455. DO YOU AGREE?

A. No. Based on Ms. Hubbard's revised lead-lag study, the correct amount of cash working capital for the Tubac Water District is $21,683 as discussed above.

G. <u>MOHAVE WASTEWATER DISTRICT</u>

Q. STAFF RATE BASE ADJUSTMENT NO. 2 WOULD REDUCE CASH WORKING CAPITAL BY $22,552. DO YOU AGREE?

A. No. Based on Ms. Hubbard's revised lead-lag study, the correct amount of cash working capital for the Mohave Wastewater District is $425, a decrease to the original filing of $57,933.

Q. RUCO RATE BASE ADJUSTMENT NO. 6 WOULD REDUCE CASH WORKING CAPITAL BY $64,685. DO YOU AGREE?

A. No. Based on Ms. Hubbard's revised lead-lag study, the correct amount of cash working capital for the Mohave Wastewater District is $425 as discussed above.

H. <u>SUMMARY OF REBUTTAL RATE BASE POSITIONS.</u>

Q. PLEASE SUMMARIZE THE COMPANY'S REBUTTAL RATE BASE POSITION FOR EACH DISTRICT.

A. The table below summarizes Arizona-American's rebuttal position.

	Rate Base
Agua Fria	$92,349,679

Havasu	$3,224,575
Mohave Water	$10,889,904
Paradise Valley	$37,436,060
Sun City West Water	$38,374,522
Tubac Water	$1,457,349
Mohave Wastewater	$5,138,539

IX REVENUE

A. HAVASU WATER DISTRICT

Q. DOES ARIZONA-AMERICAN HAVE ANY REBUTTAL ADJUSTMENTS TO REVENUE FOR THE HAVASU WATER DISTRICT?

A. Yes. Arizona-American is adjusting Present Rate Revenue for the annualization of the ACRM Phase 2 increase which occurred as a result of Decision No. 70626 effective November 19, 2008. This adjustment increases Present Rate Revenue by $150,935. Attached is Schedule C-2 Rebuttal, Income Statement Adjustment LJG-1R.

B. PARADISE VALLEY WATER DISTRICT

Q. DOES ARIZONA-AMERICAN HAVE ANY REBUTTAL ADJUSTMENTS TO REVENUE FOR THE PARADISE VALLEY WATER DISTRICT?

A. Yes. Arizona-American is adjusting Present Rate Revenue for the annualization of the ACRM Phase 2 increase which occurred as a result of Decision No. 70560 effective September 3, 2008. This adjustment increases Present Rate Revenue by $371,853. Attached is Schedule C-2 Rebuttal, Income Statement Adjustment LJG-1R.

C. SUN CITY WEST WATER DISTRICT

Q. DOES ARIZONA-AMERICAN HAVE ANY REBUTTAL ADJUSTMENTS TO REVENUE FOR THE SUN CITY WEST WATER DISTRICT?

A. Yes. Arizona-American is adjusting Present Rate Revenue for the annualization of the ACRM Phase 2 increase which occurred as a result of Decision No. 70703 effective January 20, 2009. This adjustment increases Present Rate Revenue by $155,835. Attached is Schedule C-2 Rebuttal, Income Statement Adjustment LJG-1R.

X DEPRECIATION EXPENSE

A. AGUA FRIA WATER DISTRICT

Q. DOES ARIZONA-AMERICAN HAVE ANY REBUTTAL ADJUSTMENTS TO ANNUAL DEPRECIATION EXPENSE FOR THE AGUA FRIA DISTRICT?

A. Yes. As I discussed above, Arizona-American reduced the Plant accounts for the actual costs of the Sierra Montana 2.2 MG Reservoir. This also would reduce annualized depreciation expense by $5,316. The effect is shown on Schedule C-2, Rebuttal Adjustment SLH-7R.

B. HAVASU WATER DISTRICT

Q. DOES ARIZONA-AMERICAN HAVE ANY REBUTTAL ADJUSTMENTS TO ANNUAL DEPRECIATION EXPENSE FOR THE HAVASU WATER DISTRICT?

A. Yes. In Decision No. 67093, dated June 30, 2004, the depreciation rates for Havasu District changed. The work paper to calculate depreciation did not get updated to the new rates. The new rates would increase annual depreciation expense by $9,761. Also, we removed the Gateway Water and Wastewater Plant from Havasu District and added it to Mohave Water and Mohave Wastewater, respectively. This reduced annual depreciation expense by $22,440. The two changes result in a net decrease to depreciation expense of $12,679. Please see the effect on Schedule C-2, Rebuttal Adjustment SLH-7R.

C. MOHAVE WATER DISTRICT

Q. DOES ARIZONA-AMERICAN HAVE ANY REBUTTAL ADJUSTMENTS TO ANNUAL DEPRECIATION EXPENSE FOR THE MOHAVE WATER DISTRICT?

A. Yes, I have two adjustments. The first change is due to moving the Gateway Water Plant from the Havasu Water District to the Mohave Water District. Plant increased by $721,333 and depreciation expense increases $16,386 for these facilities. The second change decreases depreciation expense for post test year plant by $334. Although the actual costs are higher than the estimated costs, the specific plant accounts that are used in the final actual costs spread the depreciation differently than the estimated costs and plant accounts did. Please see the effect on Schedule C-2, Rebuttal Adjustment SLH-7R.

D. <u>PARADISE VALLEY WATER DISTRICT</u>

Q. DOES ARIZONA-AMERICAN HAVE ANY REBUTTAL ADJUSTMENT TO ANNUAL DEPRECIATION EXPENSE FOR THE PARADISE VALLEY WATER DISTRICT?

A. Yes. The Post Test Year amount for depreciation expense is reduced by $51,921 to $9,403 due to the delay in the Well No. 12 rehabilitation project. Please see the effect on Schedule C-2, Rebuttal Adjustment SLH-7R.

E. <u>SUN CITY WEST WATER DISTRICT</u>

Q. DOES ARIZONA-AMERICAN HAVE ANY REBUTTAL ADJUSTMENT TO ANNUAL DEPRECIATION EXPENSE FOR THE SUN CITY WEST WATER DISTRICT?

A. Yes. There were two rate base adjustments to Utility Plant in Service that effect the Annual Depreciation Expense in Sun City West Water District. The first was to add back $76,672 in retirements from November and December 2007 that belonged in Paradise Valley. The second was to remove additions that occurred in January and February 2005

in Sun City West Water that actually belonged in Agua Fria Water. The net result of the additions to plant is $2,606 in additional depreciation expense. Please see the effect on Schedule C-2, Rebuttal Adjustment SLH-7R.

F. MOHAVE WASTEWATER DISTRICT

Q. DOES ARIZONA-AMERICAN HAVE ANY REBUTTAL ADJUSTMENTS TO ANNUAL DEPRECIATION EXPENSE FOR THE MOHAVE WASTEWATER DISTRICT?

A. Yes, I have three adjustments. Decision No. 69440, effective May 1, 2007, changed the approved depreciation rates for Mohave Wastewater District. This change in depreciation rates results in a decrease in annual depreciation expense of $23,880. The second adjustment is needed to account for moving the Gateway Wastewater Treatment Plant from the Havasu Water District to the Mohave Wastewater District. The additional plant results in additional depreciation expense of $2,406. The third adjustment to annual depreciation expense flows from including the actual costs of the Wishing Well Treatment Plant in plant. The actual costs were higher than the estimate by $343,959 and the resulting increase in annual depreciation expense is $10,627.

The net result of the three adjustments is to decrease annual depreciation expense by ($10,856). Please see the effect on Schedule C-2, Rebuttal Adjustment SLH-7R.

G. ALL DISTRICTS

Q. DO YOU RECOMMEND ANY COMMON CHANGES TO DEPRECIATION RATES THAT WOULD APPLY TO ALL DISTRICTS?

A. Yes. My first recommendation concerns Account 304510. Currently, Staff is recommending a depreciation rate of 1.67%, or 60 years, for professional services, permits, fees, and other costs association with evaluating, developing, and setting up our

Corporate Offices on 7th Street. The life of the lease is seven years, so I recommend a rate of 14.28% to reflect depreciating the set up over the life of the lease.

My second recommendation concerns Account 334100, Meters. Mr. Troy Day is explaining in his testimony that we are on a program to change meters every 15 years. Therefore, I recommend a rate of 6.7% for all districts. We currently have rates ranging from 2.51% (40 years) to Mohave's recently approved 6.53%.

My third recommendation concerns Account 339600. We use this account for comprehensive planning studies, which are done every five years. Currently, we have 0% depreciation expense. Our Internal Audit Department is questioning why the rate is not 20%. I recommend a 20% rate to reflect the five-year applicable period of these studies.

My fourth recommendation concerns Account 340200, Computer & Peripheral Equipment. Staff is recommending a 10% rate for Agua Fria, Paradise Valley, Sun City West, and Corporate, but is recommending rates of 4.47% for Havasu, 15.59% for Mohave Water, and 10.83% for Tubac. I recommend using one rate of 10% for every district.

My fifth recommendation concerns Account 341100, Transportation Equipment Light Trucks. This account is used for smaller pick up trucks. Staff's recommended depreciation rate for our districts varies from 20% to 25%. I recommend that we use either rate consistently for all districts.

My final recommendation concerns Account 341400, Transportation Equipment – Other. This account reflects depreciation being taken on golf carts purchased for meter readers. The only approved rate is 0.93% in Paradise Valley. In April of 2008, we purchased golf

carts in Agua Fria and Mohave Water. Golf carts last four to six years, so I recommend a consolidated rate of 20% for every district.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

MOHAVE WATER DISTRICT

EXHIBIT LJG – R1

INVOICES FOR MIRA MONTE @ FAX CREEK
SILVER BUTTE CONSTRUCTION

Unconditional Waiver and Release on Final Payment

Project: Mira Monte Classic located at _____

Job No.: 2425 on site

The undersigned has been paid in full for all labor, services, equipment or material furnished to be job-site or to Silver Butte Const.
(person with whom undersigned contracted)

on the job of Brookfield Com (owner) located at Mira Monte Classic (job description) Waterline on site

and does hereby waive and release any right to 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, except for disputed claims for extra work in the amount of $ 68,514.60

The undersigned warrants that he either has already paid or will use the monies he receives from this final 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.

Date: 3/14/06

Silver Butte Const (Company name)

By: [signature] (Signature)

Secretary/Treasurer (Title)

Notice:
This document waives rights unconditionally and states that you have been paid for giving up those rights. This document is enforceable against you if you sign it, even if you have not been paid. If you have not been paid, use a conditional release form.

2/95 AWWS Co. Standard Documents UW-1

SILVER BUTTE CONSTRUCTION

1788 Hwy 95 Ste #18
BULLHEAD CITY AZ 86439

License #: 136273 AZ 50720 NV

CONTRACT INVOICE

Invoice#: 222238
Invoice Date: 10/30/2008
Due Date: 10/30/2008
Order:

TO: Brookfield Communities
3101 North Central Ave
Phoenix AZ 85012

PROJECT: Mira Monte Classic On Site
3101 North Central Ave
Phoenix AZ 85012

Description	Quantity	Units	Price	Amount
8 - 8" C900 CL 200	1,034.0000		19.150000	19,801.10
9 - Fire Hydrant	3.0000		2,984.000000	8,952.00
10- 6" C900 CL200	625.0000		16.080000	10,050.00
11 - 8" x 6" Reducer	2.0000		252.000000	504.00
12 - 8" x 6" Tee	3.0000		395.000000	1,185.00
13 - 8" Tee	3.0000		395.000000	1,185.00
14 - 8" Flg Adapter	3.0000		252.000000	756.00
15 - 8" Gate Valve	6.0000		874.000000	5,244.00
16 - 6" Gate Valve	2.0000		630.000000	1,260.00
17 - 8" Fittings	10.0000		161.000000	1,610.00
19 - 6" Cap & Blow off	2.0000		440.000000	880.00
20 - 8" Cap & Blow off	3.0000		450.000000	1,350.00
21 - Double Services	28.0000		439.000000	12,292.00
22 - Single Services	5.0000		329.000000	1,645.00
30- Raise Manholes	8.0000		225.000000	1,800.00

Notes:

Non-taxable Amount:	68,514.10
Taxable Amount:	0.00
Sales Tax:	0.00
Amount Due:	68,514.10

Please Pay This Amount $68,514.10

A service charge of 0.00 % per annum will be charged on all amounts overdue on regular statement dates.
Please make check payable to SILVER BUTTE CONSTRUCTION
Thank You for your prompt payment!

Unconditional Waiver and Release on Final Payment

Project: Mira Monte Vista on Site located at _____

Job No.: 2423

The undersigned has been paid in full for all labor, services, equipment or material furnished to he job-site or to Silver Butte Construction
(person with whom undersigned contracted)

on the job of Brookfield Communities (owner) located at Waterline Mira Monte Vista on Site (job description)

and does hereby waive and release any right to 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, except for disputed claims for extra work in the amount of $ 65,584.40

The undersigned warrants that he either has already paid or will use the monies he receives from this final 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.

Date: 3/23/06

Silver Butte Constr (Company name)

By [signature] (Signature)

Secretary/treasurer (Title)

Notice:
This document waives rights unconditionally and states that you have been paid for giving up those rights. This document is enforceable against you if you sign it, even if you have not been paid. If you have not been paid, use a conditional release form.

SILVER BUTTE CONSTRUCTION

1788 Hwy 95 Ste #18
BULLHEAD CITY AZ 86439

License #: 136273 AZ 50720 NV

CONTRACT INVOICE

Invoice#: 222236
Invoice Date: 10/30/2008
Due Date: 10/30/2008
Order:

TO: Brookfield Communities
3101 North Central Ave
Phoenix AZ 85012

PROJECT: Mira Monte Vistas Onsite
3101 North Central Ave
Phoenix AZ 85012

Description	Quantity	Units	Price	Amount
8" x 6" Resevoir md	1.0000		252.000000	252.00
Fire hydrant assembly	4.0000		2,984.000000	11,936.00
8" 45 degree, 22.5, 11 1/4	11.0000		161.000000	1,771.00
6" cap & blowoff	1.0000		440.000000	440.00
Double Services	29.0000		439.000000	12,731.00
Single Services	3.0000		329.000000	987.00
8" c900 cl 200	1,762.0000		19.150000	33,742.30
Water Valves	3.0000		225.000000	675.00
6" c900 cl 200	120.0000		16.080000	1,929.60
8" cap & Blow off	2.0000		480.000000	960.00
8" 11.25	1.0000		161.000000	161.00

Notes:

Non-taxable Amount:	65,584.90
Taxable Amount:	0.00
Sales Tax:	0.00
Amount Due:	65,584.90

Please Pay This Amount $65,584.90

A service charge of 0.00 % per annum will be charged on all amounts overdue on regular statement dates.
Please make check payable to SILVER BUTTE CONSTRUCTION
Thank You for your prompt payment!

EXHIBIT
A-27
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

KRISTIN K. MAYES, Chairman
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

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 AGUA FRIA WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT	DOCKET NO. W-01303A-08-0227
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 MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227

REJOINDER TESTIMONY
OF
LINDA J. GUTOWSKI
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
DATED MARCH 11, 2009

REJOINDER TESTIMONY
OF
LINDA J. GUTOWSKI
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
DATED MARCH 11, 2009

TABLE OF CONTENTS

EXECUTIVE SUMMARY ..... **iii**
I INTRODUCTION AND QUALIFICATIONS **1**
II RATE BASE – UTILITY PLANT IN SERVICE **1**
A. AGUA FRIA WATER DISTRICT 1
B. HAVASU WATER DISTRICT 2
C. MOHAVE WATER DISTRICT 2
D. PARADISE VALLEY WATER DISTRICT 2
E. SUN CITY WEST WATER DISTRICT 3
F. TUBAC WATER DISTRICT 3
G. MOHAVE WASTEWATER DISTRICT 3
III RATE BASE – ACCUMULATED DEPRECIATION **5**
A. ALL DISTRICTS 5
IV RATE BASE – ADVANCES IN AID OF CONSTRUCTION **6**
A. HAVASU WATER DISTRICT 6
V RATE BASE – CONTRIBUTIONS IN AID OF CONSTRUCTION **6**
A. AGUA FRIA WATER DISTRICT 6
VI RATE BASE – DEFERRED DEBITS **8**
VII RATE BASE – CASH WORKING CAPITAL (..... **8**
A. SUMMARY OF REJOINDER RATE BASE POSITIONS 8
VIII DEPRECIATION EXPENSE **9**
A. ALL DISTRICTS 9

EXECUTIVE SUMMARY

Linda J. Gutowski responds to Staff and RUCO surrebuttal testimony concerning rate-base issues and depreciation expense.

RATE BASE – UTILITY PLANT IN SERVICE

AGUA FRIA WATER DISTRICT

In Rebuttal Adjustment LJG-1R, Arizona-American is reducing the cost of the Sierra Montana 2.2 MG Reservoir from an estimated amount to the actual cost. This adjustment reduces Plant in Service by $252,470.

Staff has failed to include an upward adjustment of $18,581 for Agua Fria projects that were originally added to Sun City West Water district in error.

HAVASU WATER DISTRICT

Arizona-American moves the Step 2 ACRM Deferral allowed in Decision No. 70626 from Utility Plant in Service to Deferred Debits. This does two things – puts the deferral where it is booked, and reduces depreciation expense for Arizona-American by removing it from Plant.

Staff removed the Gateway Water Plant from Havasu, but erroneously left the Gateway Sewer Plant in Havasu.

MOHAVE WATER DISTRICT

Staff still left the Mira Monte project plant out of plant in service, despite being provided the invoices.

PARADISE VALLEY WATER DISTRICT

Both Staff and RUCO once again have incorrectly included the deferred Well No. 12 project in rate base.

SUN CITY WEST WATER DISTRICT

Staff failed to remove $18,581 in Agua Fria project costs that were erroneously recorded in Sun City West Water District's rate base

MOHAVE WASTEWATER DISTRICT

Even though the Company has demonstrated that most of the construction costs were to upgrade the existing capacity, both Staff and RUCO still recommend disallowances under the false assumption that all construction costs were to expand capacity. There should not be any disallowances of new plant which upgraded existing capacity.

RATE BASE – ACCUMULATED DEPRECIATION

ALL DISTRICTS

RUCO still claims without support that Arizona-American cannot change its accounting methodology.

RATE BASE – ADVANCES IN AID OF CONSTRUCTION

HAVASU WATER DISTRICT

The advances associated with the Gateway Water Plant need to be removed from Havasu Water's rate base and included in Mohave Water's rate base.

RATE BASE – CONTRIBUTIONS IN AID OF CONSTRUCTION

AGUA FRIA WATER DISTRICT

Staff and RUCO continue to include the advances and contributions related to plant that is in CWIP. Arizona-American does not receive cash from developers, it receives plant. There is nothing to offset existing plant in rate base, until the new plant leaves CWIP to rate base.

Staff failed to accept an adjustment of $28,019 of Accumulated Amortization of Contributions in Aid of Construction ("CIAC") that should be moved from Mohave Water to Agua Fria Water. The CIAC was moved, but the associated reduction for accumulated amortization was not.

RATE BASE – DEFERRED DEBITS

HAVASU WATER DISTRICT

Arizona-American moved the Step 2 ACRM deferral out of Utility Plant in Service and into a Regulatory Asset.

SUMMARY OF ARIZONA-AMERICAN'S REJOINDER RATE BASE POSITIONS

	Rate Base
Agua Fria	$92,049,310
Havasu	$3,887,188
Mohave Water	$10,235,260
Paradise Valley	$37,398,279
Sun City West Water	$38,382,791
Tubac Water	$1,457,349
Mohave Wastewater	$5,134,633

DEPRECIATION EXPENSE

For corporate plant, Staff incorrectly uses different depreciation rates for allocations of the same plant to different districts.

Staff failed to include the following amounts in the following districts for the amortization of regulatory expenses which were approved in Decision 67093:

	Amortization Exp
Agua Fria Water	$2.918
Havasu Water	$ 834
Mohave Water	$9,384
Paradise Valley	$ 72
Sun City West	$5,841
Tubac	$ 0
Mohave Wastewater	$ 0

Arizona-American has supported its 15-year program of meter change-outs, so an average vintage life of 6.6% is appropriate.

Arizona-American inadvertently included the Depreciation Expense of the Citizens' Acquisition Adjustment in Agua Fria Water for $230,973 and in Havasu Water for $13,852 and has now removed this expense.

Staff should have amortized Havasu Water District ACRM O&M over 12 years for an annual amortization expense of $7,916.

I INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME, ADDRESS, AND TELEPHONE NUMBER.

A. My name is Linda J. Gutowski. My business address is 19820 N. 7th Street, Suite 201, Phoenix, Arizona 85024, and my telephone number is 623-445-2401.

Q. ARE YOU THE SAME LINDA J. GUTOWSKI WHO PREVIOUSLY SUBMITTED DIRECT AND REBUTTAL TESTIMONY IN THIS DOCKET?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR REJOINDER TESTIMONY?

A. I will respond to Staff and RUCO Surrebuttal testimony concerning rate-base issues. Please note that I have organized my rejoinder testimony to address each of the rate base topics separately by district (Sections II-VIII). Where I am silent on a topic, I continue to support my positions taken in Direct testimony and as revised in Rebuttal testimony. Then, I discuss depreciation expense (Section X).

II RATE BASE – UTILITY PLANT IN SERVICE

A. AGUA FRIA WATER DISTRICT

Q. DO YOU HAVE ANY ADJUSTMENTS TO MAKE TO ARIZONA-AMERICAN'S REBUTTAL?

A. Yes. In Rebuttal Adjustment LJG-1R, Arizona-American is reducing the cost of the Sierra Montana 2.2 MG Reservoir from an estimated amount to the actual cost. This adjustment reduces Plant in Service by $252,470. Inadvertently, this amount did not get subtracted from the total. Please see Schedule B-2 Rejoinder attached.

Q. ARE THERE ANY OBSERVATIONS YOU WOULD LIKE TO MAKE ABOUT THE OTHER PARTIES' POSITIONS THAT YOU HAVE NOT ALREADY ADDRESSED IN REBUTTAL?

A. Yes. Staff has failed to include an upward adjustment of $18,581 for Agua Fria projects that were originally added to Sun City West Water district in error.

B. <u>HAVASU WATER DISTRICT</u>

Q. WHAT IS ADJUSTMENT LJG-1RJ FOR HAVASU WATER DISTRICT?

A. I am moving the Step 2 ACRM Deferral allowed in Decision No. 70626 from Utility Plant in Service to Deferred Debits. This does two things – reflects the deferral where it is recorded in the Company's books and records, and reduces depreciation expense for Arizona-American by removing it from Plant. Ms. Hubbard amortized the deferral in her rebuttal exhibit SLH-13R, and by including the investment in Plant, I was duplicating the expense. This adjustment does not change the amount of the Company's proposed Rate Base.

Q. ARE THERE ANY OBSERVATIONS YOU WOULD LIKE TO MAKE ABOUT THE OTHER PARTIES' POSITION THAT YOU HAVE NOT ALREADY ADDRESSED IN REBUTTAL?

A. Yes. Staff removed the Gateway Water Plant from Havasu, but erroneously left the Gateway Sewer Plant in Havasu.

C. <u>MOHAVE WATER DISTRICT</u>

Q. DO YOU HAVE ANY COMMENTS ABOUT STAFF'S UTILITY PLANT FOR THE MOHAVE WATER DISTRICT?

A. Yes. I earlier attached to my rebuttal testimony the invoices for the Mira Monte project that were missing when Mr. Becker performed his audit. Staff still left this plant out in surrebuttal, (incorrectly) claiming a lack of invoices.

D. <u>PARADISE VALLEY WATER DISTRICT</u>

Q. CAN YOU COMMENT ON THE TREATMENT OF THE WELL NO. 12 REHABILITATION PROJECT IN THE SURREBUTTAL TESTIMONY OF BOTH STAFF AND RUCO?

A. Yes. In RUCO's direct testimony, it removed the rehabilitation of Well No. 12 project, as it is not going forward at this time. Arizona-American accepted that adjustment in its rebuttal testimony. Both Staff and RUCO once again have included the project in rate base. RUCO states that it is taking it out, but its exhibit does not remove it. Staff just does not address the issue in its direct or surrebuttal testimony.

E. <u>SUN CITY WEST WATER DISTRICT</u>

Q. DID STAFF INCLUDE THE $18,581 IN AGUA FRIA PROJECT COSTS THAT WERE ERRONEOUSLY RECORDED IN SUN CITY WEST WATER DISTRICT'S RATE BASE?

A. No.

F. <u>TUBAC WATER DISTRICT</u>

Q. ARE THERE ANY PLANT-IN-SERVICE ISSUES FOR THE TUBAC WATER DISTRICT?

A. No. Arizona-American, Staff and RUCO are in agreement.

G. <u>MOHAVE WASTEWATER DISTRICT</u>

Q. WHAT HAS HAPPENED WITH THE WISHING WELL TREATMENT PLANT IN MOHAVE WASTEWATER DISTRICT?

A. Staff has removed all of it, and RUCO has removed exactly half of it.

Q. WHY IS RUCO'S ADJUSTMENT HALF OF PROJECT?

A. Mr. Coley says that RUCO will think about our rebuttal testimony, specifically Mr. Gross's testimony which breaks out the project between improvements to the (then)

existing capacity and expansion of the capacity. Mr. Gross testifies that of the $4.2 million project cost, improvements to the wastewater treatment plant account for $2.8 million, while expansion of the wastewater treatment plant cost $1.4 million. Meanwhile, RUCO removed 50 percent of the entire $4.2 million. I highlight RUCO's position because if RUCO's recommendation is adopted and 50 percent of the expansion is to be removed from this case, it would be more accurate if RUCO removed only $0.7 million – which is one-half of the cost of the expansion.

Q. WHAT IS STAFF'S REASONING FOR DELETING THE ENTIRE PROJECT?

A. Staff quotes criteria in their direct and surrebuttal testimony for determining whether to include post test year plant in rate base.

Q. CAN YOU DISCUSS THESE CRITERIA ONE AT A TIME?

A. Yes. The number one criterion that Staff states is, "When the magnitude of the investment relative to the utility's total investment is such that not including the post test year plant in the cost of service would jeopardize the utility's financial health." As a result of this statement, Arizona-American asked Staff for their definition of "jeopardize the utility's financial health" in Arizona-American Data Request No. 1.2. Staff could provide no answer except to reiterate the statement above. See the attached Data Request response under Exhibit LJG-1RJ. At $4.2 million this project is 4.7 times the pre-existing rate base of less than $0.9 million. In the past, Staff has said that a times interest earned ratio of less than one is not sustainable, yet Arizona-American's ratio is 0.7 times.

Criterion 2.b says "The net impact on revenue and expenses for the post test year plant is known and insignificant, or is revenue neutral". Arizona-American again asked Staff for their definition of "revenue neutral", and their response is attached in Exhibit LJG-1RJ. It doesn't expand their interpretation about what they would define as revenue neutral.

To Arizona-American, "revenue neutral" means the post test year plant is serving existing customers rather than new customers. The plant was improved out of a desperate need, as explained by Mr. Gross, to upgrade the facilities. Therefore, although the increase at 46%, net of operational savings, is large, the project is revenue neutral.

The final criterion is 2.c. "The post test year plant is prudent and necessary for the provision of services and reflects appropriate, efficient, effective and timely decision-making." Since the plant was regularly at 90% capacity and some mornings over 100% capacity, the investment was, in fact, prudent and necessary to provide adequate service and accordingly, this criterion is also satisfied.

The Wishing Well Treatment Plant was planned and built in a timely fashion. It is appropriate to include it in rate base. All of the criteria Staff laid out on page 7 of Mr. Becker's Surrebuttal testimony have been satisfied.

Q. WHAT DID STAFF HAVE TO SAY ABOUT MEETING THESE CRITERIA?

A. They said they recommend disallowance and did not give any further explanation.

III <u>RATE BASE – ACCUMULATED DEPRECIATION</u>

A. <u>ALL DISTRICTS</u>

Q. RUCO HAS RECOMPUTED DEPRECIATION EXPENSE FOR ALL DISTRICTS CLAIMING THAT THEY ARE OF THE "OPINION" THAT ARIZONA-AMERICAN HAS NO RIGHT TO CHANGE FROM ONE ACCEPTABLE METHOD OF DEPRECIATION TO ANOTHER ACCEPTABLE METHOD WITHOUT GETTING COMMISSION APPROVAL THROUGH AN ACCOUNTING ORDER; DO YOU AGREE?

A. No. Arizona-American is not aware of any such requirement from the Commission. RUCO does not point to any Commission rule requiring approval by the Commission and without such a rule, Arizona-American simply does not agree.

IV RATE BASE – ADVANCES IN AID OF CONSTRUCTION

A. HAVASU WATER DISTRICT

Q. DO YOU HAVE ANY ADJUSTMENTS FOR ADVANCES IN HAVASU WATER DISTRICT?

A. Yes. The adjustments proposed in my rebuttal testimony to reclassify the Gateway Water plant and accumulated depreciation from Havasu to Mohave Water failed to reclassify the associated advances. The advances associated with the Gateway Water Plant need to be removed from Havasu Water's rate base and included in Mohave Water's rate base. The amount is a reduction to Havasu Advances and an increase to Mohave Water's Advances of $656,267. This adjustment is reflected on Schedule B-2-Rejoinder as accepting Staff RB # 5.

V RATE BASE – CONTRIBUTIONS IN AID OF CONSTRUCTION

A. AGUA FRIA WATER DISTRICT

Q. DO YOU HAVE ANY COMMENTS ABOUT THE PARTIES' POSITION ON CONTRIBUTIONS IN AGUA FRIA WATER DISTRICT?

A. Yes. In my rebuttal testimony, I identified $28,019 of Accumulated Amortization of Contributions in Aid of Construction ("CIAC") that should be moved from Mohave Water to Agua Fria Water. The CIAC was moved, but the associated reduction for accumulated amortization was not. In my rebuttal, I show an increase (debit) to the amortization of CIAC's in Mohave Water, thereby increasing the net CIAC's in Mohave Water, and an increase (credit) to the amortization of CIAC's in Agua Fria, thereby lowering the net CIAC's in Agua Fria. Staff did not accept this adjustment to the

Accumulated Amortization. The information was provided to Staff in our response to Staff's DR GTM 18.7, 2nd supplement.

Q. DO STAFF AND RUCO CONTINUE TO INCLUDE THE ADVANCES AND CONTRIBUTIONS RELATED TO PLANT THAT IS IN CWIP?

A. Yes. Both Staff and RUCO are under the mistaken impression that Arizona-American receives funds for AIAC and CIAC. Arizona-American does not receive cash – we receive plant. We take in wells, pumps, tanks, mains, meters, etc. The developer builds the plant using his funds, and advances it or contributes it. It is recorded in CWIP and the offset is to either Advances or Contributions. When the project is completed, it is transferred from CWIP to Utility Plant in Service. But until it does, the engineering estimate is used to create the entry in CWIP and the offset entry. There are no "funds" available to build other components or other plant in service as Staff and RUCO believe. Contrary to their allegations, Arizona-American does not accrue AFUDC on developer advanced or contributed projects. When the plant is in Utility Plant in Service, then it is appropriate to deduct the associated AIAC and CIAC when calculating rate base. However, when the plant is still in CWIP, it is improper to deduct the associated AIAC and CIAC because the associated plant is in CWIP which is not in rate base. The amounts at issue here are:

District	CIAC	AIAC
Agua Fria Water	$3,432,286	
Havasu Water	$10,845	
Mohave Water	$94,452	$291,909
Paradise Valley	$322,588	
Sun City West Water	$17,318	
Tubac Water		$20,266
Mohave Wastewater	$65,395	
Total	$3,942,884	$312,175

RUCO and Staff are simply incorrect on this issue.

Q. WHAT ABOUT RUCO'S ARGUMENT THAT ARIZONA-AMERICAN SHOULD TO BE TREATED THE WAY ALL UTILITIES IN ARIZONA ARE?

A. In Arizona Water Company (Decision No. 68302, November 14, 2004) the Commission approved what the Staff accepted - a reduction in AIAC for outside-funded projects that remained in CWIP at the end of the test year that were excluded from rate base. In that case, Arizona Water's Coolidge and Casa Grande water districts had outside-funded projects in CWIP. Both districts' rate base included adjustments to reduce AIACs for the CWIP excluded from rate base. By comparing Arizona Water's Schedules B-2 and Staff Exhibit REL-3 in Surrebuttal , one can see the amount allowed in Advances for the Coolidge District and the Casa Grande District. Copies of these papers are attached as Exhibit LJG-3RJ.

VI RATE BASE – DEFERRED DEBITS

Q. WHY HAVE YOU INCREASED THE DEFERRED DEBITS IN HAVASU WATER DISTRICT?

A. I have moved the Step 2 ACRM deferral out of Utility Plant in Service and into a Regulatory Asset.

VII RATE BASE – CASH WORKING CAPITAL (

Please see Ms. Hubbard's rejoinder testimony for changes to Cash Working Capital.)

A. SUMMARY OF REJOINDER RATE BASE POSITIONS.

Q. PLEASE SUMMARIZE ARIZONA-AMERICAN'S REJOINDER RATE BASE POSITION FOR EACH DISTRICT.

A. The table below summarizes Arizona-American's rejoinder position.

	Rate Base
Agua Fria	$92,049,310
Havasu	$3,887,188
Mohave Water	$10,235,260
Paradise Valley	$37,398,279
Sun City West Water	$38,382,791
Tubac Water	$1,457,349
Mohave Wastewater	$5,134,633

VIII DEPRECIATION EXPENSE

A. ALL DISTRICTS

Q. DOES ARIZONA-AMERICAN HAVE ANY REJOINDER COMMENTS FOR ANNUAL DEPRECIATION EXPENSE?

A. Yes. For corporate plant, Mr. McMurry uses different depreciation rates for allocations of the same plant to different districts. Arizona American cannot depreciate a desk at its Corporate offices using different depreciation rates for each of its 13 districts. The plant can be allocated, but the depreciation rates should be same. If you associate the depreciation rate to the plant in Corporate, and then allocate both the plant and the depreciation expense; the results will be more reasonable.

Q. DID STAFF LEAVE OUT THE AMORTIZATION OF REGULATORY ASSETS PREVIOUSLY APPROVED?

A. Yes. Staff should have included the following amounts in the following districts for the amortization which was approved in Decision 67093:

District	Amortization Exp
Agua Fria Water	$2.918
Havasu Water	$ 834
Mohave Water	$9,384

Paradise Valley	$ 72
Sun City West	$5,841
Tubac	$ 0
Mohave Wastewater	$ 0

Q. DID RUCO INCLUDE THESE AMORTIZATIONS?

A. Yes.

Q. WHAT HAPPENS IF STAFF CONTINUES TO LEAVE OUT THE AMORTIZATION?

A. These Regulatory Assets - allowed in the last case - will have to be written off.

Q. DO YOU RECOMMEND ANY COMMON CHANGES TO DEPRECIATION RATES THAT WOULD APPLY TO ALL DISTRICTS?

A. Yes. Staff has made their adjustments and recommendations to most of the rates. But, concerning Account 334100, Meters, Staff has not agreed to the 15-year program of meter change-outs proposed by Mr. Day. Ms. Hains testifies that Staff does not have any studies to prove that we have ever been on this cycle. Attached as Exhibit LJG-2RJ is a new study utilizing information since 2004 from our Utility Plant Accounting system. It addresses meter retirements for every water district we have, from 2004 to the present. This data represents the vintage life of over 3,900 meters replaced in our water districts. The average vintage life is 15 years, or 6.6%.

Q. DO YOU HAVE ANY CORRECTIONS TO ANY DISTRICTS FOR DEPRECIATION EXPENSE?

A. Yes. We inadvertently included the Depreciation Expense of the Citizens' Acquisition Adjustment in Agua Fria Water for $230,973 and in Havasu Water for $13,852. Adjustment to remove these expenses is reflected in Ms. Hubbard's Rejoinder Schedules C-2 for Agua Fria and Havasu as ADJ SLH-1RJ. Staff did not include these amounts and

we agree with leaving them out. Both of these adjustments will decrease our depreciation expense in those districts.

Q. WHAT HAPPENS WITH THE DEFERRAL OF THE ACRM O&M FOR HAVASU DISTRICT?

A. I put the $94,996 into Utility Plant and depreciated it. Meanwhile, Ms. Hubbard amortized the $94,996 over 12 years for an annual amortization expense of $7,916 reflected as ADJ SLH-13R in her rebuttal Schedule C-2 for Havasu. I am moving this deferral from Utility Plant in Service to a regulatory asset (Deferred Debit) and removing the associated depreciation expense. I am showing it in Rate Base as a Deferred Debit, as that is where it is currently booked. Ms. Hubbard's rebuttal exhibit reflects the amortization of this regulatory asset and no further adjustment is necessary. Mr. McMurray did not include any amortization of the deferral.

Q. DOES THIS CONCLUDE YOUR REJOINDER TESTIMONY?

A. Yes.

EXHIBIT LJ – 1RJ

STAFF'S RESPONSE TO THE FIRST SET OF DATA REQUESTS FROM ARIZONA-AMERICAN WATER COMPANY
Docket Nos. W-01303A-08-0227; SW-01303A-08-0227
January 30, 2009

1.2 Please provide Staff's definition of the phrase "jeopardize the utility's financial health" as appearing in Becker page 20, line 15 in sufficient specificity that the company can characterize its financial health in its rebuttal testimony using Staff's definition. If the definition refers to financial ratios, please provide the amount or range of the ratio that would be considered in jeopardy by Staff.

RESPONSE: This phrase is taken from the context of Staff's discussion regarding when it is appropriate to recognize test year plant. Please refer to Mr. Becker's testimony, wherein he stated:

"Staff had traditionally recognized two such cases:

1. When the magnitude of the investment relative to the utility's total investment is such that not including the post test year plant in the cost of service would jeopardize the utility's financial health; and

2. When conditions such as the following exist:
   a. The cost of the post test year plant is significant and substantial,
   b. The net impact on revenue and expenses for the post test year plant is known and insignificant, or is revenue neutral,
   c. The post test year plant is prudent and necessary for the provision of services and reflects appropriate, efficient, effective and timely decision-making."

RESPONDENT: Gerald W. Becker

1.3 Please provide Staff's definition of revenue neutral as it is used in Becker, page 21, line 8 as it is unclear and appears possibly circular in reference to, for example, White Tanks, for which no additional water is sold once it comes on line, but rather it reduces usage by existing water sources.

RESPONSE: To clarify, the $25 million post test year adjustment for White Tanks is not being included in rate base because it is CWIP and it is not used and useful.

RESPONDENT: Gerald W. Becker

EXHIBIT LJG – 2RJ

Study of Retirement of Meters, Acct 334100, from 2004 to present
[Leaving out years 1 through 5 as an anomoly]

Agua Fria Water - Study of Retirement of Meters from 2004 to 2007

# of Customers in TY Ended 12/31/07		31,882	
Vintage Year	# of Meters	Vintage Yr Dep Rate	Weighted Avg Rate
8	1	12.5%	13%
11	18	9.1%	164%
12	25	8.3%	208%
13	36	7.7%	278%
14	1	7.1%	7%
15	32	6.7%	213%
54	25	1.9%	46%
	138		

Anthem Water - Study of Retirement of Meters from 2004 to 2007

# of Customers Year Ended 12/31/07		8,637	
Vintage Year	# of Meters	Vintage Yr Dep Rate	
8	16	12.5%	200%
13	0	7.7%	0%
	16		

Havasu Water - Study of Retirement of Meters from 2004 to 2007

# of customers in TY Ended 12/31/07		1,518	
Vintage Year	# of Meters		
13	9	7.7%	69%
15	31	6.7%	207%
16	10	6.3%	63%
54	3	1.9%	6%
	53		

Mohave Water - Study of Retirement of Meters from 2004 to 2007

# of customers in TY Ended 12/31/07		15,919	
Vintage Year	# of Meters		
9	2	11.1%	22%
10	1	10.0%	10%
15	287	6.7%	1913%
16	4	6.3%	25%
17	457	5.9%	2688%
18	438	5.6%	2433%
19	489	5.3%	2574%
20	179	5.0%	895%
21	121	4.8%	576%
	1,978		

Paradise Valley Water - Study of Retirement of Meters from 2004 to 2007

# of customers in TY Ended 12/31/07 4,740

Vintage Year	# of Meters		
6	12	16.7%	203%
7	38	14.3%	543%
8	43	12.5%	538%
9	52	11.1%	578%
10	26	10.0%	260%
11	35	9.1%	318%
12	23	8.3%	192%
13	249	7.7%	1915%
14	210	7.1%	1500%
15	18	6.7%	120%
16	8	6.3%	50%
17	96	5.9%	565%
18	7	5.6%	39%
19	9	5.3%	47%
20	6	5.0%	30%
21	6	4.8%	29%
22	6	4.5%	27%
23	5	4.3%	22%
24	4	4.2%	17%
25	3	4.0%	12%
26	7	3.8%	27%
27	2	3.7%	7%
28	3	3.6%	11%
29	4	3.4%	14%
30	2	3.3%	7%
31	6	3.2%	19%
32	3	3.1%	9%
33	8	3.0%	24%
34	1	2.9%	3%
39	1	2.6%	3%
45	1	2.2%	2%
46	5	2.2%	11%
47	3	2.1%	6%
48	5	2.1%	10%
49	2	2.0%	4%
50	1	2.0%	2%
64	2	1.6%	3%
	912		

EXHIBIT LJG – 3RJ

ORIGINAL

NEW APPLICATION

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Attorneys for Arizona Water Company

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W-01445A-04-0650

BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF ARIZONA WATER COMPANY, AN ARIZONA CORPORATION, FOR ADJUSTMENTS TO ITS RATES AND CHARGES FOR UTILITY SERVICE FURNISHED BY ITS WESTERN GROUP AND FOR CERTAIN RELATED APPROVALS	DOCKET NO. W-01445A-04-_____ **APPLICATION**

Arizona Water Company, an Arizona corporation (the "Company"), hereby applies for an order approving certain adjustments to its rates and charges for utility service provided by the Company's Western Group, which includes five separate water systems in Arizona, and in support thereof, states as follows:

1. The Company is an Arizona corporation engaged in providing water for public purposes in portions of Cochise, Coconino, Gila, Maricopa, Navajo, Pima, Pinal and Yavapai Counties, Arizona, pursuant to certificates of public convenience and necessity granted by the Arizona Corporation Commission (the "Commission"). At the present time, the Company operates 18 water systems that serve approximately 72,000 customers.

2. The Company's central business office is located at 3805 North Black Canyon Highway, Phoenix, Arizona 85015-5351. Its mailing address is Post Office Box 29006, Phoenix,

ORIGINAL COST RATE BASE PROFORMA ADJUSTMENTS
END OF TEST YEAR 2003
WESTERN GROUP

Line No.	Description	Actual Test Year (a)	Casa Grande Pro Forma Adjustments (1)	(2)	(3)	(4)	(5)	(6)	Adjusted Test Year (c)
1.	Gross Plant In Service	$48,030,396				3,525,803			$51,556,199
2.	less: Accumulated Depreciation	(12,087,978)			15,761				(12,072,217)
3.	Net Plant In Service	35,942,418	0	0	15,761	3,525,803	0		39,483,982
4.	Construction Work In Progress	146,293	(145,362)				(931)		0
5.	Total Net Plant	36,088,711	(145,362)	0	15,761	3,525,803	(931)	0	39,483,982
	Less:								
6.	Advances for Construction	(8,892,375)					931		(8,891,444)
7.	Contributions in Aid of Construction:								
8.	Gross	(7,754,812)							(7,754,812)
9.	Accumulated Amortization	1,381,441			(32,621)				1,348,820
10.	Net Contributions In Aid Of Construction	(6,373,371)	0	0	(32,621)	0	0	0	(6,405,992)
11.	Deferred Income Tax	(3,387,966)							(3,387,966)
12.	Add: Total Working Capital Allowance (b)	250,254							250,254
13.	Total Rate Base Components & Adjustments	$17,685,253	(145,362)	0	(16,860)	3,525,803	0	0	$21,048,834

Supporting Schedules:
(a) E-5 & AWC books & records
(b) B-5, line 5

Recap Schedules:
(c) B-1

(1) Construction Placed In Service/Elimination of CWIP from Rate Base
(2) Depreciation on Post Test Year Plant Additions
(3) Depreciation Expense/CIAC Annualization
(4) Deferred CAP M&I Charges
(5) Outside-funded CWIP

ORIGINAL COST RATE BASE PROFORMA ADJUSTMENTS
END OF TEST YEAR 2003
WESTERN GROUP

Line No.	Description	Actual Test Year (a)	Coolidge Pro Forma Adjustments (1)	(2)	(3)	(4)	(5)	(6)	Adjusted Test Year (c)
1.	Gross Plant In Service	$6,083,129				1,046,011			$7,129,140
2.	less: Accumulated Depreciation	(2,249,826)			(21,871)				(2,271,697)
3.	Net Plant In Service	3,833,303	0	0	(21,871)	1,046,011	0		4,857,443
4.	Construction Work In Progress	127,831	(11,335)				(116,496)		0
5.	Total Net Plant	3,961,134	(11,335)	0	(21,871)	1,046,011	(116,496)	0	4,857,443
	Less:								
6.	Advances for Construction	(523,140)					116,496		(406,644)
7.	Contributions in Aid of Construction:								
8.	Gross	(437,102)							(437,102)
9.	Accumulated Amortization	76,495			(1,525)				74,970
10.	Net Contributions In Aid Of Construction	(360,607)	0	0	(1,525)	0	0	0	(362,132)
11.	Deferred Income Tax	(504,369)							(504,369)
12.	Add: Total Working Capital Allowance (b)	32,202							32,202
13.	Total Rate Base Components & Adjustments	$2,605,220	(11,335)	0	(23,396)	1,046,011	0	0	$3,616,500

Supporting Schedules:
(a) E-5 & AWC books & records
(b) B-5, line 5

Recap Schedules:
(c) B-1

(1) Construction Placed In Service/Elimination of CWIP from Rate Base
(2) Depreciation on Post Test Year Plant Additions
(3) Depreciation Expense/CIAC Annualization
(4) Deferred CAP M&I Charges
(5) Outside-funded CWIP

III. ORIGINAL COST RATE BASE

Based on the foregoing discussion, we adopt an adjusted original cost rate base ("OCRB") for the Western Group of $23,254,087. By system, the OCRB is as follows: Casa Grande, $17,495,567; Coolidge, $2,713,030; White Tank, $1,898,133; Ajo, $837,088; and Stanfield, $310,269.

IV. FAIR VALUE RATE BASE

The Company did not submit reconstruction cost new less depreciation ("RCND") schedules, but stipulated in its application to the use of its OCRB as its fair value rate base ("FVRB") (Application at 3). We therefore adopt $23,254,087 as the FVRB for Arizona Water's Western Group. By system, the FVRB is as follows: Casa Grande, $17,495,567; Coolidge, $2,713,030; White Tank, $1,898,133; Ajo, $837,088; and Stanfield, $310,269.

V. OPERATING INCOME

A. Revenue Annualization

There is no dispute that an adjustment to the test year annualizing revenues and expenses to recognize the effects of the number of customers served by the Western Group at the end of the test year is appropriate. According to the Company, the test year end number of customers was 20,266, and during the test year, the Company served an average of 19,596 customers, a difference of 670 customers (Hubbard Dt. at 25). The Company compared the year-end number of customers to the number of customers at the beginning of the test year to calculate the average number of test year customers (Tr. at 760). The Company's calculation is based on the number of residential customers, as this class of customers constitutes 96 percent of the growth in customers in the Western Group (*id.*). The Company bases its expense annualization adjustment on costs per customer for customer accounts expense and transmission and distribution expenses (including operations and maintenance costs), and on costs per gallon for source of supply, pumping and water treatment expenses (Hubbard Rb. at 24).

Arizona Water Company - Coolidge
Docket No. W-01445A-04-0650
Test Year Ended December 31, 2003

Schedule REL-3

RATE BASE - ORIGINAL COST

LINE NO.		(A) COMPANY AS FILED		(B) STAFF ADJUSTMENTS	(C) STAFF AS ADJUSTED	
1	Plant in Service	$ 7,129,140		$ (1,046,011)	$ 6,083,129	
2	Less: Accumulated Depreciation	(2,271,697)		-	(2,271,697)	
3	Net Plant in Service	$ 4,857,443	x	$ (1,046,011)	$ 3,811,432	
	LESS:					
4	Advances in Aid of Construction (AIAC)	(406,644)	x	-	(406,644)	
5	Contributions in Aid of Construction (CIAC)	$ (437,102)		$ -	$ (437,102)	
6	Less: Accumulated Amortization	74,970		-	74,970	
7	Net CIAC	(362,132)	x	-	(362,132)	
8	Total Advances and Contributions	(768,776)		-	(768,776)	
9	Customer Deposits	-		-	-	
10	Meter Advances	-		-	-	
11	Deferred Income Tax Credits	(504,369)	x	-	(504,369)	
	ADD:					
12	Working Capital	32,202	x	(58,469)	(26,267)	x
13	Phoenix Office Allocation	197,345	x	-	197,345	
14	Meter Shop Allocation	3,665	x	-	3,665	
15		-		-	-	
16		-		-	-	
17		-			-	
18	**Total Rate Base**	$ 3,817,510		$ (1,104,480)	$ 2,713,030	

Arizona Water Company - Casa Grande
Docket No. W-01445A-04-0650
Test Year Ended December 31, 2003

Schedule REL-3
Surrebauttal

RATE BASE - ORIGINAL COST

LINE NO.		(A) COMPANY AS FILED	(B) STAFF ADJUSTMENTS	(C) STAFF AS ADJUSTED
1	Plant in Service	$ 51,556,199	$ (4,350,177)	$ 47,206,022
2	Less: Accumulated Depreciation	(12,072,217)	-	(12,072,217)
3	Net Plant in Service	$ 39,483,982 x	$ (4,350,177)	$ 35,133,805
	LESS:			
4	Advances In Aid of Construction (AIAC)	(8,891,444)	-	(8,891,444)
5	Contributions in Aid of Construction (CIAC)	$ (7,754,812)	$ -	$ (7,754,812)
6	Less: Accumulated Amortization	1,348,820	-	1,348,820
7	Net CIAC	(6,405,992)	-	(6,405,992)
8	Total Advances and Contributions	(15,297,436)	-	(15,297,436)
9	Customer Deposits	-	-	-
10	Meter Advances	-	-	-
11	Deferred Income Tax Credits	(3,387,966)	-	(3,387,966)
	ADD:			
12	Working Capital	250,254	(293,804)	(43,550) x
13	Phoenix Office Allocation	930,536	-	930,536
14	Meter Shop Allocation	17,282	-	17,282
15		-	-	-
16		-	-	-
17		-	-	-
18	**Total Rate Base**	$ 21,996,652	$ (4,643,981)	$ 17,352,671

EXHIBIT
A-28
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS AGUA FRIA WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT.	DOCKET NO. W-01303A-08-0227
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 MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227

REVISED DIRECT TESTIMONY
OF
SHERYL L. HUBBARD
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
JUNE 20, 2008

REVISED DIRECT TESTIMONY
OF
SHERYL L. HUBBARD
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
JUNE 20, 2008

TABLE OF CONTENTS

	EXECUTIVE SUMMARY	**ii**
I.	**INTRODUCTION AND QUALIFICATIONS**	**1**
II.	**PURPOSE OF TESTIMONY**	**2**
III.	**SPONSORED SCHEDULES**	**3**
IV.	**REVENUE REQUIREMENT**	**4**
V.	**WORKING CAPITAL**	**5**
VI.	**ADJUSTED OPERATING INCOME**	**6**
A	OPERATING REVENUES	7
B	OPERATING EXPENSES	11
C	PRO FORMA ADJUSTMENTS	11
VII.	**COMPANY'S FINANCIAL STATEMENTS**	**21**

EXECUTIVE SUMMARY

Sheryl L. Hubbard testifies as follows:

Sponsored Schedules

Ms. Hubbard sponsors the following schedules for each district in the case:

- Schedule A-2 – Arizona-American Summary of Operations
- Schedule A-4 – Arizona-American Construction Expenditures and Gross Utility Plant in Service
- Schedule A-5 – Arizona-American Summary of Cash Flows
- Schedule B-6 – Arizona-American Computation of Cash Working Capital
- Schedule C-1 – Arizona-American Adjusted Test Year Income Statement
- Schedule C-2 – Arizona-American Income Statement Pro Forma Adjustments
- Schedule C-3 – Arizona-American Computation of Gross Revenue Conversion Factor
- Schedule E-2 – Comparative Income Statements
- Schedule E-3 – Comparative Statement of Changes in Financial Position
- Schedule E-6 – Comparative Operating Income Statements
- Schedule E-7 – Operating Statistics
- Schedule E-8 – Taxes Charged to Operations
- Schedule F-1 – Projected Income Statements
- Schedule F-2 – Statement of Cash Flows-Present and Proposed Rates
- Schedule F-3 – Projected Construction Requirements
- Schedule F-4 – Assumptions Used in Developing Projections

Revenue Requirement

Ms. Hubbard supports the revenue-requirement calculation for each district. Mr. Broderick shows these amounts in his testimony.

Cash Working Capital

Ms. Hubbard sponsors the lead-lag study that supports Arizona-American's request for cash-working capital.

Operating Income Adjustments

Ms. Hubbard sponsors the following adjustments to operating income:

- Adjustment SLH-1 – Annualize Payroll Expense
- Adjustment SLH-2 – Annualize Power Expense
- Adjustment SLH-3 – Normalize Purchased Water
- Adjustment SLH-4 – Annualize Chemicals Expense
- Adjustment SLH-6 - Annualize Management Fees

- Adjustment SLH-7 - Annualize Pensions Expense
- Adjustment SLH-8 – Amortize Rate Case Expense
- Adjustment SLH-9 – Annualize Insurance Expense
- Adjustment SLH-10 – Tank Maintenance Accrual
- Adjustment SLH-11 – Annualize Depreciation/CIAC
- Adjustment SLH-12 – Annualize Property Taxes
- Adjustment SLH-15 – Annualize 401K Expense
- Adjustment SLH-16 – Line 21 Clean-up
- Adjustment SLH-17 – Remove CAP Revenue and Expense
- Adjustment SLH-18 – Interest Synchronization
- Adjustment SLH-19 – Federal and State Income Taxes
- Adjustment SLH-20 – Annualize Postage Increase
- Adjustment SLH-21 – One-Time Service Company Charges
- Adjustment SLH-22 – Adjust Conservation Expenses
- Adjustment SLH-23 – Blank

Additional Requests

Ms. Hubbard also supports the following requests by Arizona-American:

- For a power supply adjustment mechanism that will enable Arizona-American to adjust its rates in the future for changes in rates paid for electric and gas costs;
- For a tank maintenance reserve to fund tank maintenance expenditures; and
- For formal adoption by the Commission of the terms and conditions of service on file at the Commission.

I. INTRODUCTION AND QUALIFICATIONS

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

A. My name is Sheryl L. Hubbard. My business address is 19820 N. 7th Street, Suite 201, Phoenix, Arizona 85024, and my business phone is 623-445-2419.

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

A. I am employed by Arizona-American Water Company ("Arizona-American") as a Manager, Rates & Regulation.

Q. PLEASE DESCRIBE YOUR PRIMARY RESPONSIBILITIES FOR ARIZONA-AMERICAN.

A. My primary responsibilities are to prepare, coordinate and manage rate applications and other regulatory filings consistent with the applicable regulatory agency's filing requirements. I also administer tariffs and support rate case-related public outreach.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AND EDUCATION.

A. I have 29 years of experience in public utility accounting and regulation; 18 years employed with the Michigan Public Service Commission ("Michigan Commission") as an auditor/audit manager as well as a Commissioner's Assistant. During my employment with the Michigan Commission, my responsibilities included preparing revenue requirement calculations for water, steam and electric utilities. After my employment with the Michigan Commission, I was employed by the Arizona Corporation Commission ("Commission") as the Chief of the Accounting and Rates section. Following my employment with the Commission, I joined Citizens Communications Company ("Citizens") as a Regulatory Accounting Manager in its Arizona Gas division.

My responsibilities with Citizens included ensuring compliance with applicable state statutes and regulatory rules and decisions, as well as preparation of rate cases and other regulatory filings with state regulatory agencies in Arizona and Colorado.

After my employment with Citizens, I joined Arizona Water Company as Manager of Rates and Regulatory Accounting. As the Manager of Rates and Regulatory Accounting, my responsibilities included monitoring regulatory actions taken by the Commission, ensuring compliance with decisions of the Commission, filing necessary tariffs, preparing rate cases and other regulatory filings for submission to the Commission, and appearing as a witness before the Commission.

I have been employed with Arizona-American since March 2007.

I have a Masters in Business Administration from the University of Phoenix and my undergraduate degree, a Bachelor of Arts degree with a major in Accounting was obtained from Michigan State University. I am a licensed, certified public accountant in the states of Arizona and Michigan.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes, I have testified before this Commission on numerous occasions.

II. PURPOSE OF TESTIMONY

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

A. The scope and purpose of my testimony are set forth in my Executive Summary.

Q. HOW IS YOUR TESTIMONY ORGANIZED FOR PURPOSES OF THIS PROCEEDING?

A. Each water and wastewater district has been assembled as a stand-alone filing complete with all standard filing requirement schedules. Whenever possible, schedules will be

discussed as applicable to all of the water and wastewater districts. I include a table detailing Arizona-American's proposed values by district for each schedule's results when discussing schedules that support the calculation of Schedule A-1 – Computation of Increase in Gross Revenue Requirements (Schedules B-1, C-1, D-1, if applicable). Similarly, since most of the *pro forma* adjustments that I am proposing are premised upon the same underlying principles regardless of the district, I will discuss the *pro forma* adjustments by category of adjustment. For any *pro forma* adjustments that do not apply to all seven of the water and wastewater districts, I discuss the specific district or districts affected by the proposed adjustment.

Q. DOES YOUR TESTIMONY IN THIS PROCEEDING INCORPORATE RECOMMENDATIONS OF OTHER COMPANY WITNESSES?

A. Yes, it does. I have incorporated recommendations sponsored by Mr. Broderick, Mr. Cole, Mr. Lenderking, Mr. Gross, and Ms. Gutowski as *pro forma* adjustments to test-year expenses when applicable.

III. <u>SPONSORED SCHEDULES</u>

Q. PLEASE IDENTIFY THE SCHEDULES YOU ARE SPONSORING.

A. I am sponsoring the following schedules for each of the seven water and wastewater districts:

- Schedule A-2 – Arizona-American Summary of Operations
- Schedule A-4 – Arizona-American Construction Expenditures and Gross Utility Plant in Service
- Schedule A-5 – Arizona-American Summary of Cash Flows
- Schedule B-6 – Arizona-American Computation of Cash Working Capital
- Schedule C-1 – Arizona-American Adjusted Test Year Income Statement
- Schedule C-2 – Arizona-American Income Statement Pro Forma Adjustments

- Schedule C-3 – Arizona-American Computation of Gross Revenue Conversion Factor
- Schedule E-2 – Comparative Income Statements
- Schedule E-3 – Comparative Statement of Changes in Financial Position
- Schedule E-6 – Comparative Operating Income Statements
- Schedule E-7 – Operating Statistics
- Schedule E-8 – Taxes Charged to Operations
- Schedule F-1 – Projected Income Statements
- Schedule F-2 – Statement of Cash Flows-Present and Proposed Rates
- Schedule F-3 – Projected Construction Requirements
- Schedule F-4 – Assumptions Used in Developing Projections

IV. REVENUE REQUIREMENT

Q. WHAT IS SCHEDULE A-2?

A. Schedule A-2 for each of Arizona-American's districts is titled "Summary Results of Operations". This schedule contains operating history for the years 2007, 2006, and 2005, as well as projected year 2008. The figures summarized for the test year 2007 are shown both unadjusted, as reflected in Arizona-American's accounting records, and adjusted for known and measureable *pro forma* changes identified in Arizona-American's application for each water and wastewater district.

Q. WHAT IS SCHEDULE A-4?

A. Schedule A-4 titled "Construction Expenditures and Gross Utility Plant in Service" presents the historical construction expenditures for the years 2007, 2006, and 2005, as well as three years of projected expenditures. This schedule also contains annual cost data for net plant placed in service and balances of gross utility plant in service for the same periods shown for construction expenditures. Mr. Gross provides direct testimony on test-year and projected construction activities for this proceeding.

Q. WHAT IS SCHEDULE A-5?

A. Schedule A-5 titled "Summary of Cash Flows" is a statement of cash flows detailing the changes in the cash accounts for years 2007, 2006, and 2005.

V. WORKING CAPITAL

Q. WHAT IS THE CASH WORKING CAPITAL COMPONENT OF THE WORKING CAPITAL REQUIREMENT?

A. The cash working capital component of the working capital allowance measures the investor-supplied capital used to meet day-to-day working cash needs. Cash working capital represents the average amount of capital provided by investors, over and above the investment in plant and other rate base items to finance cost of service from the time that service is rendered and the associated revenues are collected. Although there are several methods for computing cash working capital, the Commission Staff has consistently recommended the use of the lead/lag methodology to determine cash working capital for large water utilities in this jurisdiction.

Q. WHAT IS SCHEDULE B-6?

A. Schedule B-6 titled "Lead/Lag Summary-Working Capital Requirement" details Arizona-American's working-cash component of the working capital allowance for each of the water and wastewater districts in this proceeding. Revenue lag days are determined by measuring the amount of time between the provision of services and the receipt of payment for those services. Revenue lag days indicate a provision of working capital by investors and are shown in Column [b] of Schedule B-6. The revenue lag days calculation is the sum of the service lag, the billing lag and the collection lag.

The measurement of the time between the incurrence of expenses and the payment of those obligations, referred to as the expense lag days, offsets the revenue lag. Expense

lag days represent a use of working capital by investors and are presented on Line 2 of Schedule B-6. The net of the revenue lag days and the expense lag days is computed to quantify the provision or use of working capital by investors. The following tables summarize the cash-working-capital component for each water and wastewater district:

Table 3 – Cash Working Capital Component of Working Capital-Water Districts

District	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley Water	Sun City West Water	Tubac Water
Cash Working Capital	$1,409,860	$102,420	$ 367,562	$ 549,034	$ 480,140	$ 40,665

Table 4 – Cash Working Capital Component of Working Capital - Wastewater Districts

District	Mohave Wastewater
Cash Working Capital	$ 58,358

VI. ADJUSTED OPERATING INCOME

Q. WHAT IS SCHEDULE C-1?

A. Schedule C-1 titled "Adjusted Test Year Income Statement" details the revenues and expenses and the resulting net income on an unadjusted test year and an adjusted test year basis that includes proposed pro forma adjustments.

Q. WHAT IS ARIZONA-AMERICAN'S ADJUSTED OPERATING INCOME BY DISTRICT IN THIS PROCEEDING?

A. The following tables summarize Adjusted Operating Income for each water and wastewater district seeking rate increases in this proceeding:

Table 5 – Adjusted Operating Income -Water Districts

District	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley Water	Sun City West Water	Tubac Water
Adjusted Operating Income	$ 2,601,288	($ 131,419)	$ 37,140	$ 1,552,498	$ 587,425	($ 38,553)

Table 6 – Adjusted Operating Income - Wastewater Districts

District	Mohave Wastewater
Adjusted Operating Income	$ 15,619

A **OPERATING REVENUES**

Q. **ARE YOU SPONSORING THE OPERATING REVENUE IN THIS PROCEEDING?**

A. Only in part. I am responsible for removing revenues from surcharges authorized by the Commission for recovery of Central Arizona Project ("CAP") water costs for Paradise Valley Water, Agua Fria Water, and Sun City West Water districts.

Q. **WHY ARE YOU REMOVING CAP-SURCHARGE REVENUE?**

A. The Commission has authorized mechanisms to recover deferred and ongoing CAP municipal and industrial charges incurred by Arizona-American for Agua Fria Water, Paradise Valley Water, and Sun City West Water. These mechanisms enable Arizona-American to retain its CAP allocations by providing cost recovery of the expenses associated with purchasing this renewable source of water that is a vital part of the long-term water supply for these districts.

Q. **WHAT IS THE MECHANISM AUTHORIZED BY THE COMMISSION FOR THE AGUA FRIA WATER DISTRICT?**

A. Arizona-American's Agua Fria water district has an allocation of 11,093 acre-feet of water, of which 10,900 acre feet were delivered to the Maricopa Water District Recharge Facility ("MWD") during the test year. In Decision No. 63334 (issued February 2, 2001) the Commission approved a request for a hook-up fee for Arizona-American's Agua Fria water district to recover the deferred and on-going CAP capital charges not used or delivered to MWD. At that time, it was projected that the deferred charges would be fully amortized in approximately 10 years.

Q. WHAT IS THE BALANCE IN THE DEFERRED CAP CAPITAL CHARGES ACCOUNT AS OF THE END OF THE TEST YEAR?

A. In May 2006, Arizona-American filed a compliance report pertaining to the deferred CAP capital charges stating that the deferred CAP charges had been fully recovered as of January 31, 2006, and, as ordered by the Commission, the remaining balance at that time of $59,922 would be applied to on-going CAP capital costs for water not used or delivered. Collection of the CAP hook-up fees has been discontinued since January 2006; however, some developments have outstanding obligations that have already been reflected in the compliance reports. The remaining balance of $59,922 has been applied to CAP capital costs not used or delivered through 2008.

Test year expenses for purchased CAP water including charges from the Maricopa Water District totaled $899,344.

Q. WHAT IS THE MECHANISM AUTHORIZED BY THE COMMISSION FOR THE PARADISE VALLEY WATER DISTRICT?

A. Arizona-American's Paradise Valley Water District has an allocation of 3,231 acre feet of water, all of which was delivered during the test year to the Salt River Project ("SRP") pursuant to a water exchange agreement. The current CAP-cost recovery for the Paradise

Valley water district was approved by the Commission in Decision No. 61831 (July 20, 1999). Recovery of deferred CAP costs of $533,115 was authorized over a five-year period which ended in June 2004. In that decision, the Commission also approved a surcharge mechanism for the Paradise Valley Water District to recover on-going CAP capital charges. The approved surcharge applies to residential consumption greater than 45,000 gallons per month and to all non-residential consumption. The surcharge includes a provision for an annual true-up.

Q. IS ARIZONA-AMERICAN PROPOSING ANY CHANGES TO THE EXISTING CAP SURCHARGE FOR THE PARADISE VALLEY WATER DISTRICT IN THIS PROCEEDING?

A. Yes, but the request is for minimal changes to the calculation of the annual surcharge. As discussed in the testimony of Mr. Lenderking, Arizona-American is no longer participating in the water exchange agreement with SRP that provided a use for the Paradise Valley CAP allocation in the past. Instead, the full CAP allocation will be delivered to the Tonopah Desert Recharge Project to be recovered from wells in the district. As a result of the new arrangement, Arizona-American will replace the SRP wheeling charge of $22.63 per acre foot with a Central Arizona Water Conservation District ("CAWCD") storage charge of $8 per acre foot.

As with the original water exchange agreement, Arizona-American will not incur Arizona Department of Water Resources' groundwater pumping fees when it pumps the stored CAP water from its Paradise Valley wells. However, these savings will be offset by the power costs for pumping the stored "CAP Water" from district wells. Therefore, this imputed savings in the original CAP surcharge calculation should not be a component in future CAP surcharge calculation, as is also true of the SRP wheeling charge. A revised

calculation of the CAP surcharge calculation will be submitted in the Company's rebuttal filing in this proceeding.

Q. WHAT IS THE MECHANISM AUTHORIZED BY THE COMMISSION FOR SUN CITY WEST WATER DISTRICT?

A. In Decision No. 62293 (issued February 1, 2000), the Commission approved a Groundwater Savings Fee for the Sun City West Water District in conjunction with a request for the Sun City Water District to recover deferred and on-going Central Arizona Project ("CAP") capital charges not used or delivered to MWD. The Commission's decision provided a surcharge mechanism to recover both deferred CAP capital charges and the on-going capital and delivery charges. The Sun City West Water District has an allocation of 2,382 acre feet of water, of which 2,372 acre feet were delivered to the Maricopa Water District Recharge Facility ("MWD") during the test year.

The approved mechanism for Sun City West Water District provides for recovery of deferred CAP M&I charges of $495,540 over a five-year period beginning in February 2001 and a separate adjustable surcharge for the recovery of on-going CAP capital and delivery charges.

Q. HAS ARIZONA-AMERICAN RECOVERED THE DEFERRED CAP M&I CHARGES WITHIN THE FIVE-YEAR RECOVERY PERIOD?

A. Yes. As of January 31, 2006, Arizona-American has fully recovered the deferred CAP capital charges; however, we continue to incur the ongoing capital and delivery charges.

Q. IS ARIZONA-AMERICAN PROPOSING ANY REVISION TO THE GROUNDWATER SAVINGS FEE FOR SUN CITY WEST WATER DISTRICT?

A. No. The mechanism as originally designed allows for increases and decreases in the cost of CAP water and provides an efficient procedure for billing customers for this cost

without over or under recoveries. Accordingly, Arizona-American is not seeking to modify this mechanism in any way at this time.

B OPERATING EXPENSES

Q. WHAT ARE ARIZONA-AMERICAN'S REQUESTED TOTAL OPERATING EXPENSES BY DISTRICT?

A. The following tables summarize adjusted test year operating expenses for each district:

Table 7 – Operating Expenses -Water Districts

District	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley Water	Sun City West Water	Tubac Water
Operating Expenses	$16,217,325	$1,158,005	$ 5,076,491	$ 6,926,235	$ 5,114,006	$ 465,453

Table 8 – Operating Expenses - Wastewater Districts

District	Mohave Wastewater
Operating Expenses	$ 780,542

C PRO FORMA ADJUSTMENTS

Q. WHAT PRO FORMA ADJUSTMENTS IS ARIZONA-AMERICAN PROPOSING TO THE HISTORICAL TEST YEAR.

A. Arizona-American has identified known and measureable changes to the historical test year revenues and expenses for each of the categories listed below.

- Adjustment LJG-1 – Unbilled Revenue
- Adjustment LJG-2 – Eliminate Surcharges
- Adjustment LJG-3 – Miscellaneous Revenue Adjustments
- Adjustment LJG-4 – Annualize ACRM Surcharge
- Adjustment LJG-5 – Annualize Year End Customers

- Adjustment SLH-1 – Annualize Payroll Expense
- Adjustment SLH-2 – Annualize Power Expense
- Adjustment SLH-3 – Normalize Purchased Water
- Adjustment SLH-4 – Annualize Chemicals Expense
- Adjustment SLH-6 - Annualize Management Fees
- Adjustment SLH-7 - Annualize Pensions Expense
- Adjustment SLH-8 – Amortize Rate Case Expense
- Adjustment SLH-9 – Annualize Insurance Expense
- Adjustment SLH-10 – Tank Maintenance Accrual
- Adjustment SLH-11 – Annualize Depreciation/CIAC
- Adjustment SLH-12 – Annualize Property Taxes
- Adjustment SLH-15 – Annualize 401K Expense
- Adjustment SLH-16 – Line 21 Clean-up
- Adjustment SLH-17 – Remove CAP Revenue and Expense
- Adjustment SLH-18 – Interest Synchronization
- Adjustment SLH-19 – Federal and State Income Taxes
- Adjustment SLH-20 – Annualize Postage Increase
- Adjustment SLH-21 – One-Time Service Company Charges
- Adjustment SLH-22 – Adjust Conservation Expenses
- Adjustment SLH-23 – Adjustment to Remove Prior Period Labor Adjustment

Q. ARE YOU SPONSORING ALL OF THE PRO FORMA ADJUSTMENTS IDENTIFIED ABOVE?

A. No. Ms. Gutowski sponsors the adjustments identified as LJG-1, LJG-2, LJG-3, LJG-4, and LJG-5. Mr. Broderick sponsors the amount of rate case expense in SLH-8 and the

amount of the reduction to depreciation expense in SLH-11 for the amortization of the imputed regulatory CIAC.

Q. WHAT IS ADJUSTMENT SLH-1 – ANNUALIZE PAYROLL EXPENSE?

A. This is a *pro forma* adjustment to reflect the known and measureable change in pay rates for Arizona-American to annualize the latest known pay rates for employees of Arizona-American at the end of the test year. The latest known rates, which became effective March 24, 2008, form the basis of the annualization adjustment, however, Arizona-American reserves the right to update this adjustment for the 2009 pay rates if the hearing schedule permits the inclusion of that rate increase.

Q. WHAT IS ADJUSTMENT SLH-2 – ANNUALIZE POWER EXPENSE?

A. This is a *pro forma* adjustment that annualizes the increase in rates approved for Arizona Public Service Company ("APS") in July 2007 for the districts that receive power from APS. Arizona-American has accounts billed under APS's rate schedules E-30, E-32 and E-221. The affected districts are Agua Fria Water, Paradise Valley Water, and Sun City West Water. On March 31, 2008, APS filed an application for a nine percent rate increase with the Commission. One component to APS's rate application is its proposal to disaggregate the E-32 tariff based upon customer demand. Given the timing of APS's filing and the filing of Arizona-American's rate application filing, Arizona-American requires additional time to determine how APS's proposal to disaggregate Rate E-32 will impact its accounts, as well as the impact of the other proposed rate schedule changes on test-year power costs. Arizona-American will update the *pro forma* adjustment to power expense to reflect the APS proposed increase during the rebuttal phase of the case.

Arizona-American districts Tubac, Mohave Water, and Mohave Wastewater systems receive power from Unisource, which is presently before the Commission with a rate-

increase request. No final order has been issued. After the final order has been issued, Arizona-American will update its *pro forma* adjustments for Tubac Water, Mohave Water, and Mohave Wastewater to properly reflect known and measureable changes in the cost of that power.

For Arizona-American's Agua Fria Water district, some of its electricity needs are provided by the Maricopa Water District, which increased its rates by 10 percent, on January 1, 2008. The increase in power costs is $116,435 for the Agua Fria Water District, based upon consumption during the test year and applying the rates in effect at January 1, 2008.

Q. ARE THERE ANY OTHER PENDING FUEL OR POWER COST INCREASES?

A. Southwest Gas Corporation did not increase general rates during 2007 and at the time of this filing is not projecting a general rate increase, however, with a monthly gas cost adjustor mechanism, as natural gas prices increase, the gas cost adjustor can also increase. Southwest Gas Corporation is currently anticipating natural gas price increases of approximately two percent from 2008 to 2009.

Q. WOULD APPROVAL BY THE COMMISSION OF A FUEL AND POWER SUPPLY ADJUSTOR MECHANISM FOR ARIZONA-AMERICAN SHIELD ARIZONA-AMERICAN FROM POWER SUPPLY INCREASES SUCH AS ARE REFLECTED IN THE *PRO FORMA* ADJUSTMENTS TO POWER EXPENSE?

A. Yes. Power cost increases are outside the control of Arizona-American and power cost increases erode earnings to which Arizona-American is entitled. For the seven water and wastewater districts included in this filing, the power costs escalations from two providers, APS and MWD, add almost a half million dollars to water costs. To provide Arizona-American a reasonable opportunity to earn its authorized return, an adjustor

mechanism should be approved for the districts included in this rate application. Arizona-American requests approval of an adjustor mechanism from the Commission to adjust rates as power rates vary from those included in the adjusted test-year expenses. The change in power costs should be calculated by using test-year volumes of water sold and the current rates for power. A threshold could be set that would provide a benchmark for when adjustments would be allowed based upon a cost per-thousand-gallons sold. Schedule H-8 is a proposed tariff for a power supply adjustor mechanism that could be used for all districts.

Q. WHAT IS ADJUSTMENT SLH-3 – NORMALIZE PURCHASED WATER?

A. This adjustment applies only to the Havasu Water district and corrects an entry recorded to the district's purchased water account to normalize the purchased water expense.

Q. WHAT IS ADJUSTMENT SLH-4 – ANNUALIZE CHEMICALS EXPENSE?

A. This is a *pro forma* adjustment to annualize the effect of changes in the cost of chemicals used in water treatment operations. It incorporates 2008 price level increases that have been negotiated contractually by American Water's Supply Chain department.

The Agua Fria Water, Havasu Water, Paradise Valley Water and Sun City West Water districts each have an Arsenic Cost Recovery Mechanism ("ACRM") in place. During 2007, Arizona-American used some new chemicals in arsenic treatment (ferric chloride and polymer) and increased volumes used for other chemicals (sodium hydroxide and sulfuric acid). The costs of the ferric chloride chemicals, where applicable, were deferred for each district in accordance with the applicable ACRM. Media replacement costs for arsenic treatment were also deferred during 2007 for recovery in ACRM applications. The *pro forma* adjustment to annualize chemicals quantifies a 12-month period of chemicals and media replacement costs for the districts with arsenic treatment facilities.

Now that Arizona-American has made the rate filings required by the Commission as a condition of approving ACRMs for these districts, it is appropriate to include these new and on-going charges in each district's cost of service.

Q. WHAT IS ADJUSTMENT SLH-6 – ANNUALIZE MANAGEMENT FEES?

A. This is a *pro forma* adjustment to annualize the effect of the labor rate increase approved in March 2008. I increased test-year labor and labor-related charges by four percent to incorporate labor-rate increases granted in March 2008 at the Service Company level.

Q. WHAT IS ADJUSTMENT SLH-7 – ANNUALIZE PENSION EXPENSE?

A. This is a *pro forma* adjustment to annualize the increase in pension costs based on the 2008 funding liability. Employees of Arizona-American hired before January 1, 2006, are eligible for a defined-benefit pension. The cost to fund this pension liability for 2008 is reflected in this pro forma adjustment.

Q. WHAT IS ADJUSTMENT SLH-8 – AMORTIZE RATE CASE EXPENSE?

A. This is a *pro forma* adjustment that adjusts regulatory expenses to include an amortization of the costs incurred to prepare and process this rate application. The total estimated costs of $612,000 and the three-year amortization period are sponsored by Mr. Broderick, while I am sponsoring the allocation of the amortization of the rate case expenses among districts. To allocate the rate-case expense to each of the seven water and wastewater districts, I calculated a four-factor allocation percentage limited to the seven districts that are the subject of this rate application. I then applied this factor to the annual amortization to determine the *pro forma* adjustments.

For districts with an unamortized balance from a previous rate case (Mohave Water and Mohave Wastewater), I calculated a new amortization over three years based upon the

remaining balance as of June 2009. I used June 2009 because it is consistent with the Commission's time-clock rules for a filing made by May 1, 2008.

Q. WHAT IS ADJUSTMENT SLH-9 – ANNUALIZE INSURANCE EXPENSE?

A. This is a *pro forma* adjustment to annualize the increase in group insurance expenses for Arizona-American's water and wastewater districts. Group insurance includes premiums for life insurance, medical insurance, dental insurance, long-term disability insurance, short-term disability insurance, worker's compensation insurance and liability insurance. The 2008 group insurance costs were compiled and the increase in these expenses above the 2007 expenses supports this *pro forma* adjustment.

Q. WHAT IS ADJUSTMENT SLH-10 – TANK MAINTENANCE ACCRUAL?

A. This is a *pro forma* adjustment that will enable Arizona-American to begin reserving funds that can be used to fund a tank-maintenance program. The program covers a ten-year cycle and is further discussed by Mr. Cole. I have calculated the amount of funds that Arizona-American should begin collecting from its customers to cover the costs that Mr. Cole believes are needed to inspect and maintain the tanks for each water district. By collecting funds for tank maintenance based upon a 10-year program, expenses, which otherwise would fluctuate from year to year, will be levelized for rate recovery.

Q. WHAT IS ADJUSTMENT SLH-11 – ANNUALIZE DEPRECIATION/CIAC?

A. This is a *pro forma* adjustment that annualizes the depreciation expense on test-year ending plant in service and the amortization of contributions in aid of construction. Ms. Gutowski used the depreciation rates approved in each district's last rate proceeding to calculate the depreciation annualization. This *pro forma* adjustment also includes the amortization of regulatory assets previously authorized by the Commission in Decision No. 67093. Also included in the *pro forma* adjustment is the reduction to depreciation

expense required by Decision No. 63584 that results from amortizing the imputed regulatory CIAC. Continuation of these amortizations preserves the balances that Arizona-American has on its balance sheet for accounting purposes.

Q. WHAT IS ADJUSTMENT SLH-12 – ANNUALIZE PROPERTY TAXES?

A. This is a *pro forma* adjustment to adjust the property taxes to the level based upon the adjusted test-year revenue and also to compute a property-tax factor to include in the revenue-conversion factor to provide for the property-tax increases that will result from the revenue increases in this proceeding. The property tax factor was originally proposed by the Commission Staff and adopted by the Commission in Decision No. 70209, dated March 20, 2008 for Arizona-American's Sun City Wastewater and Sun City West Wastewater districts.

Q. WHAT IS ADJUSTMENT SLH-15 – ANNUALIZE 401K EXPENSE?

A. This is a *pro forma* adjustment that annualizes Arizona-American's contribution to its employees' 401K program. Employees of Arizona-American hired after January 1, 2006 are only eligible for the Company's 401K plan. Arizona-American contributes a percentage contribution and also matches a portion when employees contribute up to a pre-established percentage.

Q. WHAT IS ADJUSTMENT SLH-16 – LINE 21 CLEAN-UP?

A. This is a *pro forma* adjustment that removes civic and charitable contributions, membership dues, and other miscellaneous expenditures that are recorded in a Miscellaneous Expense account, but are not typically recoverable from customers.

Q. WHAT IS ADJUSTMENT SLH-17 – REMOVE CAP REVENUE AND EXPENSES?

A. This is a *pro forma* adjustment to isolate Central Arizona Project ("CAP") surcharges and purchased-water costs to enable retention of the mechanisms that are currently in place to recover these charges. Sun City West Water, and Paradise Valley Water currently have mechanisms in place, which I discuss in greater detail above in conjunction with Operating Revenues. Agua Fria Water District's mechanism is no longer in effect and Arizona-American is including the purchased water costs for this district in its operating expenses.

Q. WHAT IS ADJUSTMENT SLH-18 – INTEREST SYNCHRONIZATION?

A. This is a *pro forma* adjustment to synchronize the interest deduction that is a function of each district's rate base and weighted cost of debt and the interest deduction that is a component in the test-year income tax calculation. For ratemaking purposes, a utility's revenue requirement reflects the recovery of interest expense based on the weighted cost of debt in the capital structure. It is this interest expense that needs to be used for the interest deduction when calculating the tax expense. An Interest Synchronization adjustment is necessary to match the rate base used in determining revenue requirements with the proportionate part of the total amount of debt and equity used to determine the cost of capital. The amount of interest expense that customers in each district contribute through their payment of water rates should be the same as the amount of interest expense deducted from revenues in calculating each district's tax expense. Synchronizing the interest deduction for ratemaking with the interest deduction for earnings purposes accomplishes this goal.

Q. WHAT IS ADJUSTMENT SLH-19 – FEDERAL AND STATE INCOME TAXES?

A. This is a *pro forma* adjustment that adjusts test-year income taxes to reflect the federal and state income tax effects of the *pro forma* adjustments included on Schedule C-2.

Q. WHAT IS ADJUSTMENT SLH-20 – ANNUALIZE POSTAGE INCREASE?

A. This is a *pro forma* adjustment to annualize the effects of the May 14, 2007, and May 14, 2008, increases in postage rates.

Q. WHAT IS ADJUSTMENT SLH-21 – ONE-TIME SERVICE COMPANY CHARGES?

A. This is a *pro forma* adjustment that removes charges from Management Fees that are one-time, non-recurring and not appropriate for calculating revenue requirements for this proceeding. The types of costs that have been removed are costs associated with business change and divestiture. American Water is restructuring its corporate model to a more state-based focus and it continues its transition from a wholly-owned subsidiary of RWE to a publicly-traded entity.

Q. WHAT IS ADJUSTMENT SLH-22 – ADJUST CONSERVATION EXPENSES?

A. This is a *pro forma* adjustment that adjusts the test-year expenses to the level approved by the Commission in Decision No. 67093 for the West Valley districts of Sun City West, Sun City and Agua Fria. In that decision, the Commission authorized $40,000 for conservation-targeted expenditures. I first allocate the $40,000 expense among the districts based upon customer count and adjust expense to enable Arizona-American to continue activities that inform and educate customers about the need for conservation.

Q. WHY IS ARIZONA-AMERICAN REQUESTING COMMISSION APPROVAL OF ITS RULES AND REGULATIONS FOR EACH DISTRICT?

A. Rules and Regulations ("Rules") for each district were filed in compliance with the Commission's order to provide tariffs after the issuance of Decision No. 67093. The Commission Staff accepted the Rules but included a disclaimer in their files that if there were any differences between the Rules filed by Arizona-American and the original

Citizen's Rules and Regulations, the Citizen's Rules and Regulations would prevail. Arizona-American has compared both sets of Rules and Regulations and asks that the Commission adopt the Arizona-American Rules and remove the disclaimer from its files to reduce the potential for confusion by our customers or other interested parties.

VII. COMPANY'S FINANCIAL STATEMENTS

Q. THE COMMISSION'S STANDARD FILING REQUIREMENTS REQUIRE THAT AN APPLICANT FOR A RATE CHANGE INCLUDE FINANCIAL STATEMENTS AND STATISTICAL SCHEDULES WITH ITS APPLICATION. ARE YOU SPONSORING THE REQUIRED E-SERIES SCHEDULES?

A. Yes, in part. I will be sponsoring all of the E-Series schedules except for Schedules E-1, E-5, which are being sponsored by Ms. Gutowski and Schedules E-4 and E-9, which are sponsored by Mr. Broderick.

Q. WHAT IS INCLUDED IN THE E-SERIES SCHEDULES?

A. Schedule E-2 titled, "Comparative Income Statements-Test Year Ended December 31, 2007" contains the income statements of each district for the years 2005, 2006, and 2007. Schedule E-3 titled "Comparative Statement of Changes in Financial Position-Test Year Ended December 31, 2007" presents the sources and applications of funds by the districts for the years 2005, 2006, and 2007. Schedule E-6 titled "Comparative Departmental Statements of Operating Income -Test Year Ended December 31, 2007" summarizes the operating income statements on a functional basis for each district for the years 2005, 2006, and 2007. Schedule E-7 titled "Operating Statistics-Test Year Ended December 31, 2007" presents the district's operating statistics for sales quantities and customers for the years 2005, 2006, and 2007. Schedule E-8 titled "Taxes Charged to Operations-Test Year Ended December 31, 2007" provides details regarding taxes incurred by the district for the years 2005, 2006, and 2007.

Q. WHAT ARE THE F-SERIES OF SCHEDULES?

A. I am sponsoring the F-Series of schedules. Appendix F of the standard filing requirements is labeled "Projections and Forecasts". The data contained in the F-Series of schedules compares current results of operations to projected results based upon different assumptions. More specifically, Schedule F-1 titled "Projected Income Statements-Present and Proposed Rates" forecasts 2008 income using test-year rates and proposed revenue from this proceeding. Schedule F-2 titled, "Projected Statement of Changes in Financial Position-Present and Proposed Rates" presents the sources and applications of funds by the districts for the test year and projected results using the same assumptions as Schedule F-1. Schedule F-3 titled "Projected Construction Requirements" shows the district's projected construction expenditures for the years 2008, 2009, and 2010. This schedule provides additional detail concerning the construction expenditures shown on Schedule A-4. Schedule F-4 titled "Assumptions Used in Developing Projections" provides a general description of the assumptions used in developing projections for 2008 concerning customer growth, customer water demand, changes in expenses, and construction requirements.

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

A. Yes, it does.

EXHIBIT
A-29
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

KRISTIN K. MAYES, Chairman
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

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 AGUA FRIA WATER DISTRICT, ANTHEM WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT AND TUBAC WATER DISTRICT	DOCKET NO. W-01303A-08-0227
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 AGUA FRIA WASTEWATER DISTRICT, ANTHEM WASTEWATER DISTRICT, AND MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227

REBUTTAL TESTIMONY
OF
SHERYL L. HUBBARD
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
FEBRUARY 11, 2009

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TABLE OF CONTENTS

EXECUTIVE SUMMARY iii
I. INTRODUCTION AND QUALIFICATIONS 1
II. PURPOSE OF TESTIMONY 1
III. SPONSORED SCHEDULES AND EXHIBITS 1
IV. WORKING CAPITAL 2
V. ADJUSTED OPERATING INCOME 5
A OPERATING REVENUES 6
B OPERATING EXPENSES 6
C LABOR 6
D WASTE DISPOSAL EXPENSE 7
E CHEMICALS EXPENSE 8
F MANAGEMENT FEES 10
G RATE CASE EXPENSE 11
H MISCELLANEOUS EXPENSE 13
I TANK MAINTENANCE EXPENSE (MAINTENANCE EXPENSE) 14
J PROPERTY TAXES 15
K INCOME TAXES 15
VI. FUEL AND POWER SUPPLY ADJUSTMENT MECHANISM 16
VII. WHITE TANKS SURFACE WATER TREATMENT PLANT 17

EXECUTIVE SUMMARY

Sheryl L. Hubbard testifies as follows:

Working Capital

The following tables summarize Arizona-American's revised request for the cash-working-capital component of working capital for each water and wastewater district:

Table 1 – Cash Working Capital Component of Working Capital

District	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley Water	Sun City West Water	Tubac Water	Mohave Wastewater
Cash Working Capital	$ 60,105	$47,000	$ 185,717	$ 79,326	$ 77,120	$ 21,683	$ 425

In computing the cash working capital, Staff has made several errors, both formulaic and theoretical. The schedule on which Staff calculates its recommended cash working capital contains mathematical errors and the resulting adjustments are not consistently reflected in each district's Rate Base calculations. Instead of subtracting the expense lag from the revenue lag, the formula subtracts the revenue lag from the expense lag, thus making Staff's Net Lag calculations incorrect. Another error is the use of the Mohave Water District's expense lags for Fuel & Power and Chemicals for the Mohave Wastewater District.

One theoretical error noted while reviewing Staff's recommended cash working capital was the use of an inappropriate level of income tax expense. Staff's cash working capital calculation reflects income tax expense based on adjusted test year revenue instead of the proposed revenues.

RUCO's working-capital calculation also contains many errors. There were enough errors in a majority of the districts to render RUCO's recommended cash working capital calculations unreliable as filed.

Arizona-American accepts Staff's recommendation to use the expense lags from a recent rate proceeding, the Mohave Water and Mohave Wastewater docket (WS-01303A-06-0014).

Adjusted Operating Income

The following tables summarize Arizona-American's rebuttal position for Adjusted Operating Income for each water and wastewater district seeking rate increases in this proceeding:

Table 2 – Adjusted Operating Income

District	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley Water	Sun City West Water	Tubac Water	Mohave Wastewater
Adjusted Operating Income	$ 2,878,406	$ 47,158	$ 305,753	$ 2,042,832	$ 736,193	($ 40,106)	$116,454

Operating Revenues

No party objected to removal of Central Arizona Project ("CAP") surcharge revenues. Ms. Gutowski is sponsoring Arizona-American's adjustment to include Arsenic Cost Recovery

Mechanism ("ACRM") surcharge revenues recently approved by the Commission in Arizona-American's Step 2 filings for Havasu Water, Paradise Valley Water, and Sun City West Water districts.

Operating Expenses

The following tables summarize adjusted test year operating expenses for each district:

Table 3 – Operating Expenses

District	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley Water	Sun City West Water	Tubac Water	Mohave Wastewater
Operating Expenses	$15,940,207	$1,130,363	$ 4,807,878	$ 6,177,754	$ 5,121,073	$ 467,006	$ 679,707

Labor Expense

Arizona-American accepts RUCO's adjustment to labor expenses in Agua Fria Water, Mohave Water and Sun City West Water districts. However, RUCO did not properly apply a 4-factor allocator. The effect of that labor adjustment is summarized in the table below:

Table 4 – Labor Expense Adjustment

District	Adjustment
Agua Fria Water	($ 37,665)
Havasu Water	(2,259)
Mohave Water	(12,768)
Paradise Valley Water	(12,536)
Sun City West Water	(13,568)
Tubac Water	(1,183)
Mohave Wastewater	(1,678)

Waste Disposal Expense

Arizona-American accepts RUCO's adjustment to adjust waste-disposal expenses in Agua Fria Water, Havasu Water, Mohave Water, Paradise Valley Water, Sun City West Water, Tubac Water and Mohave Wastewater districts. The adjustment is summarized in the table below.

Table 5 – Waste Disposal Expense Adjustment

District	Adjustment
Agua Fria Water	**$ 870**
Havasu Water	**52**
Mohave Water	**295**
Paradise Valley Water	**290**

Sun City West Water	**313**
Tubac Water	**27**
Mohave Wastewater	**39**

Chemicals Expense

Arizona-American accepts the adjustment proposed by both Staff and RUCO to the chemical expenses for the Paradise Valley Water District. The proposed adjustment reduces Arizona-American's original request for chemicals expense in the Paradise Valley district by $51,945 from a total of $236,982 to $185,037. Chemical costs for ferric chloride in the amount of $49,530 and polymer in the amount of $2,415 had been inadvertently double counted. In the Agua Fria Water District, chemical expenses were also double counted. The amount of this error is $139,625.

In the Havasu Water District, Arizona-American requested, through Mr. Broderick's testimony, approval for an amortization period of twelve years for the deferred arsenic O&M costs that were the subject of Decision No. 69162 (issued December 5, 2006). The effect of this amortization was inadvertently omitted from the calculation of the chemicals expense for that district. Arizona-American has included an amount of $7,916 per year in its chemical expense for Havasu Water. Ms. Gutowski calculates the deferred balance that Arizona-American is seeking to amortize.

Management Fees

Arizona-American reluctantly accepts RUCO's disallowance of the AIP awards as the result of Arizona-American meeting its financial targets. RUCO's adjustment affects each district through an allocation process that uses a 4-factor allocation methodology. The adjustment is summarized in the table below:

Table 6 – Management Fees Adjustment

District	Adjustment
Agua Fria Water	($ 33,408)
Havasu Water	(2,004)
Mohave Water	(11,325)
Paradise Valley Water	(11,119)
Sun City West Water	(12,035)
Tubac Water	(1,049)
Mohave Wastewater	(1,489)

Rate Case Expense

Arizona-American agrees with RUCO's recommended three-year amortization period, but disagrees on the amount of rate case expenses to be amortized. Mr. Broderick testifies concerning Arizona-American's revised rate case expense of $456,000, which is very close to RUCO's recommended level.

At the time that Arizona-American revised its filing to eliminate Anthem Water, Anthem Wastewater and Agua Fria Wastewater districts, it did not revise the 4-factor allocation factors used to allocate the rate case expenses among the remaining districts. The revised rate case expense proposed by Arizona-American in this rebuttal filing has been computed using revised allocators based on the seven remaining districts.

Arizona-American agrees with RUCO's finding that an incorrect 4-factor allocator was used in calculating Tubac Water District's portion of the total rate case expenses. This issue is now moot because Arizona-American has recomputed the 4-factor for allocating rate case expenses to reflect the reduction to seven districts in the revised application versus the 10 districts included in Arizona-American's original application.

Regarding RUCO's assertion that Arizona-American included rate case expenses from previous rate cases, Arizona-American agrees that the rate case expenses for the Sun City West Water District should be removed but disagrees in the case of the Mohave Water and Mohave Wastewater districts. The amortization of rate case expense from Decision 69440 began in May of 2007 and the expenses will not be fully recovered until April of 2010.

Water Testing Expense

Arizona-American accepts the level of water testing expense contained in Staff witness Dorothy Hains's testimony. However, it does not appear that Staff included Ms. Hains's water-testing expenses in its proposed Miscellaneous Expenses or any other expense.

Line 21 Clean-Up

Arizona-American accepts RUCO's proposed adjustments to miscellaneous expense to disallow certain line 21 expenses.

Tank Maintenance Expense (Maintenance Expense)

Arizona-American has reviewed its original request and is proposing some modifications. The basis of the cost estimates has been revised and is discussed in greater detail in Mr. Day's testimony. These revised cost estimates have been incorporated into the original calculations and a revised request has been proposed.

Property Taxes

The proposed adjustments to property taxes recommended by Staff and RUCO are merely conforming adjustments to reflect each party's changes to the revenue requirement. Arizona-American has revised this expense in its rebuttal filing to conform with its revised revenue increase proposal as well.

Income Taxes

The proposed adjustments to income taxes recommended by Staff and RUCO are merely conforming adjustments to reflect each party's changes to the revenue requirement. Arizona-American has revised this expense in its rebuttal filing to conform with its revised revenue increase proposal as well.

Fuel and Power Supply Adjustment Mechanism

In response to RUCO, Arizona-American stands by its recommended Fuel and Power Supply Adjustment Mechanism. Power costs are a large component of Arizona-American's operating

expenses. For the seven districts in this proceeding, fuel and power costs represent approximately 12% of the total operating expenses. Most businesses are able to adjust their prices to accommodate large increases in these expenses which may be uncontrollable depending on their operations. A utility cannot make these adjustments without a fuel and power supply adjustment mechanism.

The majority of the power costs that Arizona-American incurs are in relation to the delivery of water to its customers. Increases are typically the result of changes in rates and tariffs of its power suppliers, which are regulated by the Corporation Commission, so Arizona-American has no control over their price increases. That is why this cost is the perfect expense for an adjustor mechanism.

White Tanks Surface Water Treatment Plant

In order to maintain a healthy, viable utility, actual recovery of the invested capital and associated operating costs must occur in a timely fashion. Deferrals of the depreciation expense and return on the investment cannot sustain Arizona-American's financial condition.

Arizona-American requested hook-up fee financing of the White Tanks Plant under the assumption that there would be sufficient contributions in aid of construction ("CIAC") from hook-up fees to enable it to offset the deferred return and deferred depreciation on its investment in the White Tanks Plant to avoid the write offs that will be required if accumulated hook up fees are inadequate to offset the equity portion of the deferred return and depreciation expense when the plant goes into service.

Currently, a hook-up fee has been approved by the Commission to finance the construction of the White Tanks Plant. The hook-up fees are recorded as contributions in aid of construction ("CIAC") which reduces rate base and the associated revenue requirement of the investment. Since the plant was projected to be in service prior to collection of all of the hook-up fees necessary to finance the plant, Arizona-American sought, and the Commission approved, the accounting treatment proposed, which addressed the timing of the completion of construction and recovery of the plant costs in excess of the CIAC collected at that time.

The Financial Accounting Standards Board ("FASB") issued Statement of Financial Standards No. 92 ("SFAS 92") to amend its original FASB Statement No. 71 which provided accounting guidance to regulated enterprises when the regulator issues decisions that depart from conventional rate-making methods regarding the recovery of allowable costs of the plant. A departure from conventional rate-making occurs when alternatives to the recovery scenario are adopted by the regulator such as deferral of depreciation expense, deferral of O&M expenses, and deferral of the return on the investment which results from providing the accumulation of post in-service allowance for funds used during construction ("AFUDC"). These statements provide guidance as to when a regulated entity might be required to write off an asset.

Mr. Broderick stated that a write off of the plant was possible after August 2011. Now it appears that some write-offs could come even earlier. Mr. Broderick's projections were based on estimated hook-up fees that have been adjusted downward based upon the housing market in Arizona and more current economic indicators. Based upon the amount of hook-up fees collected to date and the projections of future hook-up fees to be collected, it appears that potential write offs will occur well before that date.

Arizona-American is hopeful that the parties first, and then the Commission will be persuaded that inclusion of $25 million of the White Tanks Plant's construction work in progress ("CWIP") in rate base is a reasonable solution to avert a potential financial disaster. Without the necessary rate relief in this proceeding, Arizona-American will face certain financial hardship shortly after the completion of construction of the White Tanks Plant. A regional surface water treatment plant will be beneficial to Arizona-American's customers in Maricopa County as well as the State of Arizona. Inclusion of White Tanks Plant's CWIP in rate base in this case, and/or Commission assurance of future recovery by approving a mechanism such as was approved for arsenic treatment plant cost recovery is imperative to Arizona-American's financial health.

I. INTRODUCTION AND QUALIFICATIONS

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

A. My name is Sheryl L. Hubbard. My business address is 19820 N. 7th Street, Suite 201, Phoenix, Arizona 85024, and my business phone is 623-445-2419.

Q. DID YOU FILE DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes, I did.

II. PURPOSE OF TESTIMONY

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

A. My rebuttal testimony is organized by subject matter primarily focusing on adjustments to Arizona-American's cash working capital calculations and Adjusted Test Year Operating Income proposed by witnesses for the Arizona Corporation Commission Staff ("Staff") and the Residential Consumer Utility Office ("RUCO"). In addition, I will discuss accounting implications associated with recommendations by Staff and RUCO to exclude the White Tank Water Treatment Plant ("White Tank Plant") construction expenditures from rate base.

Q. DOES YOUR TESTIMONY IN THIS PROCEEDING INCORPORATE RECOMMENDATIONS OF OTHER COMPANY WITNESSES?

A. Yes, it does. I have incorporated recommendations sponsored by Company witnesses Thomas M. Broderick, Mr. Bradley J. Cole, Mr. Jeffrey Stuck, Mr. Troy Day, Mr. Joseph E. Gross, and Ms. Linda J. Gutowski resulting in revised *pro forma* adjustments to test-year expenses where applicable.

III. SPONSORED SCHEDULES AND EXHIBITS

Q. PLEASE IDENTIFY THE SCHEDULES YOU ARE SPONSORING.

A. I am sponsoring the following schedules:

- Schedule B-6 Rebuttal - Arizona-American Computation of Cash Working Capital
- Schedule C-2 Rebuttal - Arizona-American Income Statement Pro Forma Adjustments
- Schedule C-3 Rebuttal - Arizona-American Computation of Gross Revenue Conversion Factor

Q. PLEASE IDENTIFY THE EXHIBITS YOU ARE SPONSORING.

A. I am sponsoring the following exhibits, which are attached to this rebuttal testimony.

- Exhibit SLH-R1 - Copy of Company's Response to ACC Staff data request GTM 8.2
- Exhibit SLH-R2 - Copy of Company's Response to ACC Staff data request GTM 8.7
- Exhibit SLH-R3 – Copy of Company's Response to RUCO data request RUCO 1.37
- Exhibit SLH-R4 - Copy of Company's Response to RUCO data request RUCO 2.06
- Exhibit SLH-R5 – Copy of Company's Responses to ACC Staff's data requests pertaining to historical tank maintenance activities.
- Exhibit SLH-R6 – Proposed Power Supply Adjustment tariffs

IV. WORKING CAPITAL

Q. WHAT IS ARIZONA-AMERICAN'S REVISED REQUEST FOR CASH WORKING CAPITAL?

A. The following tables summarize Arizona-American's revised request for the cash-working-capital component of working capital for each water and wastewater district:

Table 1 – Cash Working Capital Component of Working Capital

District	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley Water	Sun City West Water	Tubac Water	Mohave Wastewater
Cash Working Capital	$ 60,105	$47,000	$ 185,717	$ 79,326	$ 77,120	$ 21,683	$ 425

Q. HAVE YOU REVIEWED STAFF'S RECOMMENDATION FOR CALCULATING CASH WORKING CAPITAL IN THIS PROCEEDING?

A. Yes, I have.

Q. DO YOU AGREE WITH STAFF'S RECOMMENDED CASH WORKING CAPITAL CALCULATIONS?

A. In part. Staff's witness, Mr. Gerald Becker testifies that Staff would modify Arizona-American's lead/lag study to incorporate the expense lags from the recent Mohave Water and Mohave Wastewater cases. Arizona-American does not oppose this part of Staff's recommendation.

Q. WHAT PORTIONS OF STAFF'S CASH WORKING CAPITAL CALCULATION DO YOU NOT AGREE WITH?

A. In computing the cash working capital, Staff has made several errors, both formulaic and theoretical. The schedule on which Staff calculates its recommended cash working capital contains mathematical errors and the resulting adjustments are not consistently reflected in each district's Rate Base calculations. (See for instance, Agua Fria Water). One major error in all districts is in the calculation of the Net Lag component, the difference between the revenue lag and the expense lag. Instead of subtracting the expense lag from the revenue lag, the formula subtracts the revenue lag from the expense lag, thus making Staff's Net Lag calculations incorrect. Another error is the use of the

Mohave Water District's expense lags for Fuel & Power and Chemicals for the Mohave Wastewater District. All of the other expense lags were the same.

Q. YOU ALSO REFERRED TO THEORETICAL ERRORS IN THE STAFF'S CASH WORKING CAPITAL CALCULATION. WHAT DO YOU MEAN?

A. One theoretical error noted while reviewing Staff's recommended cash working capital was the use of an inappropriate level of income tax expense. Typically, the working capital calculation reflects the expense levels that rates are intended to recover, which includes the income taxes associated with the recommended revenue increase. Staff's cash working capital calculation reflects income tax expense based on adjusted test year revenue instead of the proposed revenues. Failure to include the appropriate expense levels makes Staff's cash working capital model totally unusable. Accordingly, Arizona-American cannot accept Staff's cash working capital calculation.

Q. HAVE YOU REVIEWED THE RECOMMENDED CASH WORKING CAPITAL FOR EACH DISTRICT AS PROPOSED BY RUCO IN THIS PROCEEDING?

A. Yes, I have.

Q. WHAT IS ARIZONA-AMERICAN'S POSITION REGARDING RUCO'S CASH WORKING CAPITAL RECOMMENDATIONS?

A. RUCO has performed the calculation of the net lag correctly and included the appropriate income tax expense as opposed to the calculations made by Staff discussed above. However, in reviewing RUCO's schedule, I noted many errors without any consistency among the districts. For instance, in the Agua Fria Water District, the Other Operating Expenses in column (C) do not include Regulatory Expenses of $64,012 so the adjustment in column (B) is incorrect and therefore the resulting Expense Lag on line 18 is incorrect. Another example of errors can be seen in the Havasu Water District. RUCO has included Depreciation & Amortization in column (C) overstating the total operating

expensed which translates into an understatement of the Expense Lag on line 19. For the Sun City West Water Districts and the Tubac Water Districts, RUCO has used the wrong income tax expense. I could go on, but to what purpose? Although I did not find these types of errors in all of the districts, there were enough errors in a majority of the districts to render RUCO's recommended cash working capital calculations unreliable as filed.

Q. PLEASE SUMMARIZE ARIZONA-AMERICAN'S REVISED CASH WORKING CAPITAL POSITION.

A. Arizona-American accepts Staff's recommendation to use the expense lags from a recent rate proceeding, the Mohave Water and Mohave Wastewater docket (WS-01303A-06-0014) as discussed by Mr. Becker in his testimony. These expense lags for Mohave Water have been incorporated into the cash working capital calculations for the water districts in this proceeding and the expense lags for Mohave Wastewater have been included in Arizona-American's revised cash working capital calculations for the Mohave Wastewater district the results of which are reflected on Schedule B-5 Rebuttal-Computation of Working Capital.

V. <u>ADJUSTED OPERATING INCOME</u>

Q. WHAT IS ARIZONA-AMERICAN'S ADJUSTED OPERATING INCOME BY DISTRICT IN THIS PROCEEDING?

A. The following tables summarize Arizona-American's rebuttal position for Adjusted Operating Income for each water and wastewater district seeking rate increases in this proceeding:

Table 2 – Adjusted Operating Income

District	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley Water	Sun City West Water	Tubac Water	Mohave Wastewater
Adjusted Operating Income	$ 2,878,406	$ 47,158	$ 305,753	$ 2,042,832	$ 736,193	($ 40,106)	$116,454

A OPERATING REVENUES

Q. ARE YOU SPONSORING ARIZONA-AMERICAN'S REBUTTAL POSITION FOR OPERATING REVENUE IN THIS PROCEEDING?

A. No, I am not. In my direct testimony I sponsored removal of Central Arizona Project ("CAP") surcharge revenues. This was not opposed by any party. Ms. Gutowski is sponsoring Arizona-American's adjustment to include Arsenic Cost Recovery Mechanism ("ACRM") surcharge revenues recently approved by the Commission in Arizona-American's Step 2 filings for Havasu Water, Paradise Valley Water, and Sun City West Water districts.

B OPERATING EXPENSES

Q. WHAT ARE ARIZONA-AMERICAN'S REQUESTED TOTAL OPERATING EXPENSES BY DISTRICT?

A. The following tables summarize adjusted test year operating expenses for each district:

Table 3 – Operating Expenses

District	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley Water	Sun City West Water	Tubac Water	Mohave Wastewater
Operating Expenses	$15,940,207	$1,130,363	$ 4,807,878	$ 6,177,754	$ 5,121,073	$ 467,006	$ 679,707

C LABOR

Q. HAVE YOU REVIEWED THE ADJUSTMENT TO LABOR EXPENSE PROPOSED BY RUCO WITNESS MR. MOORE?

A. Yes. Mr. Moore proposes to adjust labor expenses in Agua Fria Water, Mohave Water and Sun City West Water districts consistent with information provided by Arizona-American in data response GTM 8.2.

Q. DO YOU AGREE WITH THE LABOR EXPENSE ADJUSTMENT AS PROPOSED BY MR. MOORE?

A. Yes, but the adjustment referred to in data response GTM 8.2, attached as Exhibit SLH-R1, in the amount of $163,092 involved the Arizona Corporate labor expense. Therefore, it should impact all the districts in this proceeding through a 4-factor allocator. The effect of that labor adjustment is summarized in the table below and appears on Schedule C-2 as ADJ SLH-4R.

Table 4 – Labor Expense Adjustment

District	Adjustment
Agua Fria Water	($ 37,665)
Havasu Water	(2,259)
Mohave Water	(12,768)
Paradise Valley Water	(12,536)
Sun City West Water	(13,568)
Tubac Water	(1,183)
Mohave Wastewater	(1,678)

D WASTE DISPOSAL EXPENSE

Q. HAVE YOU REVIEWED THE ADJUSTMENT TO WASTE DISPOSAL EXPENSE PROPOSED BY RUCO WITNESS MR. MOORE?

A. Yes. Mr. Moore proposes to adjust waste-disposal expenses in Agua Fria Water, Havasu Water, Mohave Water, Paradise Valley Water, Sun City West Water, Tubac Water and Mohave Wastewater districts, consistent with information provided by Arizona-American in data response GTM 8.7 attached as Exhibit SLH-R2.

Q. DO YOU AGREE WITH THE WASTE DISPOSAL EXPENSE ADJUSTMENTS AS PROPOSED BY MR. MOORE?

A. Yes. The adjustment is necessary to reflect the appropriate waste-disposal expense for each of the districts. The adjustment is summarized in the table below.

Table 5 – Waste Disposal Expense Adjustment

District	Adjustment
Agua Fria Water	$ 870
Havasu Water	52
Mohave Water	295
Paradise Valley Water	290
Sun City West Water	313
Tubac Water	27
Mohave Wastewater	39

E CHEMICALS EXPENSE

Q. HAVE YOU REVIEWED THE ADJUSTMENTS TO CHEMICALS EXPENSES PROPOSED BY STAFF AND RUCO?

A. Yes, I have.

Q. ARE THERE ANY PROPOSED ADJUSTMENTS THAT ARE THE SAME BETWEEN THE TWO PARTIES?

A. The only operating expense adjustment proposed by both Staff and RUCO is an adjustment to the chemical expenses for the Paradise Valley Water District. The proposed adjustment reduces Arizona-American's original request for chemicals expense in the Paradise Valley district by $51,945 from a total of $236,982 to $185,037. (Staff is recommending a reduction of $51,390 for this expense, but Arizona-American presumes that Staff has made an error in calculating their proposed adjustment).

Q. DOES ARIZONA-AMERICAN WATER AGREE WITH THE PROPOSED REDUCTION TO PARADISE VALLEY'S CHEMICALS EXPENSE AS RECOMMENDED BY STAFF AND RUCO?

A. Yes. During the course of responding to data requests posed by RUCO, specifically RUCO 1.37 attached as Exhibit SLH-R3, Arizona-American realized that chemical costs for ferric chloride in the amount of $49,530 and polymer in the amount of $2,415 had been inadvertently double counted. By reducing Arizona-American's original request for chemicals expense by $51,945, the error in Arizona-American's original proposal is corrected.

Q. ARE THERE ANY OTHER PROPOSED ADJUSTMENT TO CHEMICALS EXPENSES IN ANY DISTRICTS?

A. Yes. In the Agua Fria Water District, chemical expenses were also double counted. The amount of this error is $139,625 while Staff has proposed an adjustment of $142,065. The error was uncovered while responding to another RUCO data request, RUCO 2.06, attached as Exhibit SLH-R4. RUCO did not propose a similar adjustment to the Agua Fria district's chemicals expense, but Arizona-American acknowledges that an adjustment in the amount of $139,625, versus Staff's proposed adjustment of $142,065, is necessary to reflect the proper level of chemicals expense for its Agua Fria Water District.

Q. ARE THERE ANY OTHER ADJUSTMENTS THAT NEED TO BE MADE TO ACCURATELY REFLECT ARIZONA-AMERICAN'S CHEMICAL EXPENSES?

A. Yes. Regarding the Havasu Water District, Arizona-American requested, through Mr. Broderick's testimony, approval for an amortization period of twelve years for the deferred arsenic O&M costs that were the subject of Decision No. 69162 (issued December 5, 2006). The effect of this amortization was inadvertently omitted from the calculation of the chemicals expense for that district. Arizona-American has included an amount of $7,916 per year in its chemical expense for Havasu Water. Ms. Gutowski calculates the deferred balance that Arizona-American is seeking to amortize.

F MANAGEMENT FEES

Q. RUCO'S WITNESS IS PROPOSING TO DISALLOW 30 PERCENT OF ARIZONA-AMERICAN'S ANNUAL INCENTIVE PAY EXPENSE IN THIS PROCEEDING. DOES ARIZONA-AMERICAN AGREE WITH THIS DISALLOWANCE?

A. Arizona-American strongly disagrees with the premise that shareholders are the primary beneficiaries of additional profit Arizona-American achieves as the result of Arizona-American meeting its financial targets. However, the Commission has adopted a similar RUCO adjustment in the Sun City Water district Decision No. 70351 (issued May 16, 2008). Based upon this prior Commission precedent, Arizona-American will not continue to oppose RUCO's proposed adjustment at this time. RUCO's adjustment affects each district through an allocation process that uses a 4-factor allocation methodology. The adjustment is summarized in the table below.

Table 6 – Management Fees Adjustment

District	Adjustment
Agua Fria Water	($ 33,408)
Havasu Water	(2,004)
Mohave Water	(11,325)
Paradise Valley Water	(11,119)
Sun City West Water	(12,035)
Tubac Water	(1,049)
Mohave Wastewater	(1,489)

G RATE CASE EXPENSE

Q. RUCO'S WITNESS IS RECOMMENDING RATE CASE EXPENSE OF $424,265 AS A FAIR AND REASONABLE LEVEL OF TEST YEAR RATE CASE EXPENSE AND PROPOSES A THREE-YEAR AMORTIZATION PERIOD. DOES ARIZONA-AMERICAN AGREE WITH RUCO'S RECOMMENDATION?

A. Yes, in part. Arizona-American does agree with RUCO's recommended three-year amortization period, but does not accept RUCO's recommended rate case expense allowance. Mr. Broderick testifies concerning Arizona-American's revised rate case expense of $456,000.

Q. HAS ARIZONA-AMERICAN PROPOSED ANY OTHER CHANGES IN ITS CALCULATION OF ANNUAL RATE CASE EXPENSE BY DISTRICT?

A. Yes. At the time that Arizona-American revised its filing to eliminate Anthem Water, Anthem Wastewater and Agua Fria Wastewater districts, it did not revise the 4-factor allocation factors used to allocate the rate case expenses among the remaining districts. The revised rate case expense proposed by Arizona-American in this rebuttal filing has been computed using revised allocators based on the seven remaining districts.

Q. WERE THERE ANY OTHER ADJUSTMENTS TO ARIZONA-AMERICAN'S PROPOSED RATE CASE EXPENSES OPPOSED BY RUCO?

A. Yes. RUCO asserts that there are other "computation errors" in Arizona-American's calculation of rate case expense citing Arizona-American's inclusion of rate case expenses from previous rate cases in the Sun City West Water, Mohave Water and Mohave Wastewater districts and the use of an incorrect 4-factor allocator in the Tubac district.

Q. HOW DOES ARIZONA-AMERICAN'S RESPOND TO RUCO'S ASSERTION REGARDING COMPUTATIONAL ERRORS?

A. Arizona-American agrees with RUCO's finding that an incorrect 4-factor allocator was used in calculating Tubac Water District's portion of the total rate case expenses. This issue is now moot because Arizona-American has recomputed the 4-factor for allocating rate case expenses to reflect the reduction to seven districts in the revised application versus the 10 districts included in Arizona-American's original application.

Regarding RUCO's assertion that Arizona-American included rate case expenses from previous rate cases, Arizona-American agrees that the rate case expenses for the Sun City West Water District should be removed but disagrees in the case of the Mohave Water and Mohave Wastewater districts. The rate case expenses from Sun City West Water's last rate case were fully amortized during the test year. A normalizing adjustment to remove the 2007 amortization is necessary and is reflected in the supporting schedule to Arizona-American's Adjustment SLH-3R-Adjust Rate Case Expense.

In the case of the rate case expenses for the Mohave Water and Mohave Wastewater districts, the amortization of rate case expense from Decision 69440 (issued May 1, 2007) began in May of 2007 and the expenses will not be fully recovered until April of 2010. The amount included in rate case expense is based upon the unamortized balance as of

May 31, 2009 and Arizona-American is proposing to spread that unamortized balance over the same three-year period as the current case's rate case expenses. If these unrecovered costs of approximately $62,000 are disallowed in this proceeding, the result is an additional disallowance of rate case expenses over and above the original disallowance of approximately $107,000 in Decision No. 69440 (issued May 1, 2007), which Arizona-American previously wrote off for accounting purposes in 2007. This result is neither fair to Arizona-American nor a reasonable position for the Commission to encourage.

H MISCELLANEOUS EXPENSE

1 WATER TESTING EXPENSE

Q. STAFF WITNESS MS. HAINS SPONSORS WATER TESTING EXPENSES FOR ARIZONA-AMERICAN'S WATER AND WASTEWATER DISTRICTS. WERE MS. HAINS'S RECOMMENDATIONS FACTORED INTO STAFF'S OPERATING EXPENSES?

A. As far as I can tell, Staff did not include Ms. Hains' water-testing expenses in its proposed Miscellaneous Expenses or any other expense.

Q. DOES ARIZONA-AMERICAN ACCEPT THE WATER TESTING EXPENSES PROPOSED BY MS. HAINS IN ITS REBUTTAL FILING?

A. Yes. I identified the amount of water testing expense by district that was in Arizona-American's direct case filing and adjusted those expenses to Ms. Hains' recommended levels. The necessary adjustment to Miscellaneous Expense is labeled ADJ SLH- 6R on Schedule C-2 Rebuttal for each of the districts.

2 LINE 21 CLEAN-UP

Q. HAVE YOU REVIEWED RUCO'S PROPOSED ADJUSTMENTS TO MISCELLANEOUS EXPENSE TO DISALLOW LINE 21 EXPENSES?

A. Yes, I have.

Q. DOES ARIZONA-AMERICAN ACCEPT RUCO'S PROPOSED DISALLOWANCE?

A. Yes. In Arizona-American's direct case we attempted to remove "civic and charitable contributions, membership dues, and other miscellaneous expenditures that are recorded in a Miscellaneous Expense account, but are not typically recoverable from customers". Arizona-American does not oppose removing the additional expenses identified by RUCO in its proposed adjustment. I have reflected acceptance of RUCO's proposed disallowance in ADJ SLH-9R on Schedule C-2 Rebuttal for each district in this proceeding.

I <u>TANK MAINTENANCE EXPENSE (MAINTENANCE EXPENSE)</u>

Q. RUCO ACCEPTS ARIZONA-AMERICAN'S REQUEST TO ESTABLISH A TANK MAINTENANCE RESERVE BUT STAFF REJECTS THE PROPOSAL. HOW DOES ARIZONA-AMERICAN RESPOND?

A. Establishing a tank maintenance reserve in this case would provide Arizona-American with a much needed revenue stream to improve its tank maintenance efforts. Use of a maintenance reserve also protects Arizona-American's customers, as RUCO's witness Rigsby acknowledges, because all revenue collected is used to offset actual expenditures made by Arizona-American to maintain its tanks.

Staff computed a three-year average of the maintenance expense in response to Arizona-American's request for a reserve for tank maintenance. This methodology is deficient in quantifying maintenance expense in districts where admittedly, no tank maintenance activities have been performed in the three year period. Arizona-American provided data responses that established that maintenance expense did not include any expenditures for

inspecting or maintaining tanks during the past three years in many of its districts (See responses to data requests attached as Exhibit SLH-R5).

Because of Staff's rejection of Arizona-American's request for a tank maintenance reserve, Arizona-American has reviewed its original request and is proposing some modifications. The basis of the cost estimates has been revised and is discussed in greater detail in Mr. Day's testimony. These revised cost estimates have been incorporated into the original calculations and a revised request has been proposed. The resulting adjustments to the districts' maintenance expense account are reflected on ADJ SLH-5R of Schedule C-2 Rebuttal for each district.

J PROPERTY TAXES

Q. IS ARIZONA-AMERICAN REBUTTING EITHER THE STAFF'S OR RUCO'S PROPOSED ADJUSTMENTS TO PROPERTY TAXES?

A. The proposed adjustments to property taxes recommended by Staff and RUCO are merely conforming adjustments to reflect each party's changes to the revenue requirement. Arizona-American has revised this expense in its rebuttal filing to conform with its revised revenue increase proposal as well. This adjustment will change again in conjunction with the final revenue requirement determination in this case. Accordingly, Arizona-American does not rebut this conforming expense change.

K INCOME TAXES

Q. IS ARIZONA-AMERICAN REBUTTING EITHER THE STAFF'S OR RUCO'S PROPOSED ADJUSTMENTS TO INCOME TAXES?

A. The proposed adjustments to income taxes recommended by Staff and RUCO are merely conforming adjustments to reflect each party's changes to operating expenses. Arizona-American has revised income tax expense in its rebuttal filing to conform with changes to its proposed operating expense levels as well. This adjustment will change again in

conjunction with the final operating expenses ultimately adopted in this case. Accordingly, Arizona-American does not rebut this conforming expense change.

VI. FUEL AND POWER SUPPLY ADJUSTMENT MECHANISM

Q. RUCO, THROUGH ITS WITNESS, MR. RIGSBY, REJECTS THE COMPANY'S PROPOSAL FOR A FUEL AND POWER SUPPLY ADJUSTMENT MECHANISM. HOW DO YOU RESPOND TO RUCO'S RATIONALE?

A. Mr. Rigsby testifies on page 31 of his testimony that such adjustment mechanisms are restricted to fluctuations in certain narrowly defined operating expenses. He goes on to state that all businesses have to make allowances for them in their budgets. I agree with both of these concepts. However, power costs are a large component of Arizona-American's operating expenses. For the seven districts in this proceeding, fuel and power costs represent approximately 12% of the total operating expenses. And though I also agree that all businesses have to make allowances for them in their budgets, most businesses are able to adjust their prices to accommodate large increases in these expenses which may be uncontrollable depending on their operations. A utility cannot make these adjustments without a fuel and power supply adjustment mechanism.

Q. IS ARIZONA-AMERICAN ABLE TO CONTROL INCREASES IN ITS FUEL AND POWER COSTS?

A. The majority of the power costs that Arizona-American incurs are in relation to the delivery of water to its customers. Increases are typically the result of changes in rates and tariffs of its power suppliers, such as Arizona Public Service and Tucson Electric Power. The rates and tariffs of both of these providers are regulated by the Corporation Commission, so Arizona-American has no control over their price increases. That is why this cost is the perfect expense for an adjustor mechanism.

Q. DOES ARIZONA-AMERICAN'S PROPOSED ADJUSTMENT MECHANISM LIMIT RECOVERY TO CHANGES IN PRICE AS OPPOSED TO CHANGES IN VOLUMES?

A. Yes. In response to RUCO's data request 2.04, the Company provided a proposed tariff, attached hereto as Exhibit SLH-R6, which sets forth how the cost increases would be calculated. Starting with the adjusted test year unit cost of power by district, annual changes in power costs will be calculated and a tariff filing submitted to the Commission. Upon approval by the Commission, the change in the unit cost of power, either an increase or decrease, would be added to the existing commodity charge under the Company's proposal.

VII. WHITE TANKS SURFACE WATER TREATMENT PLANT

Q. ARIZONA-AMERICAN'S REBUTTAL TESTIMONY GENERALLY PREDICTS DIRE FINANCIAL CONSEQUENCES RELATED TO THE PRESENT REGULATORY TREATMENT OF THE WHITE TANKS PLANT COSTS. ARE THE CONSEQUENCES SOLELY ACCOUNTING DRIVEN?

A. Initially, yes, but the financing vehicle, hook-up fees from new connections, is the main culprit to the financial demise. In order to maintain a healthy, viable utility, actual recovery of the invested capital and associated operating costs must occur in a timely fashion. Deferrals of the depreciation expense and return on the investment cannot sustain Arizona-American's financial condition.

Q. DID ARIZONA-AMERICAN REQUEST USING HOOK-UP FEES AS THE FINANCING VEHICLE FOR THE PROJECT?

A. Yes, but Arizona-American did so under the assumption that there would be sufficient contributions in aid of construction ("CIAC") from hook-up fees to enable it to offset the deferred return and deferred depreciation on its investment in the White Tanks Plant to

avoid the write offs that will be required if accumulated hook up fees are inadequate to offset the equity portion of the deferred return and depreciation expense when the plant goes into service. Arizona-American also relied on assurance from the Commission that it would be able to file for a mechanism to defer the O&M expenses associated with operating the White Tank Plant in the 2008 Agua Fria Water rate case (which is this pending proceeding) for future recovery.

Q. PLEASE SUMMARIZE THE CURRENT RECOVERY SCENARIO FOR THE WHITE TANKS PLANT?

A. Currently, a hook-up fee has been approved by the Commission to finance the construction of the White Tanks Plant. The hook-up fees are recorded as contributions in aid of construction ("CIAC") which reduces rate base and the associated revenue requirement of the investment. Since the plant was projected to be in service prior to collection of all of the hook-up fees necessary to finance the plant, Arizona-American sought, and the Commission approved, the accounting treatment proposed, which addressed the timing of the completion of construction and recovery of the plant costs in excess of the CIAC collected at that time.

In Decision No. 69914, the Commission ordered the following:

- Approval to record post-in-service allowance for funds used during construction ("AFUDC") on the excess of the construction cost of the White Tank Project over directly related hook-up fees collected through December 31, 2015, or the date that rates became effective subsequent to a rate case that includes 80 percent of the White Tanks Project in rate base, whichever comes first;
- Approval to defer post in-service depreciation expense in excess of the associated amortization of contributions;

- Approval to exclude any White Tanks-related CIAC in excess of the White Tanks construction expenditures included in rate base and any costs deemed imprudently incurred used to calculate rate base until December 31, 2015; and
- Authorization for Arizona-American to file, as part of its 2008 Agua Fria Water District rate case filing, a proposed mechanism to defer and subsequently recover Operations and Maintenance Expense ("O&M") incurred for the White Tanks Plant until such expenses can be placed in base rates without predetermining the necessity for or the appropriateness of any mechanism proposed in the future by Arizona-American Water Company for recovery of O&M incurred for the White Tanks Plant.

Q. WHAT ARE THE ACCOUNTING IMPLICATIONS RESULTING FROM THE ACC STAFF AND RUCO'S RECOMMENDATIONS TO REJECT ARIZONA-AMERICAN'S REQUEST TO INCLUDE WHITE TANKS PLANT CONSTRUCTION EXPENDITURES IN RATE BASE?

A. The Financial Accounting Standards Board ("FASB") issued Statement of Financial Standards No. 92 ("SFAS 92") to amend its original FASB Statement No. 71 which provided accounting guidance to regulated enterprises when the regulator issues decisions that depart from conventional rate-making methods regarding the recovery of allowable costs of the plant. This accounting pronouncement has implications for this case.

Q. PLEASE EXPLAIN WHAT IS MEANT BY THE PHRASE "DEPART FROM CONVENTIONAL RATE-MAKING" AS USED ABOVE?

A. Upon completion of construction of a plant such as the White Tanks PLANT, depreciation of the plant investment commences as does the incurrence of O&M expenses. Upon Arizona-American's request, rates are approved to allow the recovery of depreciation on the plant investment and O&M expenses, as well as a rate of return on the prudent investment in plant. A departure from conventional rate-making occurs when

alternatives to the recovery scenario are adopted by the regulator such as deferral of depreciation expense, deferral of O&M expenses, and deferral of the return on the investment which results from providing the accumulation of post in-service allowance for funds used during construction ("AFUDC").

Q. IN ARIZONA-AMERICAN'S RESPONSE TO DATA REQUEST NO. RUCO 2.07, PROVIDED SEPTEMBER 4, 2008, MR. BRODERICK STATED THAT A WRITE OFF WAS POSSIBLE AFTER AUGUST 2011. DO YOU AGREE WITH THAT ASSESSMENT?

A. Yes, but the write-off could come even earlier. Mr. Broderick's projections were based on estimated hook-up fees that have been adjusted downward based upon the housing market in Arizona and more current economic indicators. The testimony of Mr. Gross contains more information on these revised projections. Based upon the amount of hook-up fees collected to date and the projections of future hook-up fees to be collected, it appears that the potential write off will occur well before that date, as testified to by Company witness Mr. Buls.

Q. HOW IS ARIZONA-AMERICAN PROPOSING TO AVERT THE POSSIBLE NEGATIVE RAMIFICATIONS OF WRITE DOWNS ASSOCIATED WITH THE WHITE TANKS PLANT?

A. Arizona-American is hopeful that the parties first, and then the Commission will be persuaded that inclusion of $25 million of the White Tanks Plant's construction work in progress ("CWIP") in rate base is a reasonable solution to avert a potential financial disaster. More current information and projections demonstrating the adverse effects of placing the White Tanks Plant into service is part of this rebuttal filing. Without the necessary rate relief in this proceeding, Arizona-American will face certain financial hardship shortly after the completion of construction of the White Tanks Plant as testified

to by Mr. Buls. A regional surface water treatment plant will be beneficial to Arizona-American's customers in Maricopa County as well as the State of Arizona. Inclusion of White Tanks Plant's CWIP in rate base in this case, and/or Commission assurance of future recovery by approving a mechanism such as was approved for arsenic treatment plant cost recovery is imperative to Arizona-American's financial health.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY IN THIS CASE?

A. Yes, it does.

EXHIBIT SLH-R1

COMPANY: ARIZONA AMERICAN WATER COMPANY
DOCKET NO: W-01303A-08-0227 and SW-1303A-08-0227

Response provided by: Sheryl L. Hubbard
Title: Manager, Rates and Regulation

Address: 19820 N. 7th Street, Suite 201
Phoenix, AZ 85024

Company Response Number: GTM 8.2

Q: Labor – Please provide a narrative and attach a schedule if necessary explaining why the recorded labor charges increased between 2006 and 2007 for the following districts.

District	2007	2006	Difference	%
Agua Fria	$1,342,608	$828,411	$514,197	62.1%
Mohave	827,315	698,875	128,440	18.4%
Sun City West	643,462	435,014	208,448	47.9%

A: Upon closer examination of the transactions reflected in the labor charges shown above, it appears that two credit adjustments totaling $825,092 ($662,000 and $163,092) were recorded in 2006 in the AZ Corporate district. The ($662,000) was a prior period adjustment related to 2004 and 2005. The $163,092 was an accrual (true up) for the 2006 incentive plan. In 2007, the $163,092 accrual was reversed, but should **not** have been included in the adjusted test year labor dollars. Since these amounts were recorded in the AZ Corporate district, the impacts are reflected in all of the districts using a 4-factor allocation methodology to allocate AZ Corporate charges among the districts. The corrected labor charges recalculated on the attached Excel spreadsheet labeled GTM 8.2 are as follows:

District	2007	2006	Difference	%
Agua Fria	$1,304,943	$1,000,851	$304,092	30.38%
Mohave	814,547	764,337	50,210	6.57%
Sun City West	629,893	500,538	129,355	25.84%

The corrected labor cost increases experienced in 2007 above those experienced in 2006 in the three districts identified in this request fall primarily into three categories. Increases in personnel, increases in labor hours charged to the district, and changes in pay rates of personnel generally will explain all increases. The number of vacancies that existed in 2006 was greater than the average number of vacancies in 2007. The number of employees increased in 2007 as a result of the additional AZ Human Resources staff which enabled the Company to focus more on recruiting efforts to reduce existing vacancies. The Company's overall vacancy rate in 2006 was as high as 25% and the vacancy rate at the end of 2007 was less than 5%. Labor costs increased in 2007 as a result of new hiring and a reduction in turnover.

COMPANY: ARIZONA AMERICAN WATER COMPANY
DOCKET NO: W-01303A-08-0227 and SW-1303A-08-0227

Response provided by: Sheryl L. Hubbard
Title: Manager, Rates and Regulation

Address: 19820 N. 7th Street, Suite 201
Phoenix, AZ 85024

Company Response Number: GTM 8.2

Agua Fria experienced high customer growth rates and accordingly, the Company increased recruitment to ensure we could meet customer service needs. In 2006, Agua Fria had 30,741 customers which increased to 33,021 customers in 2007, an increase of 7%. O&M labor hours increased from 33,217 hours in 2006 to 39,105 in 2007, an increase of 18%.

Sun City West Water had increased O&M labor hours of 12% (18,901 hours in 2006 up to 21,100 hours in 2007). (The average number of customers in this district increased by only 30 customers from 2006 to 2007.)

Mohave Water's labor expense reflects the hiring of a construction inspector in that district and more staff in general (meter readers, utility workers, consumer services representatives and operators). As a result, fewer workers were charging time on an as-needed basis in this district. O&M labor hours charged remained relatively constant from 2006 to 2007.

Arizona American Water has a Step Pay Program for field hourly employees. The pay increases received under the Step Pay Program occur in lieu of American Water merit increases for those employees who meet the requirements of their job. Employees who do not meet all of their position's job description requirements for skills, experience and certifications are not eligible to participate in the Step Pay Program. In such cases, those employees will be eligible to participate in the American Water merit increase program. In an effort to be competitive in the job market to reduce employee turnover, incent employees to pursue certifications in the water and wastewater field, and demonstrate career progression, the Step Plan was created.

Employees in the Step Plan realized an average salary increase of 7.5%. The average amount between step increases is approximately 5%; however, employees are able to move up to two steps depending on their achievements in performance and certifications. Employees in the field also receive certification pay upon obtaining water and wastewater certifications. In 2007, $123,000 in increases (Certification and Commercial Drivers Licenses ("CDLs")) was paid to 196 employees. (Arizona American Water has increased the budgeted amount for certifications and CDLs for 2008 to $150,000.)

COMPANY: ARIZONA AMERICAN WATER COMPANY
DOCKET NO: W-01303A-08-0227 and SW-1303A-08-0227

Response provided by: Sheryl L. Hubbard
Title: Manager, Rates and Regulation

Address: 19820 N. 7th Street, Suite 201
Phoenix, AZ 85024

Company Response Number: GTM 8.2 Page 3 of 3

Employees charge their time to the districts in which they perform service which can be seen on the Excel spreadsheet labeled AZ 2007 Labor with Annualizations.xls provided with the Company's initial Labor workpapers.

EXHIBIT SLH-R2

COMPANY: ARIZONA AMERICAN WATER COMPANY
DOCKET NO: W-01303A-08-0227
SW-1303A-08-0227

Response provided by: Sheryl L. Hubbard
Title: Manager, Rates and Regulation

Address: 19820 N. 7th Street, Suite 201
Phoenix, AZ 85024

Company Response Number: GTM 8.7

Q: Waste Disposal Expense - Please provide a narrative and attach a schedule if necessary explaining why the waste disposal expense has a credit balance for the following districts for 2007?

Agua Fria	($870)
Havasu	($52)
Mohave	($295)
Paradise Valley	($290)
Tubac	($27)

A: The amounts referenced above are allocations of Corporate charges for waste disposal expenses. Upon closer examination, the charges reflect the reversal of a prior period adjustment for ($1,840) and true up of waste disposal expenses more appropriately charged to Sun City wastewater of ($1,928.43). None of these charges should have been included in the 2007 Corporate waste disposal expenses allocated to the districts in this proceeding. The amounts included incorrectly for each district are shown below. The Company will remove these credit amounts in its rebuttal filing or accept them in Staff's report if reversed therein.

Agua Fria Water	($870)
Havasu Water	($ 52)
Mohave Water	($295)
Mohave Wastewater	($ 39)
Paradise Valley	($290)
Sun City West Water	($313)
Tubac	($ 27)

EXHIBIT SLH-R3

COMPANY: ARIZONA AMERICAN WATER COMPANY
DOCKET: W-01303A-08-0227
SW-01303A-08-0227

Response provided by: Sheryl L. Hubbard

Title: Manager, Rates and Regulation

Address: 19820 N. 7th Street, Suite 201
Phoenix, AZ 85024

Company Response Number: RUCO 1.37

Specific to Paradise Valley District

Q: Operating Income Adjustment SLH-4 – Annualize Chemical Expense - Please provide further explanation and documentation to support a $146,681 or 161% increase as a typical and recurring test-year expense; noting that the Step Two ACRM on-going chemical expense was recorded at $74,953.

A: Upon re-examination it was discovered that the arsenic-related chemical costs for ferric chloride of $49,530.31 and polymer of $2,414.79 were double counted. The corrected pro forma adjustment should be $94,736.

The ACRM mechanism provided for the deferral of certain "recoverable O&M expenses" for a period of up to twelve months. It also provided that the costs incurred during the deferral period would form the basis of the on-going expenses for purposes of the ACRM surcharge calculation. The supporting schedules to the ACRM show that the $20,666.19 for sludge disposal is for expenses for the period July 25, 2007 to February 18, 2008 – or 5 months less than 1- year. Accordingly, some arsenic-related sludge disposal costs for a normal 12-month period are not reflected in the ACRM.

The annualized chemical expenses for Paradise Valley Water district include the price increase for all chemicals, not just chemicals for arsenic treatment, used during 2007 priced out at 2008 contract prices plus the known and measurable cost for arsenic-related waste disposal.

The workpapers in support of the pro forma adjustment for Chemicals expense can be found at 08 AZ Mega\Common\Workpapers\Chemicals\Pro Forma Adj-Chemicals.xls.

EXHIBIT SLH-R4

COMPANY: ARIZONA AMERICAN WATER COMPANY
DOCKET NO: W-01303A-08-0227 AND SW-1303A-08-0227

Response provided by: Sheryl L. Hubbard
Title: Manager, Rates and Regulation

Address: 19820 N. 7th Street, Suite 201
Phoenix, AZ 85024

Company Response Number: RUCO 2.06

Q: Chemical Expense – The workpaper in the Chemical adjustment spreadsheet computes a $137,305 adjustment under the Agua Fria tab. However, Schedule C-2, ADJ SLH-4 shows the Agua Fria Chemical adjustment as being $927,490. Which figure is correct?

A: The $927,490 adjustment shown on Schedule C-2 page 1, under the column heading ADJ SLH-4-annualize Chemical Exp is the Company's pro forma adjustment for Agua Fria Water district and is supported by the calculation shown on Schedule C-2, page 13. The pro forma chemical expense of $979,289 shown on line 3 of Schedule C-2, page 13 is the sum of $198,651.71 and $780,636.84 both taken from the workpaper titled Pro Forma Adj-Chemicals.xls. The $198,651.71 figure is supported on the worksheet tab labeled Agua Fria W and the $780,636.84 figure is supported on the worksheet tab labeled Arsenic Pro Forma. The $198,651.71 represents the test year quantity of chemicals priced out at the 2008 contract rate while the $780,636.84 quantifies the annualized cost of arsenic-related chemicals (280,066.44), media replacement ($491,535.20), and testing costs ($9,035.20).

While responding to this data request, it has come to my attention that the adjustment to test year chemicals expense of $139,625 to remove Arsenic Costs Deferred in ACRM shown on line 7 of Schedule C-2 page 13 is unnecessary and should be removed as the arsenic chemicals are already in the test year expense. The corrected pro forma adjustment should be $787,865 ($979,289 - $191,424) instead of $927,490.

EXHIBIT SLH-R5

COMPANY: ARIZONA AMERICAN WATER COMPANY
DOCKET NO: W-01303A-08-0227
SW-1303A-08-0227

Response provided by: Bradley J. Cole & Jeffrey Stuck
Title: Director of Operations, Central & Eastern AZ

Address: 19820 N. 7th Street, Suite 201
Phoenix, AZ 85024

Company Response Number: GTM 8.17

Q: Tank Maintenance - In addition to the historical data requested by RUCO in Request No. 1.41 (re: Paradise Valley), please provide amounts spent each year for the past ten years for the remaining six districts.

A: The amounts spent each year for the past ten years for these six districts are not available for years 2001 and earlier and have not been assembled for subsequent years for these districts. It would require a significant effort to assemble the requested maintenance expense information.

Tank maintenance in the Eastern Division consisted of the following activities between 1998 and 2008. 13 of the 36 tanks in the Arizona American Water Eastern Division had interior repainting work completed, 15 tanks had exterior repainting work completed, four of the tanks were newly installed in 2006, six tanks were refurbished in 2000, and the balance of tanks are all scheduled for maintenance ranging from replacement to repainting over the next nine years in accordance with a tank maintenance plan. Specific work completed by Eastern Division District is:

1. Paradise Valley – There are 11 tanks in this District. Two new tanks were installed in 2006. Six tanks were refurbished in 2000 and the remaining tanks are scheduled for maintenance in later years.

2. Mohave – There are 17 tanks in this District. There are three new tanks, two installed in 2006 and one installed in 2008. The remaining tanks are scheduled for inspection and maintenance between 2009 and 2014.

3. Havasu – There are five tanks in this District. One was installed in 2003. The remaining tanks are scheduled for inspection and maintenance between 2009 and 2014.

4. Tubac – There is one tank in this District. Because this is the only tank it cannot easily be taken out of service. This tank will be scheduled for inspection and maintenance in the coming years.

Tank maintenance in the Central Division consisted of the following activities between 1998 and 2008.

1. Agua Fria – There are 14 tanks in this District. Five are constructed of concrete and the remaining nine are above ground welded steel storage tanks. The oldest tank in the Agua Fria water district is twelve years old (1996) and eleven of the districts storage facilities were installed after year 2000. No "tank maintenance" activities have occurred in this district previously. The tanks are scheduled for inspection and maintenance between 2009 and 2014.

2. Sun City West – There are four tanks in this District. Two tanks were evaluated by an independent inspection firm in August 2004 and the other two in July 2005. The 2004 inspections provided the recommendation that two of the tanks, which were constructed in 1992, should be top coated in 2007. They also provided that one of these two tanks should be interior coated in 2008 and the other in 2010. The 2005 inspections provided that both inspected tanks should be both interior and exterior coated in 2007. Other than inspections, no tank maintenance activity occurred in this district over the last ten years. The tanks are scheduled for inspection and maintenance between 2009 and 2014.

COMPANY: ARIZONA AMERICAN WATER COMPANY
DOCKET NO: W-01303A-08-0227
SW-1303A-08-0227

Response provided by: Sheryl L. Hubbard
Title: Manager, Rates and Regulation

Address: 19820 N. 7th Street, Suite 201
Phoenix, AZ 85024

Company Response Number: GTM 12.5

Q: Historical Tank Maintenance Costs GTM-8.17 – The Company has indicated that for the Eastern Division there were 13 tanks that received interior painting, 15 tanks received exterior painting, and six tanks were refurbished. For the Central Division, the Company has stated that only four tanks were inspected and there has been no tank maintenance activity of the past ten years. With respect to GTM-8.17, the Company has stated that "it would require a significant effort to assemble the requested maintenance information." Please provide a narrative explaining why Staff's request to provide historical tank maintenance cost information is considered by the Company to be unduly burdensome.

A: Please see the two attachments GTM 12.5 Exhibit BJC-3 (Eastern Division) and GTM 12.5 Exhibit BJC-3 (Central Division) which contain detailed information on historical tank maintenance. These two exhibits set forth the initial erection date of the tanks, and interior/exterior evaluations that have been performed. The exhibits also show any interior/exterior painting that has been done. The Company's statement that "it would require significant effort to assemble the requested maintenance information" was based on an interpretation that the Staff was seeking invoices for maintenance expenditures and to locate invoices as far back as ten years ago would be burdensome.

Arizona-American Water Company
Tank Maintenance Schedule (Eastern Division)
Test Year Ending December 31,2007

Response to Data Request 12.5 (Exhibit BJC-3, page 1 of 2)

TANK NAME	TANK LOCATION	CONST.	TANK CAPACITY	DATE EVALUATED	DIAMETER (FT)	SHELL HEIGHT (FT)	ERECTION DATE	2009 EST FUNDING	2010 EST FUNDING	2011 EST FUNDING	2012 EST FUNDING	2013 EST FUNDING	2014 EST FUNDING	2015 EST FUNDING	2016 EST FUNDING	2017 EST FUNDING	2018 EST FUNDING
Plant Reservoir #1	Anthem	steel	1,200,000	2004	120.0	16.0	1999	125,000	0	0	0	0					
Plant Reservoir #2	Anthem	steel	1,200,000	2002	120.0	16.0	2002	0	0	0	4,000	125,000					
Upper Reservoir #1	Anthem	concrete	1,670,000	1998	79x120	23.0	1998	0	0	0	0	75,000					
Upper Reservoir #2	Anthem	concrete	1,670,000	2005	79x120	23.0	2005	0	0	4,600	0	0			75,000		
Vista Arroyo Norte	Anthem		500,000	2007	80.0	13.0	2007	0	0	0	0	5,000					350,000
16-1 (No. 1)	Bullhead City	steel	1,000,000	1999	82.0	24.0	1993	4,600	0	0	0	0			275,000		
16-1 (No. 2)	Bullhead City	steel	420,000	?	56.0	24.0	?	4,600	0	0	0	0			275,000		
16-2 (No. 1)	Bullhead City	steel	250,000		44.0	24.0	1975	0	0	0	0	0					
16-2 (No. 2)	Bullhead City	steel	1,000,000	1994	82.0	24.0	1994	4,600	0	0	0	300,000					
24-1	Bullhead City	steel	1,000,000	2000	82.0	24.0	1999	4,600	0	0	0	0		300,000			
Arizona Gateway	Bullhead City	steel	300,000	1995	72.0	24.0	1995	4,600	0	250,000	0	0					
Big Bend Acres	Bullhead City	steel	120,000	1997	30.0	24.0	1987										
Bullhead #4	Bullhead City	steel	120,000	1995	30.0	24.0	?	4,600	0	0	0	0	150,000				
Camp Mohave	Bullhead City	steel	250,000	1996	44.0	24.0	1996	4,600	0	0	0	0		275,000			
Desert Foothills (No. 1)	Bullhead City	steel	500,000	1997	60.0	24.0	1997	4,600	0	0	0	0	300,000				
Desert Foothills (No. 2)	Bullhead City	steel	500,000	2006	60.0	24.0	2006	0	0	0	4,600	0				300,000	
Desert Glen	Bullhead City	steel	200,000	1993	65.0	24.0		4,600	0	0	250,000	0					
Lake Mohave Highlands	Bullhead City	steel	100,000	1995	27.0	24.0	1972	4,600	200,000	0	0	0					
Laredo Village	Bullhead City	steel	500,000	1994	60.0	24.0	1990	4,600	0		250,000	0					
Pegasus Ranch	Bullhead City	steel	120,000	1999	30.0	24.0	1971	4,600	200,000	0	0	0					
Rancho Colorado	Bullhead City	steel	250,000	2006	44.0	24.0	2006	0	0	0	4,600	0				250,000	
River Bend (No. 2)	Bullhead City	steel	100,000	2004	27.0	24.0	?	0	0	0	0	0					
Riverview Mall	Bullhead City	steel	40,000	1983		16.0	1983	4,600	0	0	0	0	50,000				
Silver Creek	Bullhead City	steel	300,000	1984	50.0	32.0	1984	4,600	0	250,000	0	0					
Havasu Booster #1	Lake Havasu City	steel	100,000	?	27.0	24.0	?	4,600	200,000	0	0	0					
Havasu Booster #2	Lake Havasu City	steel	100,000	1990	30.0	32.0	1990	4,600	200,000	0	0	0					
Havasu Booster #3	Lake Havasu City	steel	125,000	1991	30.0	24.0	1991	4,600	0	200,000	0	0					
Havasu Booster #4 (No. 1)	Lake Havasu City	steel	250,000	1994	70.0	24.0	1994	4,600	0	250,000	0	0					
Havasu Booster #4 (No. 2)	Lake Havasu City	steel	750,000	2003	52.0	32.0	2003	4,600	0	0	0	0	275,000				
60th Street Tank	Paradise Valley	steel	200,000	1999	38.1	24.0	1960	4,600	0	0	0	250,000					
Clearwater Hills #1	Paradise Valley	steel	102,000	2000	27.0	24.0	1956	4,600	275,000	0	0	0					
Clearwater Hills #2	Paradise Valley	steel	100,000	2000	27.0	24.0	1965	200,000	0	0	0	0					
Clearwater Hills #3	Paradise Valley	steel	20,000	2000	13.0	20.0	1968	4,600	275,000	0	0	0					
Club Estates Tank	Paradise Valley	steel	30,000	1999	16.0	20.0	1961	200,000	0	0	0	0					
Country Club #1	Paradise Valley	steel	500,000	2000	60.0	24.0		4,600	0	287,500	0	0					
Country Club #2	Paradise Valley	steel	360,000	2000	50.0	24.0	1960/61	4,600	0	287,500	0	0					
PVARF #1	Paradise Valley	steel	1,500,000	2006	116.0	20.0	2006	0	0	0	5,250	0				125,000	
PVARF #2	Paradise Valley	steel	1,500,000	2006	116.0	20.0	2006	0	0	0	5,250	0				125,000	
Racquet Club Tank	Paradise Valley	steel	102,000	1999	27.0	24.0	1955	4,600	0	0	125,000	0					
Stone Canyon Tank	Paradise Valley	steel	90,000	1999	26.0	24.0	1955	4,600	0	0	100,000	0					
Pallo parado booster	Tubac	steel	50,000					0	0	0	0						

Arizona-American Water Company
Test Year Ending December 31, 2007
Tank Maintenance Schedule (Central Division)

Response to Data Request GTM 12.5
(Exh BJC-3 page 2 of 2)

TANK NAME	DISTRICT	CONST.	TANK TYPE	TANK CAPACITY	DATE EVALUATED	CP	DIA. (FT)	SHELL HEIGHT (FT)	ERECTION DATE	ERECTION CONTRACTOR	EXT PAINT	EXT PAINT	INT PAINT
A.F. WP 1 TANK 1	Agua Fria	CONCRETE		1,325,000			75.0	20.0	2000				
A.F. WP 1 TANK 2	Agua Fria	CONCRETE		1,325,000			75.0	20.0	2000				
A.F. WP 2 TANK 1	Agua Fria	STEEL		1,000,000			108.0	16.0	2000				
A.F. WP 2 TANK 2	Agua Fria	STEEL		1,000,000			108.0	16.0	1996				
A.F. WP 3 TANK 1	Agua Fria	STEEL		1,000,000			108.0	16.0	1996				
A.F. WP 3 TANK 2	Agua Fria	STEEL		1,000,000			108.0	16.0	2000				
A.F. WP 4 TANK 1	Agua Fria	STEEL		1,500,000			135.0	16.0	2000				
A.F. WP 4 TANK 2	Agua Fria	STEEL		2,000,000					1998				
A.F. WP 5	Agua Fria	CONCRETE		1,250,000					2004				
A.F. WP 6	Agua Fria	STEEL		40,000			14.0	14.0	Out of Service				
A.F. WP 100	Agua Fria	STEEL		1,500,000									
A.F. WP 8	Agua Fria	STEEL		1,500,000					2004				
A.F. WP 9	Agua Fria	STEEL		100,000			135.0	16.0	2004				
A.F. WP 10 TANK 1	Agua Fria	CONCRETE		1,735,000			124.0	20.0	2005				
A.F. WP 10 TANK 2	Agua Fria	CONCRETE		1,735,000			124.0	20.0	2007				
S.C. WP 1 TANK 1	Sun City	STEEL		300,000			30.0	40.0					
S.C. WP 1 TANK 2	Sun City	STEEL		300,000			30.0	40.0					
S.C. WP 2 TANK 1	Sun City	Welded	Ground	300,000	8/23-24/04	yes	40.0	32.0	1969	Garland Steel Co	2006		2011 check
S.C. WP 2 TANK 2	Sun City	Welded	Ground	300,000	8/23/2004	yes	40.0	32.0	1969	Garland Steel Co	2006		2011 check
S.C. WP 2 TANK 3	Sun City	Welded	Ground	300,000	8/24/2004	yes	40.0	32.0	1969	Garland Steel Co	2006		2011 check
S.C. WP 3 TANK 1	Sun City	STEEL	Ground	500,000			60.0	16.0					
S.C. WP 3 TANK 2	Sun City	STEEL	Ground	500,000			60.0	16.0					
S.C. WP 5 TANK 1	Sun City	Welded	Ground	1,250,000	7/11/2005	yes	115.0	16.0	1971	Garland Steel Co			
S.C. WP 5 TANK 2	Sun City	Welded	Ground	1,250,000	7/12/2005	yes	115.0	16.0	1970	Garland Steel Co			
S.C. WP 6 TANK 1	Sun City	Steel		1,250,000			115.0	16.0					
S.C. WP 6 TANK 2	Sun City	Steel		1,250,000			115.0	16.0					
S.C. WP 8 TANK 1	Sun City	Welded	Ground	675,000	8/24/2004	yes	85.0	16.0	1978	Cyprus			
S.C. WP 8 TANK 2	Sun City	Welded	Ground	675,000	7/14/2005	yes	85.0	16.0	1978	Cyprus			
S.C.W. WP 1 TANK 1	Sun City West	Welded	Ground	1,250,000	8/25/2004	yes	117.0	16.0		Brown Tank & Steel		2007	2008 rec
S.C.W. WP 1 TANK 2	Sun City West	Welded	Ground	1,250,000	8/26/2004	yes	117.0	16.0	1992	Shuff Steel Co		2007	2010 rec
S.C.W. WP 2 TANK 1	Sun City West	Welded	Ground	758,000	7/15/2005	yes	96.0	15.0	1986	Brown Tank & Steel			
S.C.W. WP 2 TANK 2	Sun City West	Welded	Ground	758,000	7/15/2005	yes	96.0	15.0	1986	Brown Tank & Steel			
COOL WELL	Sun City West	Steel		10,000			12.0	12.0					

Arizona-American Water Company
Test Year Ending December 31, 2007
Tank Maintenance Schedule (Central Divis

Response to Data Request GTM 12.5
(Exh BJC-3 page 2 of 2)

TANK NAME	DISTRICT	LEAD (mg/kg)	CHROMIUM (mg/kg)	CADMIUM (mg/kg)	LEAD (mg/kg)	CHROMIUM (mg/kg)	CADMIUM (mg/kg)
A.F. WP 1 TANK 1	Agua Fria						
A.F. WP 1 TANK 2	Agua Fria						
A.F. WP 2 TANK 1	Agua Fria						
A.F. WP 2 TANK 2	Agua Fria						
A.F. WP 3 TANK 1	Agua Fria						
A.F. WP 3 TANK 2	Agua Fria						
A.F. WP 4 TANK 1	Agua Fria						
A.F. WP 4 TANK 2	Agua Fria						
A.F. WP 5	Agua Fria						
A.F. WP 6	Agua Fria						
A.F. WP 100	Agua Fria						
A.F. WP 8	Agua Fria						
A.F. WP 9	Agua Fria						
A.F. WP 10 TANK 1	Agua Fria						
A.F. WP 10 TANK 2	Agua Fria						
S.C. WP 1 TANK 1	Sun City						
S.C. WP 1 TANK 2	Sun City						
S.C. WP 2 TANK 1	Sun City	6,520	972	<25	<250	<250	<25
S.C. WP 2 TANK 2	Sun City	8,800	543	<25	<250	<250	<25
S.C. WP 2 TANK 3	Sun City	6,520	972	<25	<250	<250	<25
S.C. WP 3 TANK 1	Sun City						
S.C. WP 3 TANK 2	Sun City						
S.C. WP 5 TANK 1	Sun City	16,200	<250	<25	<250	<250	<25
S.C. WP 5 TANK 2	Sun City	<250	<250	<25	<250	<250	<25
S.C. WP 6 TANK 1	Sun City						
S.C. WP 6 TANK 2	Sun City						
S.C. WP 8 TANK 1	Sun City	826	<250	<25	<250	<250	<25
S.C. WP 8 TANK 2	Sun City	829	<250	<25	283	<250	<25
S.C.W. WP 1 TANK 1	Sun City West	<250	<250	<25	<250	<250	<25
S.C.W. WP 1 TANK 2	Sun City West	<250	<250	<25	<250	<250	<25
S.C.W. WP 2 TANK 1	Sun City West	<250	<250	<25	<250	<250	<25
S.C.W. WP 2 TANK 2	Sun City West	<250	<250	<25	<250	<250	<25
COOL WELL	Sun City West						

Arizona-American Water Company
Test Year Ending December 31, 2007
Tank Maintenance Schedule (Central Divis

Response to Data Request GTM 12.5
(Exh BJC-3 page 2 of 2)

TANK NAME	DISTRICT	2007 EST. FUNDING	2009 EST. FUNDING	2010 EST. FUNDING	2011 EST. FUNDING	2012 EST. FUNDING	2013 EST. FUNDING	2014 EST. FUNDING	2015 EST. FUNDING	2016 EST. FUNDING	2017 EST. FUNDING	2018 EST. FUNDING
A.F. WP 1 TANK 1	Agua Fria	-	4,200	-	-	-	125,000					
A.F. WP 1 TANK 2	Agua Fria	-	4,200	-	-	-	125,000					
A.F. WP 2 TANK 1	Agua Fria	-	4,200	-	-	200,000	-					
A.F. WP 2 TANK 2	Agua Fria	-	4,200		-	200,000						
A.F. WP 3 TANK 1	Agua Fria	-	4,200	200,000	-	-						
A.F. WP 3 TANK 2	Agua Fria	-	4,200	200,000	-	-						
A.F. WP 4 TANK 1	Agua Fria	-	4,200	-	200,000	-						
A.F. WP 4 TANK 2	Agua Fria	-	4,200		200,000	-						
A.F. WP 5	Agua Fria	-	4,200	-	-	-	-			125,000		
A.F. WP 6	Agua Fria	-	-	-	-	-	-					
A.F. WP 100	Agua Fria	-	4,725	-	-	-	-			200,000		
A.F. WP 8	Agua Fria	-	4,725	-	-	-	-		200,000			
A.F. WP 9	Agua Fria	-	4,725	-	-	-	-		125,000			
A.F. WP 10 TANK 1	Agua Fria	-	4,725	-	-	-	-					125,000
A.F. WP 10 TANK 2	Agua Fria	-	4,725	-	-	-	-					125,000
S.C. WP 1 TANK 1	Sun City	-		-	143,750		-					
S.C. WP 1 TANK 2	Sun City	-	5,250	-	143,750		-					
S.C. WP 2 TANK 1	Sun City	-	5,250	-	143,750		-					
S.C. WP 2 TANK 2	Sun City	-		-	143,750		-					
S.C. WP 2 TANK 3	Sun City	-		-	143,750		-					
S.C. WP 3 TANK 1	Sun City	-	4,725	-	-	143,750	-					
S.C. WP 3 TANK 2	Sun City	-	4,725	-	-	143,750	-					
S.C. WP 5 TANK 1	Sun City	-	200,000	-	-	-	-					
S.C. WP 5 TANK 2	Sun City	-	200,000	-	-	-	-					
S.C. WP 6 TANK 1	Sun City	-	5,750	-	-	-	200,000					
S.C. WP 6 TANK 2	Sun City	-	5,750	-	-	-	200,000					
S.C. WP 8 TANK 1	Sun City	-	4,725	143,750	-	-	-					
S.C. WP 8 TANK 2	Sun City	-	4,725	143,750	-	-	-					
S.C.W. WP 1 TANK 1	Sun City West	-		-	200,000	-	-					
S.C.W. WP 1 TANK 2	Sun City West	-		-	200,000	-	-					
S.C.W. WP 2 TANK 1	Sun City West	-	4,725	183,750	-	-	-					
S.C.W. WP 2 TANK 2	Sun City West	-	4,725	183,750	-	-	-					
COOL WELL	Sun City West	-	0	-	-	-	-					

COMPANY: ARIZONA AMERICAN WATER COMPANY
DOCKET NO: W-01303A-08-0227
SW-1303A-08-0227

Response provided by: Sheryl L. Hubbard
Title: Manager, Rates and Regulation

Address: 19820 N. 7th Street, Suite 201
Phoenix, AZ 85024

Company Response Number: GTM 12.4

Q: Tank Inspection Historical Cost – Please provide a minimum of three complete inspection invoices for each District showing the historical cost of inspection.

A: Attached are inspection invoices for Sun City West and Paradise Valley. It appears from the response to GTM 8.17 that these are the only districts in this proceeding that have had tank inspections.

RVI Image System 6

TANK INDUSTRY CONSULTANTS

TIC

7340 West New York Street
Indianapolis, Indiana 46234

Telephone — 317/271 9100
FAX — 317/271 3300

1000267 9

Invoice

Invoice Number 19613
September 08, 2006

Received
SEP 1 1 2006

Sanjay Ponnayath A05EN005
Arizona American Water
American Water Shared Services
PO Box 5613
Cherry Hill, NJ 08034

Client ID W1003
Project # 06002 Specifications for Three Tanks Located in Sun City West, Arizona

Contract # 06 002 W1003 10

1,250,000 Gallon Ground Storage Tank #1 in the Sun City West Water Plant #5

Professional Services Rendered in the Preparation of Detailed Technical Specifications for the 1,250,000 Gallon Ground Storage Tank Known as "Tank #1 in the Sun City West Water Plant #5" Located in Sun City West, Arizona

Specifications	$6,640.00
Amount Previously Invoiced	156,156.00
Subtotal	$6,484.00
Total Amount Due This Invoice	$6,484.00

RVI Image System 6

TANK INDUSTRY CONSULTANTS

TIC

7340 West New York Street
Indianapolis, Indiana 46234

Telephone 317/271 9100
FAX 317/271 3300

1000267 9

Invoice

Invoice Number 20185
January 29, 2007

C. Kennedy A05A5001
California American Water-Village Dist
American Water Shared Services A/P
P O Box 5604
Cherry Hill, NJ 08034

Client ID W358
Project # 06289 Work in Progress

Contract # 06 289 W358 12

Deer Ridge Tank - 300,000 Gallon Ground Storage Tank

Professional Services Rendered in the Preparation of a Request for Proposal to be Issued to the Contractor AA-1 Services

Engineering Services	$580.00
Subtotal	$580.00
Total Amount Due This Invoice	$580.00

RVI Image System 6

TANK INDUSTRY CONSULTANTS

TIC

7340 West New York Street
Indianapolis, Indiana 46214

Telephone — 317 / 271 3100
FAX — 317 / 271 3300

10002674

Invoice

Invoice Number 19631
September 08, 2006

Sanjay Pennangath A05ENG05
Arizona American Water
American Water Shared Services
PO Box 5013
Cherry Hill, NJ 08034

Received
SEP 1 2 2006
Shared Services Center

Client ID W1008
Project # 06002 Specifications for Three Tanks Located in Sun City West, Arizona

Contract # 06 002 W1005 08

Tank #1 758 000 Gallon Ground Storage Tank

Professional Services Rendered in the Preparation of Detailed Technical Specifications for the 758 000 Gallon Ground Storage Tank Known as "Tank #1 in West Water Plant #2" Located in Sun City West, Arizona

Specifications	$4,940.00
Discount	($2,470.00)
Subtotal	$2,470.00
Total Amount Due This Invoice	$2,470.00

RVI Image System 6

TANK INDUSTRY CONSULTANTS

TIC

7340 West New York Street
Indianapolis, Indiana 46214

Telephone — 317 / 271 3100
FAX — 317 / 271 3300

10002674

Invoice

Invoice Number 19627
September 07, 2006

Sanjay Pennangath A05ENG05
Arizona American Water
American Water Shared Services
PO Box 5013
Cherry Hill, NJ 08034

Received
SEP 1 2 2006
Shared Services Center

Client ID W1003
Project # 06002 Specifications for Three Tanks Located in Sun City West, Arizona

Contract # 06 002 W1003 06

758 000 Gallon Ground Storage Tank #2 in the Sun City West Water Plant #2

Professional Services Rendered in the Preparation of Detailed Technical Specifications for the 758 000 Gallon Ground Storage Known as "Tank #2 in the Sun City West Water Plant #2" Located in Sun City West, Arizona

Specifications	$4,940.00
Amount Previously Invoiced	($4,446.00)
Subtotal	$494.00
Total Amount Due This Invoice	$494.00

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TANK INDUSTRY CONSULTANTS

7740 West New York Street
Indianapolis, Indiana 46214

Telephone — 317/271 3100
FAX — 317/271 3300

10002674
9

INVOICE

Invoice Number 19629
September 08 2006

Sanjay Ponnangath A05ENG05
Arizona American Water
American Water Shared Services
PO Box 5613
Cherry Hill NJ 08034

Received
SEP 12 2006
Shared Services Center

Client ID W1003
Project # 06189 Sun City West Water Plant #8 Detailed Technical Specifications
Contract # 06 189 W1003 07

Tank #2 680 000 Ground Storage Tank

Professional Services Rendered in the Preparation of Detailed Technical Specifications for the 680,000 Gallon Ground Storage Tank Known as "Tank #2 at West Water Plant #8" Located in Sun City Arizona

Specifications	$5,890 00
Subtotal	$5 890 00
Total Amount Due This Invoice	**$5,890 00**

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TANK INDUSTRY CONSULTANTS

7730 West New York Street
Indianapolis, Indiana 46214

Telephone — 317 / 271 3100
FAX — 317 / 271 3300

10002674
8

Invoice

Invoice Number 19630
September 08, 2006

Sanjay Ponnangath A05ENG05
Arizona American Water
American Water Shared Services
PO Box 5613
Cherry Hill, NJ 08034

Received
SEP 12 2006
Shared Services Center

Client ID W1003

Project # 06189 Sun City West Water Plant #8 Detailed Technical Specifications

Contract # 06 189 W1003 06

Tank #1 680 000 Gallon Ground Storage Tank

Professional Services Rendered in the Preparation of Detailed Technical Specifications for the 680 000 Gallon Ground Storage Tank known as "Tank #1 at West Water Plant #8" Located in Sun City Arizona

Specifications	$5,890 00
Subtotal	$5 890 00
Total Amount Due This Invoice	**$5,890 00**

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10002674 AC
A23S0PT02

TANK INDUSTRY CONSULTANTS

7340 West New York Street
Indianapolis, Indiana 46214

Telephone — 317/271 3000
FAX — 317/271 3000

INVOICE

Invoice Number 17906
July 22, 2005

Mr. Tom DeYoung
Arizona American Water
American Water Shared Services
PO Box 5097
Mt. Laurel, MD 08054

Client ID W1003
Project # 05114 Underwater Evaluations for Arizona American Water
Contract # 05 114 W1003 11

Tank #2 at the Sun City West Water Plant #5

Professional Services Rendered in the Underwater Evaluation of the 1,250,000 Gallon Ground Storage Tank known as Tank #2 at the Sun City West Water Plant #5

Diving Tank Evaluation	$4,337.00
Subtotal	$4,337.00
Total Amount Due This Invoice	$4,337.00

RVI Image System 6

10002674 AC
A23S0PT02

TANK INDUSTRY CONSULTANTS

7340 West New York Street
Indianapolis, Indiana 46214

Telephone — 317/271 3000
FAX — 317/271 3000

INVOICE

Invoice Number 17905
July 22, 2005

Mr. Tom DeYoung
Arizona American Water
American Water Shared Services
PO Box 5097
Mt. Laurel, MD 08054

Client ID W1003
Project # 05114 Underwater Evaluations for Arizona American Water
Contract # 05 114 W1003 10

Tank #1 at the Sun City West Water Plant #5

Professional Services Rendered in the Underwater Evaluation of the 1,250,000 Gallon Ground Storage Tank known as Tank #1 at the Sun City West Water Plant #5

Diving Tank Evaluation	$4,337.00
Subtotal	$4,337.00
Total Amount Due This Invoice	$4,337.00

4,337.00

4,337.00

RVI Image System 6

10002674
AC
A235UPT02

TANK INDUSTRY CONSULTANTS

7740 West New York Street
Indianapolis Indiana 46214

Telephone — 317/271 3080
FAX — 317/271 3080

INVOICE

Invoice Number 17907
July 22, 2005

Mr Tom De Young
Arizona American Water
American Water Shared Services
PO Box 5087
Mt Laurel MD 08054

Client ID W1005
Project # 05114 Underwater Evaluation for Arizona American Water
Contract # 05 114 W1005 07

Task 02 at the Sun City West Water Plant #8

Professional Services Rendered in the Underwater Evaluation of the 670,000 Gallon Ground Storage Tank known as Tank #2 at the Sun City West Water Plant #8

Diving Tank Evaluation	$4,071 00
Subtotal	$4,071 00
Total Amount Due This Invoice	$4,071 00

RVI Image System 6

10002674
AC
A235UPT02

TANK INDUSTRY CONSULTANTS

7740 West New York Street
Indianapolis Indiana 46214

Telephone — 317/271 3080
FAX — 317/271 3080

INVOICE

Invoice Number 17904
July 22, 2005

Mr Tom De Young
Arizona American Water
American Water Shared Services
PO Box 5087
Mt Laurel, MD 08054

Client ID W1005
Project # 05114 Underwater Evaluation for Arizona American Water
Contract # 05 114 W1005 06

Task 01 at the Sun City West Water Plant #8

Professional Services Rendered in the Underwater Evaluation of the 670,000 Gallon Ground Storage Tank known as Tank #1 at the Sun City West Water Plant #8

Diving Tank Evaluation	$4,071 00
Subtotal	$4,071 00
Total Amount Due This Invoice	$4,071 00

$4,071.00

$4,071.00

122,497.07

RVI Image System 6

TANK INDUSTRY CONSULTANTS

7740 West New York Street
Indianapolis Indiana 46214

Telephone — 317/271 3100
FAX — 317/271 3300

18722

Invoice Number 18722
January 13 2006
1-13 06

INVOICE

A05ENG05
10002674

Sanjay Ponnangath A05ENG05
Arizona American Water
American Water Shared Services
PO Box 5087
Mt Laurel, MD 08054

Client ID W1003
Project # 06002 Two Tanks located in Sun City West, Arizona

Contract # 06 002 W1003 09

758 000 Gallon Ground Storage Tank #2 at the Sun City West Water Plant #2

Professional Services Rendered in the Preparation of Detailed Technical Specifications for the 758,000 Gallon Ground Storage Tank #2 at the Sun City West Water Plant #2 Located in Sun City West, Arizona

Received
JAN 17 2006
Shared Services Center

Specifications	$4,940 00
Less Retainer Withheld	($494 00)
Subtotal	$4,446 00
Total Amount Due This Invoice	**$4,446 00**

4446 00

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RVI Image System 6

TANK INDUSTRY CONSULTANTS

7340 West New York Street
Indianapolis, Indiana 46214

Telephone — 317/271 3300
FAX — 317/271 3300

13667

Invoice Number 13664
December 23, 2005

12 23 05

10002674

Sanjay Pennangatt A05ENG05
Arizona American Water
American Water Shared Services
PO Box 5087
Mt. Laurel, MD 08054

RECEIVED
DEC 27 2005

Client ID W1003
Project # 05253 Tank at the Sun City West Water Plant #5
Contract # 05 253 W1003 13

1 250 000 Gallon Ground Storage Tank

Professional Services Rendered in the Preparation of Detailed Technical Specifications for the 1,250,000 Gallon Ground Storage Tank known as "Tank #2 at the Sun City West Water Plant #5," Located in Sun City Arizona

Specifications	$6,805.00
Subtotal	$6,805.00
Total Amount Due This Invoice	$6,805.00

6 805 00

Page 1 of 1 | Document 1 of 1 | C:\RVIS\DATA\AA2BPK.001 | Connected

6,805.00

RVI Image System 6

TANK INDUSTRY CONSULTANTS

7340 West New York Street
Indianapolis, Indiana 46214

A05ENG05
10002674

Telephone — 317/271 3300
FAX — 317/271 3300

13732

Invoice Number 13732
January 13, 2006

1-23 06

Sanjay Pennangatt A05ENG05
Arizona American Water
American Water Shared Services
PO Box 5087
Mt. Laurel, MD 08054

Received
JAN 17 2006

Client ID W1003
Project # 06002 Two Tanks located in Sun City West, Arizona
Contract # 06 002 W1003 16

1 250 000 Gallon Ground Storage Tank #1 at the Sun City West Water Plant #5

Professional Services Rendered in the Preparation of Detailed Technical Specifications for the 1,250,000 Gallon Ground Storage Tank known as Tank #1 Located in Sun City West, Arizona

Specifications	$6,840.00
Less Retainer Withheld	($684.00)
Subtotal	$6,156.00
Total Amount Due This Invoice	$6,156.00

Page 1 of 1 | Document 1 of 1 | C:\RVIS\DATA\AA2UH.001 | Connected

6,156.00

12,961.00

EXHIBIT SLH-R6

COMPANY: ARIZONA AMERICAN WATER COMPANY
DOCKET NO: W-01303A-08-0227 AND SW-1303A-08-0227

Response provided by: Sheryl L. Hubbard
Title: Manager, Rates and Regulation

Address: 19820 N. 7th Street, Suite 201
Phoenix, AZ 85024

Company Response Number: RUCO 2.04

Q: Fuel and Power Supply Adjustor Mechanism – Please provide a copy of Schedule H-8, the proposed tariff for a power supply adjustor mechanism.

A: A copy of the Company's proposed tariff for the power supply adjustor mechanism is attached as Schedule H-8.ppt.

ORIGINAL SHEET NO.

Arizona-American Water Company
(Name of Company)

Agua Fria Water District
(Name of Service Area)

Purchased Power Adjustor

APPLICATION

The Purchased Power Adjustor ("PPA") shall apply to all water rate schedules of Sun City West Water District. All provisions of the customer's current applicable rate schedule shall apply in addition to this rate schedule.

RATES

The charges shall be calculated as follows:

~Included in the commodity rate is purchased power costs of $X.XXX per unit of water based on the Company's weighted average purchased power costs for its Agua Fria Water district. As soon as the data are available, but in any event not later than thirty days prior to December 1 of each year, the Company shall submit to the Arizona Corporation Commission ("ACC") a summary of bills rendered to it by the electric utilities providing power for operation of its water system. In addition, the Company will provide a schedule showing all water pumped and sold for the same period.

~The Company shall submit such data as the ACC may require showing the total quantity of water sold (in units) during any year for which an adjustment is calculated. From these data the Company shall calculate, to the nearest hundredth of a cent per unit, the amount by which its weighted average purchased power costs for the preceding year have increased or decreased from the weighted average costs as filed. The difference between the base year weighted average cost and weighted average cost for any subsequent year shall be added to or subtracted from, as the case may be, the commodity charge stated above to determine the commodity charge for the next succeeding twelve months for bill rendered on or after December 1 of each year.

~The foregoing provision shall be subject to change in any subsequent rate case applicable to the Company or in any generic proceeding applicable to the Company and other water utilities.

ISSUED:_____ EFFECTIVE: _____
Month Day Year Month Day Year

ISSUED BY: Thomas M. Broderick, Director of Rates & Regulation .
19820 N. 7th St., Suite 201, Phoenix, Arizona 85024
Decision No. _____.

ORIGINAL SHEET NO.

Arizona-American Water Company
(Name of Company)

Sun City West Water District
(Name of Service Area)

Purchased Power Adjustor

APPLICATION

The Purchased Power Adjustor ("PPA") shall apply to all water rate schedules of Sun City West Water District. All provisions of the customer's current applicable rate schedule shall apply in addition to this rate schedule.

RATES

The charges shall be calculated as follows:

~Included in the commodity rate is purchased power costs of $X.XXX per unit of water based on the Company's weighted average purchased power costs for its Sun City West Water district. As soon as the data are available, but in any event not later than thirty days prior to December 1 of each year, the Company shall submit to the Arizona Corporation Commission ("ACC") a summary of bills rendered to it by the electric utilities providing power for operation of its water system. In addition, the Company will provide a schedule showing all water pumped and sold for the same period.

~The Company shall submit such data as the ACC may require showing the total quantity of water sold (in units) during any year for which an adjustment is calculated. From these data the Company shall calculate, to the nearest hundredth of a cent per unit, the amount by which its weighted average purchased power costs for the preceding year have increased or decreased from the weighted average costs as filed. The difference between the base year weighted average cost and weighted average cost for any subsequent year shall be added to or subtracted from, as the case may be, the commodity charge stated above to determine the commodity charge for the next succeeding twelve months for bill rendered on or after December 1 of each year.

~The foregoing provision shall be subject to change in any subsequent rate case applicable to the Company or in any generic proceeding applicable to the Company and other water utilities.

ISSUED:_____ EFFECTIVE: _____
Month Day Year Month Day Year

ISSUED BY: Thomas M. Broderick, Director of Rates & Regulation
19820 N. 7th St., Suite 201, Phoenix, Arizona 85024

Decision No. _____.

ORIGINAL SHEET NO.

Arizona-American Water Company
(Name of Company)

Havasu Water District
(Name of Service Area)

Purchased Power Adjustor

APPLICATION

The Purchased Power Adjustor ("PPA") shall apply to all water rate schedules of Sun City West Water District. All provisions of the customer's current applicable rate schedule shall apply in addition to this rate schedule.

RATES

The charges shall be calculated as follows:

~Included in the commodity rate is purchased power costs of $X.XXX per unit of water based on the Company's weighted average purchased power costs for its Havasu Water district. As soon as the data are available, but in any event not later than thirty days prior to December 1 of each year, the Company shall submit to the Arizona Corporation Commission ("ACC") a summary of bills rendered to it by the electric utilities providing power for operation of its water system. In addition, the Company will provide a schedule showing all water pumped and sold for the same period.

~The Company shall submit such data as the ACC may require showing the total quantity of water sold (in units) during any year for which an adjustment is calculated. From these data the Company shall calculate, to the nearest hundredth of a cent per unit, the amount by which its weighted average purchased power costs for the preceding year have increased or decreased from the weighted average costs as filed. The difference between the base year weighted average cost and weighted average cost for any subsequent year shall be added to or subtracted from, as the case may be, the commodity charge stated above to determine the commodity charge for the next succeeding twelve months for bill rendered on or after December 1 of each year.

~The foregoing provision shall be subject to change in any subsequent rate case applicable to the Company or in any generic proceeding applicable to the Company and other water utilities.

ISSUED:_____ EFFECTIVE: _____
Month Day Year Month Day Year

ISSUED BY: Thomas M. Broderick, Director of Rates & Regulation .
19820 N. 7th St., Suite 201, Phoenix, Arizona 85024
Decision No. _____.

ORIGINAL SHEET NO.

Arizona-American Water Company
(Name of Company)

Mohave Water District
(Name of Service Area)

Purchased Power Adjustor

APPLICATION

The Purchased Power Adjustor ("PPA") shall apply to all water rate schedules of Sun City West Water District. All provisions of the customer's current applicable rate schedule shall apply in addition to this rate schedule.

RATES

The charges shall be calculated as follows:

~Included in the commodity rate is purchased power costs of $X.XXX per unit of water based on the Company's weighted average purchased power costs for its Mohave Water district. As soon as the data are available, but in any event not later than thirty days prior to December 1 of each year, the Company shall submit to the Arizona Corporation Commission ("ACC") a summary of bills rendered to it by the electric utilities providing power for operation of its water system. In addition, the Company will provide a schedule showing all water pumped and sold for the same period.

~The Company shall submit such data as the ACC may require showing the total quantity of water sold (in units) during any year for which an adjustment is calculated. From these data the Company shall calculate, to the nearest hundredth of a cent per unit, the amount by which its weighted average purchased power costs for the preceding year have increased or decreased from the weighted average costs as filed. The difference between the base year weighted average cost and weighted average cost for any subsequent year shall be added to or subtracted from, as the case may be, the commodity charge stated above to determine the commodity charge for the next succeeding twelve months for bill rendered on or after December 1 of each year.

~The foregoing provision shall be subject to change in any subsequent rate case applicable to the Company or in any generic proceeding applicable to the Company and other water utilities.

ISSUED:_____ EFFECTIVE: _____
Month Day Year Month Day Year

ISSUED BY: Thomas M. Broderick, Director of Rates & Regulation .
19820 N. 7th St., Suite 201, Phoenix, Arizona 85024
Decision No. _____.

ORIGINAL SHEET NO.

Arizona-American Water Company
(Name of Company)

Paradise Valley District
(Name of Service Area)

Purchased Power Adjustor

APPLICATION

The Purchased Power Adjustor ("PPA") shall apply to all water rate schedules of Sun City West Water District. All provisions of the customer's current applicable rate schedule shall apply in addition to this rate schedule.

RATES

The charges shall be calculated as follows:

~Included in the commodity rate is purchased power costs of $X.XXX per unit of water based on the Company's weighted average purchased power costs for its Paradise Valley Water district. As soon as the data are available, but in any event not later than thirty days prior to December 1 of each year, the Company shall submit to the Arizona Corporation Commission ("ACC") a summary of bills rendered to it by the electric utilities providing power for operation of its water system. In addition, the Company will provide a schedule showing all water pumped and sold for the same period.

~The Company shall submit such data as the ACC may require showing the total quantity of water sold (in units) during any year for which an adjustment is calculated. From these data the Company shall calculate, to the nearest hundredth of a cent per unit, the amount by which its weighted average purchased power costs for the preceding year have increased or decreased from the weighted average costs as filed. The difference between the base year weighted average cost and weighted average cost for any subsequent year shall be added to or subtracted from, as the case may be, the commodity charge stated above to determine the commodity charge for the next succeeding twelve months for bill rendered on or after December 1 of each year.

~The foregoing provision shall be subject to change in any subsequent rate case applicable to the Company or in any generic proceeding applicable to the Company and other water utilities.

ISSUED:_____ EFFECTIVE: _____
Month Day Year Month Day Year

ISSUED BY: Thomas M. Broderick, Director of Rates & Regulation
19820 N. 7th St., Suite 201, Phoenix, Arizona 85024

Decision No. _____.

ORIGINAL SHEET NO.

Arizona-American Water Company
(Name of Company)

Tubac Water District
(Name of Service Area)

Purchased Power Adjustor

APPLICATION

The Purchased Power Adjustor ("PPA") shall apply to all water rate schedules of Sun City West Water District. All provisions of the customer's current applicable rate schedule shall apply in addition to this rate schedule.

RATES

The charges shall be calculated as follows:

~Included in the commodity rate is purchased power costs of $X.XXX per unit of water based on the Company's weighted average purchased power costs for its Tubac Water district. As soon as the data are available, but in any event not later than thirty days prior to December 1 of each year, the Company shall submit to the Arizona Corporation Commission ("ACC") a summary of bills rendered to it by the electric utilities providing power for operation of its water system. In addition, the Company will provide a schedule showing all water pumped and sold for the same period.

~The Company shall submit such data as the ACC may require showing the total quantity of water sold (in units) during any year for which an adjustment is calculated. From these data the Company shall calculate, to the nearest hundredth of a cent per unit, the amount by which its weighted average purchased power costs for the preceding year have increased or decreased from the weighted average costs as filed. The difference between the base year weighted average cost and weighted average cost for any subsequent year shall be added to or subtracted from, as the case may be, the commodity charge stated above to determine the commodity charge for the next succeeding twelve months for bill rendered on or after December 1 of each year.

~The foregoing provision shall be subject to change in any subsequent rate case applicable to the Company or in any generic proceeding applicable to the Company and other water utilities.

ISSUED: _____ EFFECTIVE: _____
Month Day Year Month Day Year

ISSUED BY: Thomas M. Broderick, Director of Rates & Regulation
19820 N. 7th St., Suite 201, Phoenix, Arizona 85024

Decision No. _____.

ORIGINAL SHEET NO.

Arizona-American Water Company
(Name of Company)

Mohave Wastewater District
(Name of Service Area)

Purchased Power Adjustor

APPLICATION

The Purchased Power Adjustor ("PPA") shall apply to all water rate schedules of Sun City West Water District. All provisions of the customer's current applicable rate schedule shall apply in addition to this rate schedule.

RATES

The charges shall be calculated as follows:

~Included in the commodity rate is purchased power costs of $X.XXX per unit of water based on the Company's weighted average purchased power costs for its Mohave Wastewater district. As soon as the data are available, but in any event not later than thirty days prior to December 1 of each year, the Company shall submit to the Arizona Corporation Commission ("ACC") a summary of bills rendered to it by the electric utilities providing power for operation of its water system. In addition, the Company will provide a schedule showing all water pumped and sold for the same period.

~The Company shall submit such data as the ACC may require showing the total quantity of water sold (in units) during any year for which an adjustment is calculated. From these data the Company shall calculate, to the nearest hundredth of a cent per unit, the amount by which its weighted average purchased power costs for the preceding year have increased or decreased from the weighted average costs as filed. The difference between the base year weighted average cost and weighted average cost for any subsequent year shall be added to or subtracted from, as the case may be, the commodity charge stated above to determine the commodity charge for the next succeeding twelve months for bill rendered on or after December 1 of each year.

~The foregoing provision shall be subject to change in any subsequent rate case applicable to the Company or in any generic proceeding applicable to the Company and other water utilities.

ISSUED:_____ EFFECTIVE: _____
Month Day Year Month Day Year

ISSUED BY: Thomas M. Broderick, Director of Rates & Regulation .
19820 N. 7th St., Suite 201, Phoenix, Arizona 85024
Decision No. _____.

EXHIBIT
A-30
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

KRISTIN K. MAYES, Chairman
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

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 AGUA FRIA WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT	DOCKET NO. W-01303A-08-0227
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 MOHAVE WASTEWATER DISTRICT	DOCKET NO. SW-01303A-08-0227

REJOINDER TESTIMONY
OF
SHERYL L. HUBBARD
ON BEHALF OF
ARIZONA-AMERICAN WATER COMPANY
MARCH 11, 2009

REJOINDER TESTIMONY
OF
SHERYL L. HUBBARD
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TABLE OF CONTENTS

EXECUTIVE SUMMARY ..... **iii**
I. INTRODUCTION AND QUALIFICATIONS **1**
II. PURPOSE OF TESTIMONY **1**
III. SPONSORED SCHEDULES AND EXHIBITS **1**
IV. WORKING CAPITAL **2**
V. ADJUSTED OPERATING INCOME **4**
A OPERATING EXPENSES 4
B MISCELLANEOUS EXPENSE 5
C PROPERTY TAXES 5
D INCOME TAXES 6

EXECUTIVE SUMMARY

Sheryl L. Hubbard testifies as follows:

WORKING CAPITAL:

Arizona-American has incorporated revised service and billing lags in the calculation of the revenue lag filed in conjunction with this rejoinder testimony.

Average daily revenues and average accounts receivable balance should both be computed on a comparable basis or 365 daily balances. Based on these computations, Arizona-American has recalculated revenue lags and cash-working capital for each district.

MISCELLANEOUS EXPENSE

Staff failed to include Ms. Hains' water-testing expenses in its proposed Miscellaneous Expenses or in any other expense in its direct case or surrebuttal case presentations.

PROPERTY TAXES AND INCOME TAXES

Based on the cash-working capital adjustment and the inclusion of water-testing expense, Arizona-American recalculates property tax and income tax expense.

I. INTRODUCTION AND QUALIFICATIONS

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

A. My name is Sheryl L. Hubbard. My business address is 19820 N. 7th Street, Suite 201, Phoenix, Arizona 85024, and my business phone is 623-445-2419.

Q. DID YOU FILE DIRECT TESTIMONY AND REBUTTAL TESTIMONY IN THIS PROCEEDING?

A. Yes, I did.

II. PURPOSE OF TESTIMONY

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

A. My rejoinder testimony is organized by subject matter primarily focusing on adjustments to Arizona-American's cash working capital calculations and Adjusted Test Year Operating Income proposed by witnesses for the Arizona Corporation Commission Staff ("Staff") and the Residential Utility Consumer Office ("RUCO").

III. SPONSORED SCHEDULES AND EXHIBITS

Q. PLEASE IDENTIFY THE SCHEDULES YOU ARE SPONSORING.

A. I am sponsoring the following schedules for each district:

- Schedule B-6 Rejoinder - Arizona-American Computation of Cash Working Capital
- Schedule C-2 Rejoinder - Arizona-American Income Statement Pro Forma Adjustments
- Schedule C-3 Rejoinder - Arizona-American Computation of Gross Revenue Conversion Factor

Q. PLEASE IDENTIFY THE EXHIBITS YOU ARE SPONSORING.

A. I am sponsoring the following exhibit, which are attached to this rebuttal testimony.

- Exhibit SLH-RJ1 – Excerpt from Accounting for Public Utilities – Revenue Lag

IV. WORKING CAPITAL

Q. HAVE YOU REVIEWED THE TESTIMONY OF RUCO'S WITNESS TIMOTHY J. COLEY REGARDING THE REVENUE LAG PORTION OF THE CASH WORKING CAPITAL CALCULATION?

A. Yes, I have.

Q. MR. COLEY TESTIFIES THAT THE COMPANY FAILED TO REFLECT CORRECTIONS TO THE SERVICE AND BILLING LAG PORTION OF THE REVENUE LAG CALCULATION AS PROVIDED IN RESPONSE TO DATA REQUEST RUCO 2.02 IN ITS REBUTTAL PRESENTATION. WHAT IS YOUR RESPONSE?

A. The Company admits an oversight in its rebuttal filing to recalculate the cash working capital due to the use of incorrect service and billing lags in its direct case filing. The revised service and billing lags have been incorporated in the calculation of the revenue lag filed in conjunction with this rejoinder testimony.

Q. TO PROVIDE AN "APPLES TO APPLES" COMPARISON, MR. COLEY USES 254 DAYS TO CALCULATE THE AVERAGE DAILY REVENUE IN HIS REVENUE LAG CALCULATION. DO YOU AGREE WITH MR. COLEY'S USE OF 254 DAYS TO CALCULATE THE AVERAGE DAILY REVENUE?

A. No, I do not. Water consumption by the Company's customers occurs on a daily basis and the associated average daily revenue should be calculated using a full year or 365 days. I would, however, acknowledge that the average accounts receivable balance should also be computed on a comparable basis or 365 daily balances which is consistent

with how the Company's lead-lag studies have been performed in the past. By using the accounts receivable balance on Friday for the following Saturday and Sunday balances (and Monday bank holidays where applicable), a 365 day average can be computed. Use of 365 days is recognized in the public utility industry for calculating the revenue lag as referenced in Exhibit SLH-RJ1 which is attached to this testimony. Using this recognized method, the revenue lags for all of the districts are affected and the revised revenue lags are shown below in Table 1.

Table 1 – Revenue Lags

District	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley Water	Sun City West Water	Tubac Water	Mohave Wastewater
Revenue Lag	47.90683	48.44106	48.15644	47.97433	47.56935	49.65788	46.42606

Q. HAVE YOU REFLECTED THE REVISED REVENUE LAGS IN THE CALCULATION OF THE CASH WORKING CAPITAL FOR ALL SEVEN OF THE DISTRICTS IN THIS PROCEEDING?

A. Yes, except for Tubac Water. The revenue lag for Tubac Water increases as a result of using a 365 average accounts receivable balance and since there are no other adjustments proposed by the Company for Tubac in this rejoinder filing, the Company will be content with the cash working capital requested in its rebuttal filing.

Q. WHAT IS ARIZONA-AMERICAN'S REVISED REQUEST FOR CASH WORKING CAPITAL?

A. The following tables summarize Arizona-American's revised request for the cash-working-capital component of working capital for each water and wastewater district:

Table 2 – Cash Working Capital Component of Working Capital

District	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley Water	Sun City West Water	Tubac Water	Mohave Wastewater
Cash Working Capital	$ 12,206	$53,338	$ 187,330	$ 41,544	$ 85,384	$ 21,683	($ 3,481)

V. ADJUSTED OPERATING INCOME

Q. WHAT IS ARIZONA-AMERICAN'S ADJUSTED OPERATING INCOME BY DISTRICT IN THIS PROCEEDING?

A. The following tables summarize Arizona-American's rejoinder position for Adjusted Operating Income for each water and wastewater district seeking rate increases in this proceeding:

Table 3 – Adjusted Operating Income

District	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley Water	Sun City West Water	Tubac Water	Mohave Wastewater
Adjusted Operating Income	$ 2,875,032	$ 54,601	$ 298,400	$ 2,042,407	$ 736,260	($ 40,106)	$116,410

A OPERATING EXPENSES

Q. WHAT ARE ARIZONA-AMERICAN'S REQUESTED TOTAL OPERATING EXPENSES BY DISTRICT?

A. The following tables summarize adjusted test year operating expenses for each district:

Table 4 – Operating Expenses

District	Agua Fria Water	Havasu Water	Mohave Water	Paradise Valley Water	Sun City West Water	Tubac Water	Mohave Wastewater
Operating Expenses	$15,943,581	$1,122,920	$ 4,815,231	$ 6,178,179	$ 5,121,006	$ 467,006	$ 679,751

B MISCELLANEOUS EXPENSE

1 WATER TESTING EXPENSE

Q. DID STAFF INCORPORATE MS. HAINS RECOMMENDED LEVEL OF WATER TESTING EXPENSE IN ITS SURREBUTTAL FILING?

A. As far as I can tell, Staff did not include Ms. Hains' water-testing expenses in its proposed Miscellaneous Expenses or in any other expense in its direct case or surrebuttal case presentations.

Q. ARE MS. HAINS RECOMMENDED WATER TESTING EXPENSES REFLECTED IN ARIZONA-AMERICAN'S REJOINDER FILING?

A. Yes. The water testing expenses proposed by Ms. Hains were included in the Company's rebuttal adjustments and are still included in the Company's proposed operating expenses in this rejoinder filing.

C PROPERTY TAXES

Q. ARE THERE ANY CHANGES NECESSARY TO ARIZONA-AMERICAN'S PROPOSED PROPERTY TAXES?

A. The proposed adjustments to property taxes reflected in the Company's rejoinder presentation are merely conforming adjustments to reflect proposed changes that affect the revenue requirement.

D INCOME TAXES

Q. ARE THERE ANY CHANGES NECESSARY TO ARIZONA-AMERICAN'S PROPOSED INCOME TAXES?

A. The proposed adjustments to income taxes reflected in the Company's rejoinder presentation are merely conforming adjustments to reflect proposed changes that affect the revenue requirement.

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

A. Yes, it does.

EXHIBIT SLH-RJ1

ACCOUNTING FOR PUBLIC UTILITIES

Volume 1

ROBERT L. HAHNE

GREGORY E. ALIFF

DELOITTE & TOUCHE LLP

Contributing Authors: The following were the original contributing authors of Accounting for Public Utilities. While much of what these individuals originally wrote has been removed or replaced through the annual update process, we wish to continue to recognize their contributions in the creation of this book.

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2008

Filed Through:
RELEASE NO. 25 October 2008

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if information is available on the record of a proceeding as to wholesale customer revenue lags and expense lags for fossil fuel expenses and purchased power expenses, the FERC has approved separately computed allowances for fuel and purchased power in conjunction with a simple 45-day allowance for other O&M expenses. There have been numerous exceptions to these general principles due to a variety of case-specific circumstances, so it is almost impossible to generalize accurately. If a fully developed and reliable lead-lag study has been presented in the case, the results of that would have been used instead.

A common complaint has been that lead-lag studies are expensive to prepare. This economic burden may be cut down, however, if the commission will accept the fact that, absent significant changes in receipt patterns for revenue or payment patterns of expenses, the lead-lag days determined in a specific analysis will not change and the resulting lead or lag days can be applied to the dollars of revenues, expenses, etc., in future cases. (See the following sections for a discussion of these considerations.)

[2] Lead-Lag Study

The primary purpose of a lead-lag study is to accurately establish the amount of investors' funds used in sustaining utility operations from the time expenditures are made in providing services to the time revenues are received as reimbursement for these services. The lead-lag study requires comprehensive analysis of the test year transactions to determine the "net lag days" for:

(1) the time lag between services rendered and the receipt of revenues for such services; and

(2) the time lag between the recording of labor, materials, etc., costs and the payment of such costs.

For example, if service period revenues are recovered 40 days after services are rendered and service period expenses are paid 30 days after services are rendered, the net expense recovery lag is ten days (i.e., investor funding is required for ten days of service period costs). The net lag days are multiplied by the average daily operating expenses of the test year to produce the cash working capital used in maintaining daily operations.

Typically, the funding of operations necessitated by the lag between expense payment and revenue recovery does not fully measure the investor funding requirements of cash working capital. For example, the banks from which the expense payment checks are drawn usually require the maintenance of minimum balances. Any of these funding requirements must be supported by investors, and must be added to the revenue/expense lag amounts produced by the lead-lag analysis.

Some regulators have limited the cash working capital component to "current cash outlay" requirements by concluding that the term "*cash* working capital" limits its application. In these cases, expenses such as provisions for depreciation have been considered as "non-cash" expenses and omitted from the lead-lag study. If such a constraint is imposed, and the cash working capital provision is limited to a measure of current operating cash requirements, other rate base components must be restated.

This condition will be discussed in more detail in subsequent sections.

The cost *recording* date is a critical point of reference in measuring investor capital funding of operating costs. Typically, costs are recorded when known to exist, and when the amounts are known or estimable. There are, however, occasions when services are provided to a utility in one period but not invoiced until a later period. In these circumstances, the costs may not be recorded until the invoice is received. In the cost of service approach to ratemaking these costs do not exist until recorded and are not recoverable from the ratepayers until that time. In these instances the service period is considered to be the period in which recorded, and the payment delay should reflect the time lag between recording and payment.

As previously stated, the cash working capital produced by the lead-lag study must be compatible with the other rate base components to which it is added to express the total amount of investor capital used in providing utility services. To achieve this compatibility, the lead-lag analysis must be customized to fit the particular conditions in which the rate base is being developed. As is widely accepted, the rate base is intended to provide a measure of investor capital used in providing service. To the extent that there are deficiencies in specific rate base components, such deficiencies must be remedied. Whether by a direct adjustment or through the inclusion of the expense recordings giving rise to the deficiency is not important. The corrections must be made, and it is fully appropriate to do so in the lead-lag analysis. Otherwise, the corrections should be made to the affected components to avoid understatement of the actual investor funding requirements. When appropriately constructed, the lead-lag study functions as a vehicle to correct deficiencies inherent in other rate base components.

The remainder of this chapter discusses considerations in preparing lead-lag studies and provides illustrations of the calculations to be made. In performing the calculation of a lead-lag study, generally the first item considered is the determination of the lag in the receipt of revenues.

[3] Revenue Lag

For companies with hundreds of thousands or even millions of customers, determination of the revenue lag appears to be very burdensome. Once the time frame is segregated into specific components, however, the task becomes much less onerous. The first component of the total time frame of the revenue lag is the service period—the time from the previous meter reading to the current meter reading date. Individuals familiar with cycle reading processes recognize that monthly periods range anywhere from 27 to 33 days depending upon the meter reading cycle schedule. If a meter is read 12 times in a year, it can be determined that the average time between meter readings is 30.4 days. Further, assuming that service is rendered evenly throughout these meter reading periods, the average service period to meter reading is a 15.2 day lag. See the first line of Figure 5–1 for this calculation. Stated another way, after the meter reading it is approximately 30 days until the next meter reading date. Service rendered after the first meter reading has a 30-day lag, and that continues to decline until service rendered the day the meter is next read has a zero-day lag.

Averaging those 30-plus days together produces the 15.2 day average service period lag.

Figure 5–1
Calculation of Number of Days
from Service to Collection

Line No.	Description	Number of Days
	Total Company	
1	Service period to date meter is read (365 ÷ 12 = 30.4 ÷ 2)	15.2
2	Reading date to date billing is prepared	5.0
3	Billing date to date collection is received	22.1
4	Total	42.3

The second time frame to be considered is from the meter reading date until the time the bill is prepared and rendered. This varies among utilities, but most companies have a specific schedule showing when meters are read and billings prepared. Those schedules are on file and maintained in an orderly fashion. Absent significant problems, such as delays in meter reading or billing due to strikes or computer down time, it is relatively simple to take the billings for 12 months (generally 20 to 22 cycles per month) and determine the average period from reading date to billing date. (See Line 2 of Figure 5–1.)

Determination of the third period to be measured—the time from the billing date to the date collections are received—is more complicated due to the large number of customer payment patterns that must be analyzed. Occasionally, statistical samples have been selected and individual analyses prepared of a large number of customers' bills for an entire historical year. However, these studies have provoked much discussion as to the validity of the samples, and they have consumed a significant amount of review and hearing time.

The easiest way to determine the average collection lag (billing to collection) is to use an overall system-wide basis. This can be done if the utility either produces a daily accounts receivable balance or has the information to produce such a number with a computer used to gather the data. In some cases, this can even be done manually. Once the average daily balance of accounts receivable is known, dividing the daily balance of accounts receivable by the average daily revenues produces the average number of days of revenue in the average receivable balance. This number is the average collection lag, typically in the 18- to 30-day range. Some practitioners are concerned that in a period of increasing rates, such a calculation over time may tend to slightly understate the collection lag, because the starting receivable balance is based on previous lower rates, and each time rates are increased, it takes time for the receivable balance to reflect the new rates properly. However, the effect is typically less than one tenth or one fifth of a day and therefore, in most cases, it has been ignored.

In the measurement process, the receivable balance and the average revenues must be presented on the same basis. Many states have a sales tax added to the revenues

billed. In those cases, revenues must have the sales tax added before the comparison of receivables to revenues is made. Any other differences in what is included either in revenues or receivables should be considered before making the calculation.

When the comparison of average daily revenues to average daily receivables is used to calculate the collection lag, the effects of budget billing or similar plans are already considered in the calculated answer. If the budget billing customer has paid more than the value of service received the resulting credit is reflected in the daily receivable balance. If the customer has paid less than the value of service received, the larger receivable balance is included. The effects of budget billing are therefore incorporated into the collection lag when the average revenue to average receivable comparison is made.

Using this procedure for calculating the collection lag also eliminates the need for any special treatment of bad debts. The receivable balance is included until it is written off. When the bad debt expense item is considered, the average time frame is measured from when a provision for bad debts is charged to expense until it is used to reduce the receivable balance. This calculation is most easily made by dividing the average day's expense provision for bad debts into the average balance in the reserve for bad debts.

Figure 5–1 is an example of an exhibit filed in a rate proceeding to show the calculation of a lead time from the rendering of service to receipt of revenues. In the case presented, it should be noted that adding the service period, the reading to billing, and collection lags produces a revenue lag of 42.3 days.

More detailed analyses of revenue lags by classes of customers can be made if the receivable balances and revenue amounts can be segregated. Normally, this has not been the case, however, because few companies have segregated their receivable balances by customer classes. As a result, a total company calculation of cash working capital is completed and an allocation to separate classes of customers is made using the standard methodologies used to allocate working capital. An exception to this general statement is that a company typically can segregate wholesale revenues and receivables and, in some cases, present a calculation of cash working capital for FERC jurisdictional customers.

[4] Expense Lag

[a] Operating and Maintenance Lag

After determining the lead time from rendering service to receipt of revenues, determining the lag time in payment of expenses is the next step. Figure 5–2 presents an example of the kind of exhibit that might be presented to show the lag time from when services are rendered and expenses incurred until payments are made. For an electric company, the major expense item is fuel cost. Typically, this would be the first item in the exhibit. In measuring lag time in payment of the fuel expense, fuel costs would generally be segregated by type—coal, natural gas, oil, or nuclear. Added together, these items produce the total electric fuel expense. A typical fuel expense lag calculation is presented in Figure 5–3. In measuring lag time for each of these types of fuel, individual analyses of the purchases from each of the suppliers of the various types of fuel must be prepared. Because fuel cost is such a large percentage of total

EXHIBIT
A-31
ADMITTED

Schedule H-3

Arizona American Water Company - Tubac
Test Year Ended December 31, 2007
Changes in Representative Rate Schedules

Line No.	Rate Schedule	Description	Block	Base Charge Present Rate	Base Charge Proposed Rate	Base Charge Change	Volume Charge Present Rate	Volume Charge Proposed Rate	Volume Charge Change
1	F1M1A	Residential 5/8 & 3/4-inch	First 4,000 gals.	$19.68	$31.00	11.3200	$ 1.8900	$3.4000	1.5100
2			Next 16,000 gals.				$ 2.8500	$4.8000	1.9500
3			Over 20,000 gals.				$ 3.4100	$5.5000	2.0900
4	F1M1B	Residential 1" Meter	First 35,000 gals.	$29.63	$46.67	17.0400	$ 2.8500	$ 4.8000	1.9500
5			Over 35,000 gals.				$ 3.4100	$ 5.5000	2.0900
6	F1M1D	Residential 2" Meter	First 150,000 gals.	$97.49	$153.57	56.0800	$ 2.8500	$ 4.8000	1.9500
7			Over 150,000 gals.				$ 3.4100	$ 5.5000	2.0900
8	F1M1E	Residential 3" Meter	First 175,000 gals.	$115.65	$182.17	66.5200	$ 2.8500	$ 4.8000	1.9500
9			Over 175,000 gals.				$ 3.4100	$ 5.5000	2.0900
10	F2M1A	Commercial 5/8 & 3/4-inch	First 20,000 gals.	$19.68	$31.00	11.3200	$ 2.8500	$ 4.8000	1.9500
11			Over 20,000 gals.				$ 3.4100	$ 5.5000	2.0900
12	F2M1B	Commercial 1" Meter	First 35,000 gals.	$29.63	$46.67	17.0400	$ 2.8500	$ 4.8000	1.9500
13			Over 35,000 gals.				$ 3.4100	$ 5.5000	2.0900
14	F2M1C	Commercial 1.5" Meter	First 85,000 gals.	$59.26	$93.35	34.0900	$ 2.8500	$ 4.8000	1.9500
15			Over 85,000 gals.				$ 3.4100	$ 5.5000	2.0900
16	F2M1D	Commercial 2" Meter	First 150,000 gals.	$97.49	$153.57	56.0800	$ 2.8500	$ 4.8000	1.9500
17			Over 150,000 gals.				$ 3.4100	$ 5.5000	2.0900
18	F2M1E	Commercial 3" Meter	First 175,000 gals.	$115.65	$182.17	66.5200	$ 2.8500	$ 4.8000	1.9500
19			Over 175,000 gals.				$ 3.4100	$ 5.5000	2.0900
20									

EXHIBIT A-32 ADMITTED

Exhibit
Rejoinder Schedule H-3
Page 1
Witness: Gutowski

Arizona American Water Company - Paradise Valley Water
Test Year Ended December 31, 2007
Changes in Representative Rate Schedules

Line No.	Rate Schedule	Description	Block	Proposed Blocks	Base Charge Present Rate	10/16/2009 ACRM	Present Total	Proposed Rate	Change	Volume Charge Present Rate	Present ACRM	Present Total	Proposed Rate	Change
1	P1M1A	Paradise Valley Residential 5/8"	First 25,000 gals.	First 25,000 gals.	$9.50	$16.80	$26.30	31.99	$ 5.69	$ 0.76000	$ 0.51400	$ 1.27400	$ 1.55000	$ 0.2760
2			From 25,001 to 80,000 gals.	From 25,001 to 80,000 gals.						$ 1.65000	$ 0.51400	$ 2.16400	$ 2.63200	$ 0.4680
3			Over 80,000 gals.	Over 80,000 gals.						$ 2.18000	$ 0.51400	$ 2.69400	$ 3.27700	$ 0.5830
4														
5														
6	P1M1A	Paradise Valley Residential 3/4"	First 25,000 gals.	First 25,000 gals.	$9.83	$17.38	$27.21	33.09	$ 5.88	$ 0.76000	$ 0.51400	$ 1.27400	$ 1.55000	$ 0.2760
7			From 25,001 to 80,000 gals.	From 25,001 to 80,000 gals.						$ 1.65000	$ 0.51400	$ 2.16400	$ 2.63200	$ 0.4680
8			Over 80,000 gals.	Over 80,000 gals.						$ 2.18000	$ 0.51400	$ 2.69400	$ 3.27700	$ 0.5830
9														
10														
11	P1M1A	Paradise Valley Residential 1"	First 25,000 gals.	First 25,000 gals.	$15.85	$28.02	$43.87	53.36	$ 9.49	$ 0.76000	$ 0.51400	$ 1.27400	$ 1.55000	$ 0.2760
12			From 25,001 to 80,000 gals.	From 25,001 to 80,000 gals.						$ 1.65000	$ 0.51400	$ 2.16400	$ 2.63200	$ 0.4680
13			Over 80,000 gals.	Over 80,000 gals.						$ 2.18000	$ 0.51400	$ 2.69400	$ 3.27700	$ 0.5830
14														
15														
16	P1M1A	Paradise Valley Residential 1-1/2"	First 25,000 gals.	First 25,000 gals.	$32.00	$56.58	$88.58	107.74	$ 19.16	$ 0.76000	$ 0.51400	$ 1.27400	$ 1.55000	$ 0.2760
17			From 25,001 to 80,000 gals.	From 25,001 to 80,000 gals.						$ 1.65000	$ 0.51400	$ 2.16400	$ 2.63200	$ 0.4680
18			Over 80,000 gals.	Over 80,000 gals.						$ 2.18000	$ 0.51400	$ 2.69400	$ 3.27700	$ 0.5830
19														
20														
21	P1M1A	Paradise Valley Residential 2"	First 25,000 gals.	First 25,000 gals.	$51.00	$90.17	$141.17	171.70	$ 30.53	$ 0.76000	$ 0.51400	$ 1.27400	$ 1.55000	$ 0.2760
22			From 25,001 to 80,000 gals.	From 25,001 to 80,000 gals.						$ 1.65000	$ 0.51400	$ 2.16400	$ 2.63200	$ 0.4680
23			Over 80,000 gals.	Over 80,000 gals.						$ 2.18000	$ 0.51400	$ 2.69400	$ 3.27700	$ 0.5830
24														
25														
26	P1M1A	Paradise Valley Residential 3"	First 25,000 gals.	First 25,000 gals.	$94.50	$167.08	$242.09	294.44	$ 52.35	$ 0.76000	$ 0.51400	$ 1.21340	$ 1.47600	$ 0.2626
27			From 25,001 to 80,000 gals.	From 25,001 to 80,000 gals.						$ 1.65000	$ 0.51400	$ 2.10340	$ 2.55800	$ 0.4546
28			Over 80,000 gals.	Over 80,000 gals.						$ 2.18000	$ 0.51400	$ 2.63340	$ 3.20300	$ 0.5696
29														
30														
31	P1M1A	Paradise Valley Residential 4"	First 25,000 gals.	First 25,000 gals.	$157.25	$278.04	$402.85	489.97	$ 87.12	$ 0.76000	$ 0.51400	$ 1.21340	$ 1.47600	$ 0.2626
32			From 25,001 to 80,000 gals.	From 25,001 to 80,000 gals.						$ 1.65000	$ 0.51400	$ 2.10340	$ 2.55800	$ 0.4546
33			Over 80,000 gals.	Over 80,000 gals.						$ 2.18000	$ 0.51400	$ 2.63340	$ 3.20300	$ 0.5696
34														
35														
36	P1M1A	Paradise Valley Residential 6"	First 25,000 gals.	First 25,000 gals.	$315.00	$556.95	$806.97	981.48	$ 174.51	$ 0.76000	$ 0.51400	$ 1.21340	$ 1.47600	$ 0.2626
37			From 25,001 to 80,000 gals.	From 25,001 to 80,000 gals.						$ 1.65000	$ 0.51400	$ 2.10340	$ 2.55800	$ 0.4546
38			Over 80,000 gals.	Over 80,000 gals.						$ 2.18000	$ 0.51400	$ 2.63340	$ 3.20300	$ 0.5696
39														
40														
41	P1M1B	Paradise Valley (MMWC)Res 5/8"	First 25,000 gals.	First 25,000 gals.	$9.50	$16.80	$26.30	31.99	$ 5.69	$ 0.76000	$ 0.51400	$ 1.27400	$ 1.55000	$ 0.2760
42			From 25,001 to 80,000 gals.	From 25,001 to 80,000 gals.						$ 1.65000	$ 0.51400	$ 2.16400	$ 2.63200	$ 0.4680
43			Over 80,000 gals.	Over 80,000 gals.						$ 2.18000	$ 0.51400	$ 2.69400	$ 3.27700	$ 0.5830
44														
45														

46	P1M1B	Paradise Valley (MMWC)Res 1"	First 25,000 gals.	First 25,000 gals.	$15.85	$28.02	$43.87	53.36	$ 9.49	$ 0.76000	$ 0.51400	$ 1.27400	$ 1.55000	$ 0.2760
47			From 25,001 to 80,000 gals.	From 25,001 to 80,000 gals.						$ 1.65000	$ 0.51400	$ 2.16400	$ 2.63200	$ 0.4680
48			Over 80,000 gals.	Over 80,000 gals.						$ 2.18000	$ 0.51400	$ 2.69400	$ 3.27700	$ 0.5830
49														
50														
51	P1M1B	Paradise Valley (MMWC)Res 1-1/2"	First 25,000 gals.	First 25,000 gals.	$32.00	$56.58	$88.58	107.74	$ 19.16	$ 0.76000	$ 0.51400	$ 1.27400	$ 1.55000	$ 0.2760
52			From 25,001 to 80,000 gals.	From 25,001 to 80,000 gals.						$ 1.65000	$ 0.51400	$ 2.16400	$ 2.63200	$ 0.4680
53			Over 80,000 gals.	Over 80,000 gals.						$ 2.18000	$ 0.51400	$ 2.69400	$ 3.27700	$ 0.5830
54														
55														
56	P1M1B	Paradise Valley (MMWC)Res 2"	First 25,000 gals.	First 25,000 gals.	$51.00	$90.17	$141.17	171.70	$ 30.53	$ 0.76000	$ 0.51400	$ 1.27400	$ 1.55000	$ 0.2760
57			From 25,001 to 80,000 gals.	From 25,001 to 80,000 gals.						$ 1.65000	$ 0.51400	$ 2.16400	$ 2.63200	$ 0.4680
58			Over 80,000 gals.	Over 80,000 gals.						$ 2.18000	$ 0.51400	$ 2.69400	$ 3.27700	$ 0.5830
59														
60														
61	P1M1B	Paradise Valley (MMWC) Res 3"	First 25,000 gals.	First 25,000 gals.	$94.50	$167.08	$242.09	294.44	$ 52.35	$ 0.76000	$ 0.51400	$ 1.21340	$ 1.47600	$ 0.2626
62			From 25,001 to 80,000 gals.	From 25,001 to 80,000 gals.						$ 1.65000	$ 0.51400	$ 2.10340	$ 2.55800	$ 0.4546
63			Over 80,000 gals.	Over 80,000 gals.						$ 2.18000	$ 0.51400	$ 2.63340	$ 3.20300	$ 0.5696
64														
65														
66	P1M1B	Paradise Valley (MMWC) Res 4"	First 25,000 gals.	First 25,000 gals.	$157.25	$278.04	$402.85	489.97	$ 87.12	$ 0.76000	$ 0.51400	$ 1.21340	$ 1.47600	$ 0.2626
67			From 25,001 to 80,000 gals.	From 25,001 to 80,000 gals.						$ 1.65000	$ 0.51400	$ 2.10340	$ 2.55800	$ 0.4546
68			Over 80,000 gals.	Over 80,000 gals.						$ 2.18000	$ 0.51400	$ 2.63340	$ 3.20300	$ 0.5696
69														
70														
71	P1M1B	Paradise Valley (MMWC) Res 6"	First 25,000 gals.	First 25,000 gals.	$315.00	$556.95	$806.97	981.48	$ 174.51	$ 0.76000	$ 0.51400	$ 1.21340	$ 1.47600	$ 0.2626
72			From 25,001 to 80,000 gals.	From 25,001 to 80,000 gals.						$ 1.65000	$ 0.51400	$ 2.10340	$ 2.55800	$ 0.4546
73			Over 80,000 gals.	Over 80,000 gals.						$ 2.18000	$ 0.51400	$ 2.63340	$ 3.20300	$ 0.5696
74														
75														
76	P2M1A	Paradise Valley Commercial 5/8"	First 400,000 gals.	First 400,000 gals.	$9.50	$16.80	$26.30	31.99	$ 5.69	$ 1.27000	$ 0.51400	$ 1.78400	$ 2.17000	$ 0.3860
77			Over 400,000 gals.	Over 400,000 gals.						$ 1.56000	$ 0.51400	$ 2.07400	$ 2.52300	$ 0.4490
78	P2M1A	Paradise Valley Commercial 3/4"	First 400,000 gals.	First 400,000 gals.	$9.83	$17.38	$27.21	33.09	$ 5.88	$ 1.27000	$ 0.51400	$ 1.78400	$ 2.17000	$ 0.3860
79			Over 400,000 gals.	Over 400,000 gals.						$ 1.56000	$ 0.51400	$ 2.07400	$ 2.52300	$ 0.4490
80	P2M1A	Paradise Valley Commercial 1"	First 400,000 gals.	First 400,000 gals.	$15.85	$28.02	$43.87	53.36	$ 9.49	$ 1.27000	$ 0.51400	$ 1.78400	$ 2.17000	$ 0.3860
81			Over 400,000 gals.	Over 400,000 gals.						$ 1.56000	$ 0.51400	$ 2.07400	$ 2.52300	$ 0.4490
82	P2M1A	Paradise Valley Commercial 1-1/2"	First 400,000 gals.	First 400,000 gals.	$32.00	$56.58	$88.58	107.74	$ 19.16	$ 1.27000	$ 0.51400	$ 1.78400	$ 2.17000	$ 0.3860
83			Over 400,000 gals.	Over 400,000 gals.						$ 1.56000	$ 0.51400	$ 2.07400	$ 2.52300	$ 0.4490
84	P2M1A	Paradise Valley Commercial 2"	First 400,000 gals.	First 400,000 gals.	$51.00	$90.17	$141.17	171.70	$ 30.53	$ 1.27000	$ 0.51400	$ 1.78400	$ 2.17000	$ 0.3860
85			Over 400,000 gals.	Over 400,000 gals.						$ 1.56000	$ 0.51400	$ 2.07400	$ 2.52300	$ 0.4490
86	P2M1A	Paradise Valley Commercial 3"	First 400,000 gals.	First 400,000 gals.	$94.50	$167.08	$261.58	318.15	$ 56.57	$ 1.27000	$ 0.51400	$ 1.78400	$ 2.17000	$ 0.3860
87			Over 400,000 gals.	Over 400,000 gals.						$ 1.56000	$ 0.51400	$ 2.07400	$ 2.52300	$ 0.4490
88	P2M1A	Paradise Valley Commercial 4"	First 400,000 gals.	First 400,000 gals.	$157.25	$278.04	$435.29	529.42	$ 94.13	$ 1.27000	$ 0.51400	$ 1.78400	$ 2.17000	$ 0.3860
89			Over 400,000 gals.	Over 400,000 gals.						$ 1.56000	$ 0.51400	$ 2.07400	$ 2.52300	$ 0.4490
90	P2M1A	Paradise Valley Commercial 6"	First 400,000 gals.	First 400,000 gals.	$315.00	$556.95	$871.95	1,060.51	$ 188.56	$ 1.27000	$ 0.51400	$ 1.78400	$ 2.17000	$ 0.3860
91			Over 400,000 gals.	Over 400,000 gals.						$ 1.56000	$ 0.51400	$ 2.07400	$ 2.52300	$ 0.4490
92	P2M1T	Paradise Valley Turf Customer 5/8"	All Usage	All Usage	$9.50	$16.80	$24.34	29.60	$ 5.26	$ 1.00000	$ 0.51400	$ 1.45340	$ 1.76800	$ 0.4299
93	P2M1T	Paradise Valley Turf Customer 3/4"	All Usage	All Usage	$9.83	$17.38	$25.18	30.63	$ 5.45	$ 1.00000	$ 0.51400	$ 1.45340	$ 1.76800	$ 0.4299
94	P2M1T	Paradise Valley Turf Customer 1"	All Usage	All Usage	$15.85	$28.02	$40.60	49.38	$ 8.78	$ 1.00000	$ 0.51400	$ 1.45340	$ 1.76800	$ 0.4299
95	P2M1T	Paradise Valley Turf Customer 1-1/2"	All Usage	All Usage	$32.00	$56.58	$81.98	99.71	$ 17.73	$ 1.00000	$ 0.51400	$ 1.45340	$ 1.76800	$ 0.4299
96	P2M1T	Paradise Valley Turf Customer 2"	All Usage	All Usage	$51.00	$90.17	$130.65	158.90	$ 28.25	$ 1.00000	$ 0.51400	$ 1.45340	$ 1.76800	$ 0.4299
97	P2M1T	Paradise Valley Turf Customer 3"	All Usage	All Usage	$94.50	$167.08	$242.09	294.44	$ 52.35	$ 1.00000	$ 0.51400	$ 1.51400	$ 1.84100	$ 0.3270
98	P4MIT	Paradise Valley Turf Customer 3"	All Usage	All Usage	$94.50	$167.08	$261.58	318.15	$ 56.57	$ 1.00000	$ 0.51400	$ 1.51400	$ 1.84100	$ 0.3270
99	P2M1T	Paradise Valley Turf Customer 4"	All Usage	All Usage	$157.25	$278.04	$402.85	489.97	$ 87.12	$ 1.00000	$ 0.51400	$ 1.51400	$ 1.84100	$ 0.3270
100	P2M1T	Paradise Valley Turf Customer 6"	All Usage	All Usage	$315.00	$556.95	$806.97	981.48	$ 174.51	$ 1.00000	$ 0.51400	$ 1.45340	$ 1.76800	$ 0.3146
101	P2PVC	Paradise Valley Country Club 6"	All Usage	All Usage	$267.75	$473.40	$741.15	901.42	$ 160.27	$ 0.85000	$ 0.43690	$ 1.28690	$ 1.56500	$ 0.2781

102	P5M1A	Paradise Valley OWU/OPA 5/8"	All Usage	All Usage	$9.50	$16.80	$26.30	31.99	$ 5.69	$ 1.46000	$ 0.51400	$ 1.97400	$ 2.40100	$ 0.4270		
103	P5M1A	Paradise Valley OWU/OPA 3/4"	All Usage	All Usage	$9.83	$17.38	$25.18	30.63	$ 5.45	$ 1.46000	$ 0.51400	$ 1.97400	$ 2.40100	$ 0.4270		
104	P5M1A	Paradise Valley OWU/OPA 1"	All Usage	All Usage	$15.85	$28.02	$43.87	53.36	$ 9.49	$ 1.46000	$ 0.51400	$ 1.97400	$ 2.40100	$ 0.4270		
105	P5M1A	Paradise Valley OWU/OPA 1-1/2"	All Usage	All Usage	$32.00	$56.58	$81.98	99.71	$ 17.73	$ 1.46000	$ 0.51400	$ 1.97400	$ 2.40100	$ 0.4270		
106	P5M1A	Paradise Valley OWU/OPA 2"	All Usage	All Usage	$51.00	$90.17	$141.17	171.70	$ 30.53	$ 1.46000	$ 0.51400	$ 1.97400	$ 2.40100	$ 0.4270		
107	P5M1A	Paradise Valley OWU/OPA 3"	All Usage	All Usage	$94.50	$167.08	$242.09	294.44	$ 52.35	$ 1.46000	$ 0.51400	$ 1.97400	$ 2.40100	$ 0.4270		
108	P5M1A	Paradise Valley OWU/OPA 4"	All Usage	All Usage	$157.25	$278.04	$402.85	489.97	$ 87.12	$ 1.46000	$ 0.51400	$ 1.97400	$ 2.40100	$ 0.4270		
109	P5M1A	Paradise Valley OWU/OPA 6"	All Usage	All Usage	$315.00	$556.95	$806.97	981.48	$ 174.51	$ 1.46000	$ 0.51400	$ 1.97400	$ 2.40100	$ 0.4270		
110	P6M1A	Paradise Valley Private Fire	No Usage	No Usage	$5.00	$0.00	$5.00	$25.00	$ 20.00	$ -	$ -	$ -	$ -	$ -		
111		Cap Expense Recovery Surcharge	Per Year		$1.02		$1.02	$1.02	$ -	$ -	$ -	$ -	$ -	$ -		
112		Cap Surcharge														
113		Residential	First 45,000 gals		$0.00		$0.00					$ -	$ -	$ -		
114			Over 45,000 gals		$0.00		$0.00					$ 0.20090	$ 0.20090	$ -		
115		Non Residential	All Usage		$0.00		$0.00					$ 0.20090	$ 0.20090	$ -		
116																
117		High Block Surcharge														
118		Residential	First 80,000 gals		$0.00		$0.00					$ -	Current case			
119			Over 80,000 gals.		$0.00		$0.00					$ 2.15000	on Dockets			
120		Commercial	First 400,000 gals.		$0.00		$0.00					$ -	W-1303A-05-0405			
121			Over 400,000 gals.		$0.00		$0.00					$ 2.15000	and			
122		PV Country Club	First 25,000,000 gals		$0.00		$0.00					$ -	W-1303A-05-0910			
123			Over 25,000,000 gals		$0.00		$0.00					$ 1.82750	"			
124																
125		Public Safety Fire Flow Surcharge														
126		Residential	First 25,000 gals		$0.00		$0.00					$ -	Current case			
127			Over 25,000 gals.		$0.00		$0.00					$ 1.00000	on Dockets			
128		Commercial	First 400,000 gals.		$0.00		$0.00					$ -	W-1303A-05-0405			
129			Over 400,000 gals.		$0.00		$0.00					$ 1.00000	and			
130		PV Country Club	First 25,000,000 gals		$0.00		$0.00					$ -	W-1303A-05-0910			
131			Over 25,000,000 gals		$0.00		$0.00					$ 0.85000	"			
132																
133		Gain on Sale Surcredit - should end 10/1/09														
134		5/8"	Per Meter per Month		($0.90)		($0.90)	($0.90)	$ -							
135		3/4"	Per Meter per Month		($0.90)		($0.90)	($0.90)	$ -							
136		1"	Per Meter per Month		($1.53)		($1.53)	($1.53)	$ -							
137		1-1/2"	Per Meter per Month		($2.97)		($2.97)	($2.97)	$ -							
138		2"	Per Meter per Month		($4.70)		($4.70)	($4.70)	$ -							
139		3"	Per Meter per Month		($9.00)		($9.00)	($9.00)	$ -							
140		4"	Per Meter per Month		($14.94)		($14.94)	($14.94)	$ -							
141		6"	Per Meter per Month		($29.70)		($29.70)	($29.70)	$ -							
142																
143																
144	Miscellaneous															
145		Establishment - Business Hours			$20.00		$20.00	$20.00	$ -							
146		Establishment - Non Business Hours			$40.00		$40.00	$40.00	$ -							
147		Restablishment Charge			# of mos off the system x Mo Minimum											
148		Reconnection Charge - Business Hours			$30.00		$30.00	$30.00	$ -							
149		Reconnection Charge - Non Business Hours			$60.00		$60.00	$60.00	$ -							
150		Insufficient Funds (NSF) Check Charge			$12.00		$12.00	$12.00	$ -							
151		Customer Requested Meter Reread Charge			$10.00		$10.00	$10.00	$ -							
152		Meter Test Charge			$15.00		$15.00	$81.00	$66.00							
153		1-1/2% on all deferred payment plans														
154																

155	Service & Meter Installation Charges			
156	Service Line & Meter Installations:			
157	Service Size			
158	5/8-inch	$480.00	$480.00	See below
159	3/4-inch	$560.00	$560.00	See below
160	1-inch	$650.00	$650.00	See below
161	1.5-inch	$895.00	$895.00	See below
162	2-inch	$1,555.00	$1,555.00	See below
163	3-inch	$2,235.00	$2,235.00	See below
164	4-inch	$3,440.00	$3,440.00	See below
165	6-inch	$6,195.00	$6,195.00	See below
166				
167	Service Line Installations:			
168	Meter Size			
169	5/8-inch			$445
170	3/4-inch			$445
171	1-inch			$495
172	1.5-inch			$550
173	2-inch Turbine			$830
174	2-inch Compound			$830
175	3-inch Turbine			An applicant for water service shall pay
176	3-inch Compound			to the Company, as a refundable advance
177	4-inch Turbine			in aid of construction, the full cost to
178	4-inch Compound			provide the new service line and meter.
179	6-inch Turbine			"
180	6-inch Compound			"
181	Over 6-inch			"
182				
183	Meter Installations:			
184	Meter Size			
185	5/8-inch			$155
186	3/4-inch			$255
187	1-inch			$315
188	1.5-inch			$525
189	2-inch Turbine			$1,045
190	2-inch Compound			$1,890
191	3-inch Turbine			An applicant for water service shall pay
192	3-inch Compound			to the Company, as a refundable advance
193	4-inch Turbine			in aid of construction, the full cost to
194	4-inch Compound			provide the new service line and meter.
195	6-inch Turbine			"
196	6-inch Compound			"
197	Over 6-inch			"

BEFORE THE ARIZONA CORPORATION COMMISSION

MIKE GLEASON
CHAIRMAN
WILLIAM A. MUNDELL
COMMISSIONER
JEFF HATCH-MILLER
COMMISSIONER
KRISTIN K. MAYES
COMMISSIONER
GARY PEARCE
COMMISSIONER

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY FOR APPROVALS ASSOCIATED WITH A TRANSACTION WITH THE MARICOPA COUNTY MUNICIPAL WATER CONSERVATION DISTRICT NUMBER ONE.	Docket No. W-01303A-05-0718

RUCO'S CLOSING BRIEF

INTRODUCTION

The Residential Utility Consumer Office ("RUCO") submits this Brief in support of its position that the Arizona Corporation Commission ("Commission") should approve Arizona American Water Company's ("Arizona American" or "Company") Hook-Up Fee proposal outlined in its Revised Application. RUCO prefers the Company's second option[1] of approving a hook-up fee that would start at $4,700 for a 5/8 by ¾-inch meter. The second option results in lesser accruals of AFUDC, which would temporarily flow into customers' rates. RUCO has no objection to the issuance of an accounting order as requested. Finally, RUCO does not object to the Company seeking in its 2008 rate case adjustments to the Hook-Up Fees and a mechanism to recover operation and maintenance costs for the White Tanks Plant. However,

[1] The Company's first option would proposes a hook-up fee that would start at $1,150 fo meter

EXHIBIT
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RUCO requests that the Commission indicate in its Decision on this application that it is not predetermining the appropriateness of any such modifications to the Hook-Up Fee or the appropriateness of any mechanism to recover operation and maintenance costs.

THE COMMISSION DOES NOT HAVE TO, NOR SHOULD IT CONSIDER THE DISTRICT'S REQUEST TO DETERMINE THE PRUDENCY OF THE COMPANY'S DECISION TO BUILD THE WHITE TANK PLANT.

When the smoke clears, the Maricopa County Municipal Water Conservation District Number One ("MWD" or "District") is asking the Commission to pre-determine the prudency of the Company's White Tank plant proposal. The District believes that its plant proposal is superior to the Company's proposal in terms of cost, profit motive, integration with other operations and impact on landowners. D-45 at 7[2]. Most of the testimony in this proceeding has involved the consideration of the estimated costs that both the District and the Company would spend in building the White Tank Plant. Other issues that have been examined at length include the different timelines required to build the new plant as well as the underlying motivations of the District and the Company. While all of this is very interesting, the Commission des not have to, nor should it make a decision based on any of it.

The Company, not the District, has the Certificate of Convenience and Necessity ("CC&N") to serve the service territory in question. It is the Company which is obligated to provide water service to its customers. It is the Company that is responsible for building the plant necessary to serve its customers. The Company is not asking the Commission to build the plant, it is asking the Commission to approve a method of financing the construction. The

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[2] For ease of reference, trial exhibits will be identified similar to their identification in the Transcript of Proceedings. The transcript volume number will identify references to the transcript.

Company's proposed method of financing the construction is the narrow issue that the Commission is being asked to determine and it should limit its decision to that narrow issue.

The District is requesting the Commission reject the Company's proposed method of financing and in the Commission's analysis address a far bigger issue – who should build the plant. While the District claims it is the Company that is requesting "a radical abandonment of ratemaking principals" by its financing proposal, it is the District that is asking the Commission to consider an extraordinary ratemaking procedure. Comments of the District at 1. It is standard ratemaking practice for a utility to build the necessary infrastructure to meet is service obligations. After the infrastructure is completed, the utility seeks cost recovery in a rate case proceeding - the costs are known as well as whether the plant is used and useful. The Commission, in its analysis, also considers the prudency of the costs incurred. In this manner, the Commission is able to analyze the necessity and appropriateness of the costs.

Instead, the District is asking the Commission to compare its estimated costs to build the plant to the Company's estimated costs to build the plant. There is no guarantee that the estimates will be the same as the actual costs nor that all the costs will result in plant that is ultimately determined to be used and useful. In essence, the District is asking the Commission to put the cart before the horse and determine prudency based on estimated costs. In other words, the District is asking the Commission to determine whether or not the Company can build the necessary plant to meet its service obligations based on speculation as to what those costs may be. Such a procedure is implausible, offends the notion of what is fair and reasonable, and should be rejected by the Commission.

Moreover, the District's request, if approved, is likely to result in the abrogation by the Commission of its ratemaking authority. The Company has testified that if its hook-up proposal is rejected by the Commission, it will not build the White Tank Plant – at least for the time

being. Transcript at 317. With no other water source that the District is aware of in the White Tank area, the Company will have no choice but to purchase its capacity from the District's new treatment plant. Id. at 490. According to the District, this will most likely occur in long term capacity contracts bargained for between the Company and the District. Transcript at 598. Clearly, the District being the only source of treatment capacity will be in a far better bargaining position than the Company. Coupled with the fact that the District and the Company have a long history of unsuccessful negotiations, it is not difficult to imagine a scenario where the ratepayers' interests are overlooked.

The most likely scenario would involve the rates the District charges the Company. The District is an unregulated entity and therefore not subject to the Commission's oversight. When asked whether the District would agree to submit its capacity contracts to the Commission for final approval, the District answered in the negative. Transcript at 598. The District also testified that that it is not willing to submit to the rate and other jurisdiction of the Commission. Transcript at 554. Hence, it would be the District, and not the Commission setting rates which is likely to be contrary to the best interests of the rate payers[3]. The Commission should not abrogate its ratemaking authority to the District.

There are other reasons why the Commission should reject the District's attempt to block the Company from building the plant. For example, if the District were successful in this matter, and then built the plant and later decided to sell the plant, the District, not the Commission would decide how any profit would be distributed. Again, it is unlikely that ratepayers would benefit from this situation. Whereas, if the Company built the plant and

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[3] For example, there are some ratepayers that are not landowners – this would include residents of Verrado. Transcript at 488. The District admits it would not have the same level of commitment to the Company's Verrado customers as it would have to the District's landowners. Transcript at 491-492.

subsequently sold it, the Commission would ultimately decide if ratepayers were entitled to a portion of any gain on the sale.

Perhaps more disconcerting is the message that the Commission would send if the District's proposal was approved. The message would be clear that the Commission is willing to disregard standard ratemaking practice and second guess beforehand a utility's decision to build infrastructure necessary to perform its obligation to service its customers. The consequences of such a message could have a chilling affect on how utilities conduct their business in the future.

THE COMMISSION SHOULD APPROVE THE COMPANYS HOOK-UP FEE REQUEST TO FINANCE CONSTRUCTION OF THE WHITE TANKS PLANT

There is no dispute that the Company is not in the position to finance the construction at this time and seek recovery of its investment after the facility is completed. The Company's request, to finance the construction with increased hook-up fees is reasonable.

The facts, which are not in dispute, are that the Company needs to serve its customers and construction of a treatment plant is necessary to meet the Company's service requirements. The Company is unable to finance the new plant at this time and financing the plant through increased hook-up fees is a cost-free source of financing. Rigsby rebuttal at 4. Moreover, the hook-up fees will be booked as Contributions In Aid Of Construction ("CIAC") which has the effect of decreasing ratebase and lowering rates. Id. at 5. The Company's proposal is reasonable and should be adopted by the Commission.

The Company has proposed two hook-up fee alternatives both of which would increase hook-up fees to finance construction of the plant. RUCO recommends that the Commission adopt the alternative (Option 2) which provides for the greater increase in the hook-up fees.

The greater the increase in hook-up fees, the lower the amount of AFUDC accruals, which translates to today's rates being lower than otherwise would be the case.

CONCLUSION

The Commission should approve the Company's increased Hook-Up Fee proposal to finance the cost of the White Tank Treatment plant. RUCO recommends the Commission approve the Company's second option of a hook-up fee that would start at $4,700 for a 5/8 by ¾-inch meter. RUCO does not object to the Company's request for an accounting order. However, RUCO requests that the Commission indicate in its Decision on this application that it is not predetermining the appropriateness of any such modifications to the Hook-Up Fee or the appropriateness of any mechanism to recover operation and maintenance costs.

RESPECTFULLY SUBMITTED this 17th day of April 2007

Daniel Pozefsky
Staff Attorney

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2006 OCT 27 P 1:21

AZ CORP COMMISSION
DOCUMENT CONTROL

TO: Docket Control

FROM: Ernest G. Johnson
Director
Utilities Division

DATE: October 27, 2006

RE: STAFF REPORT FOR ARIZONA-AMERICAN WATER COMPANY, INC. REVISED APPLICATION FOR APPROVALS ASSOCIATED WITH A PROPOSED TRANSACTION WITH MARICOPA COUNTY MUNICIPAL WATER CONSERVATION DISTRICT NUMBER ONE TO ALLOW THE CONSTRUCTION OF A SURFACE WATER TREATMENT FACILITY DOCKET NO. W-01303A-05-0718

Attached is the Staff Report for the Arizona-American Water Company, Inc. ("Company") revised application for approvals associated with a proposed White Tanks surface water treatment facility. The Company requests approval of an adjustment to its existing water facilities hook-up fee and an accounting order related to its construction of a water treatment facility. Staff recommends approval of its hook-up fee and accounting order.

Also enclosed as Attachment 1 is Staff's Recommended Order.

EGJ:JJD:red

Originator: James J. Dorf

Attachment: Original and sixteen copies

Arizona Corporation Commission
DOCKETED
OCT 27 2006
DOCKETED BY

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Docket No. W-01303A-05-0718

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STAFF REPORT
UTILITIES DIVISION
ARIZONA CORPORATION COMMISSION

ARIZONA-AMERICAN WATER COMPANY, INC.

DOCKET NO. W-01303A-05-0718

ARIZONA-AMERICAN WATER COMPANY, INC. REVISED APPLICATION FOR APPROVALS ASSOCIATED WITH A PROPOSED TRANSACTION WITH MARICOPA COUNTY MUNICIPAL WATER CONSERVATION DISTRICT NUMBER ONE TO ALLOW THE CONSTRUCTION OF A SURFACE WATER TREATMENT FACILITY

OCTOBER 27, 2006

STAFF ACKNOWLEDGMENT

The Staff Report for Arizona-American Water Company, Inc. ("Company"), Docket No. W-01303A-05-0718, was the responsibility of the Staff members listed below. James J. Dorf was responsible for the review and analysis of the Company's application. Jian Liu was responsible for the engineering and technical analysis.

James J. Dorf
Chief Accountant

Jian Liu
Staff Engineer

EXECUTIVE SUMMARY
ARIZONA-AMERICAN WATER COMPANY, INC.
DOCKET NO. W-01303A-05-0718

Arizona-American Water Company ("Company") is a public service corporation engaged in providing water and wastewater services in portions of Maricopa, Mohave, and Santa Cruz Counties, Arizona. The Company currently serves approximately 100,000 water customers and 50,000 wastewater customers. The Company is the largest investor-owned water and wastewater utility in Arizona.

The Company previously requested certain approvals associated with a proposed transaction with Maricopa County Municipal Water Conservation District Number One ("MWD"). The Company and MWD had executed a Memorandum of Understanding ("MOU") that outlined the framework under which MWD would finance, build, and own a White Tanks surface water treatment facility. The facility would treat Central Arizona Project ("CAP") surface water for three or more entities, one of which is the Company.

On September 1, 2006, the Company revised its application and requested approval of an adjustment to its existing water facility hook-up fee ("WFHUF") and an accounting order related to its construction of a water treatment plant and a Commission Order that the Company make certain associated filings as part of its previously ordered 2008 rate case filing for its Agua Fria District.

Staff recommends approval of its WFHUF of $3,280 for a 5/8 x ¾ inch meter and graduated for other meter sizes as indicated on Schedule JJD-1.

In recognition of the potential public benefits in developing a regional water treatment facility that utilizes CAP and other surface water supplies, Staff further also recommends approval of an accounting order that permits the Company to record post-in service allowance for funds used in construction on the unfunded balance, if any, associated with the White Tanks treatment facilities.

Also in recognition of the potential public benefits, Staff further recommends that any cumulative over collections of WFHUFs will not be considered contributions until the corresponding eligible plant enters service.

Staff recommends that the Company be required, in its 2008 rate case, to include an update of the assumptions used to develop the WFHUFs in order for the Commission to make any necessary adjustments to the hook-up fee amounts.

Staff further recommends that the Company prepare continuing evaluations of the WFHUF in any subsequent rate application to determine if the WFHUFs are appropriate.

TABLE OF CONTENTS

PAGE

INTRODUCTION 1

ARIZONA-AMERICAN'S REVISED APPLICATION 1

PROJECT OVERVIEW 1

PROJECT BENEFITS 2

PROJECT SCHEDULE 3

REQUESTED APPROVALS 3

- OPTION 1 3
- OPTION 2 4

STAFF ANALYSIS 4

- WATER FACILITIES HOOK-UP FEE ("WFHUF") 4
- POSSIBLE REMEDIAL ACTIONS 4

FINANCIAL EFFECTS 5

ACCOUNTING ORDER 5

ENGINEERING ANALYSIS 6

STAFF RECOMMENDATIONS 7

SCHEDULES

Summary of Projected Capital Expenditures and Proposed Hook-up Fees ..... Schedule JJD-1

Summary of Staff's Proposed Hook-up Fee Collections ..... Schedule JJD-2

Attachments

Staff's Recommended Order ..... Attachment 1

Arizona-American Pro Forma Capital Structure ..... Attachment 2

Engineering Report ..... Attachment 3

Introduction

Arizona-American Water Company, Inc. ("Arizona-American" or "Company") is a public service corporation engaged in providing water and wastewater services in portions of Maricopa, Mohave, and Santa Cruz Counties, Arizona pursuant to various certificates of public convenience and necessity granted by the Arizona Corporation Commission ("Commission"). The Company currently serves approximately 100,000 water customers and 50,000 wastewater customers. The Company is Arizona's largest investor owned water and wastewater utility.

The Company previously requested certain approvals associated with a proposed transaction with Maricopa County Municipal Water Conservation District Number One ("MWD"). The Company and MWD had executed a Memorandum of Understanding ("MOU") that outlines the framework under which MWD would finance, build, and own a White Tanks surface water treatment facility. The facility will treat Central Arizona Project ("CAP") surface water.

However, circumstances have changed and MWD no longer wishes to finance, build, and own the White Tanks Plant. Most of the approvals originally requested are no longer needed.

Arizona-American can construct, own and operate the White Tanks Plant. However, the Company asserts that it cannot do so using conventional rate making treatment. The Company's revised application indicates that its "current financial situation will not allow it to attract the funds needed for a project of this size."

Arizona-American's Revised Application

The Company is proposing to significantly increase its current hook-up fee tariff charged for new connections in its Agua Fria District. The treated surface water will be used by the Company to serve its Agua Fria Water District which is located in the West Phoenix suburbs (north of I-10, between the White Tank Mountains and the 101 Expressway). The Company's Agua Fria Water District currently has approximately 30,000 customers and is adding about 3,500 new water customers each year.

The Company is also requesting an accounting order to permit a post-in-service allowance for funds used in construction ("AFUDC") on the unfunded balance of the treatment plant. Additionally, the accounting order should provide that collected hook-up fees will not be considered to be contributions until some corresponding eligible plant enters service.

Project Overview

The plant will be located at Cactus and Perryville Roads, will be constructed in phases, and is capable of expanding its capacity to treat up to 80 million gallons per day ("mgd"). The plant may ultimately treat water for other municipal and private water companies in the region.

Although the initial phase would treat approximately 6.7 mgd, the Company is proposing to construct a plant which can treat 13.4 mgd. The Company estimates that it will cost $64,815,000 for a treatment plant to process 6.7 mgd. However, by adding one additional treatment train, the plant could treat a total of 13.4 mgd with an estimated cost increase of $2,510,000. Given the relative small cost difference for twice the treatment capacity, the Company asserts that it would not be prudent to initially build the smaller plant capacity and then add the additional treatment train later. The Company also points out that the operating and maintenance costs will be the same until such time as the additional capacity is actually utilized.

Other entities have approached the Company concerning the purchase of treatment services at the plant. If additional capacity is immediately available, this will make the treatment plant more attractive to other purchasers. In turn, third-party purchasers would reduce the future revenue requirement or hook-up fees paid by Agua Fria customers to recover the cost of the treatment facility.

Three additional phases of 20 mgd each can eventually be added, for a total treatment capacity of 80 mgd at the current facility site. The Company estimates that at full capacity the plant can service approximately 160,000 customers.

The Company has a Central Arizona Project ("CAP") allocation of 11,093 acre-feet per year, which will require treatment before it can be delivered to its Agua Fria District. In addition, the Company has an agreement with MWD whereby MWD will provide Agua Fria River Water it now controls. MWD will provide an additional 21,000 acre-feet available for treatment and delivery at build out of the treatment facility.

Project Benefits

The Company proposes that the project is in the public interest by providing the following benefits to the White Tanks region:

1. The transaction will make it possible to construct a regional surface water treatment facility that can satisfy the demands of it rapidly growing Agua Fria District.

2. A regional treatment plant utilized by several water providers is a least cost solution for treating CAP water.

3. The Company can utilize its CAP allocation.

4. The transaction will also preserve groundwater resources throughout the Company's Agua Fria District.

5. The proposed hook-up fees will minimize rate increases to customers.

Project Schedule

The Company anticipates that additional water production will be needed by the summer of 2009 and that construction will take approximately 24 months. An abbreviated schedule of significant milestones follows:

1. Commission approval in the fourth quarter of 2006.
2. Requests for proposals for the construction contract in the fourth quarter of 2006.
3. Construction begins in the second quarter of 2007.
4. Construction completed by the second quarter of 2009.

Requested Approvals

The Company is requesting Commission approval of either Option 1 or Option 2 of the proposed increases in its current hook-up fee tariff and approval of an accounting order related to the recovery of the treatment plant operating and maintenance costs.

The Company is currently collecting hook-up fees in the Agua Fria District. The Water Facilities Hook-up Fee is $1,150 for a 5/8 x ¾ inch meter and intended to offset the costs of new water facilities needed to serve new customers. The amount is graduated for larger meters. See Schedule JJD-1. The funds collected are treated as contributions in aid of construction ("CIAC") and are non-refundable.

The Company indicated that its hook-up fee is substantially less than that charged in other areas in Maricopa County. For example, the City of Peoria's current water hook-up fee for ¾ and one inch meters is $3,497.

The Company has estimated its construction expenditures for back-bone plant (including the cost of the 13.5 mgd water treatment facility) will total $132.9 million through 2012.

Option 1

The Company proposes to increase the hook-up fee to the same level as that charged in its Anthem District and would start at $3,000 for the 5/8 x ¾ inch meter. The fee would also be graduated for larger meters. See Schedule JJD-1.

The Company estimates that this level of hook-up fee will collect approximately $70.8 million through the end of 2009, when the treatment plant will be completed, versus cumulative construction cost of $104.4 million for the same time period.

Option 2

The Company proposes an increase in the hook-up fee to $4,700 for the 5/8 x ¾ inch meter. At this level, the Company estimates that it would recover a total of $103.9 million through the end of 2009 versus the cumulative construction expenditures of $104.4 million.

However, continuation through 2012 of this level of hook-up fee would result in cumulative hook-up fees of $184.9 million versus cumulative capital expenditures of $132.9 million.

Staff Analysis

Water Facilities Hook-up Fee ("WFHUF")

Staff has evaluated the Company's proposed hook-up fee based upon total cumulative construction expenditures through 2012 totaling $132.9 million (which includes the White Tanks Treatment Plant) and determined that the service capacity of the treatment plant and other back-bone plant support an increase of the current hook-up fee. Staff also notes that based on the Company's customer increase estimates, a $4,700 hook-up fee will result in collections exceeding cumulative construction expenditures starting in 2010. See Schedule JJD-1, line 4.

In order to more closely align hook-up fee collections with construction expenditures through 2012, Staff recommends a graduated hook-up starting at $3,280. This will produce cumulative collection of $132.8 million versus $132.9 in cumulative construction costs. See Schedule JJD-1, line 5, and JJD-2.

Therefore, Staff recommends that Company's existing non-refundable water facilities hook-up fee be increased from $1,150 to $3,280 and continue to be used for funding facilities as described in the Company's current tariff. The current tariff includes water treatment plant as an eligible facility expenditure.

At this level of hook-up fee, the Company will collect a total of $76.3 million in hook-up fees through 2009 versus construction expenditures of $104.4 million. Staff addresses this disparity in establishing an accounting order below.

Possible Remedial Actions

Each of the Company's proposed and Staff recommended hook-up fees are the result of numerous assumptions. There could be many inaccurate assumptions such as customer growth rates and meter size, new third party contracts, inflation, construction costs increases, etc. The Company has indicated that when it files its 2008 rate case for Agua Fria using a 2007 test period, it agrees to update its assumptions and propose adjustments to the hook-up fee as appropriate.

Staff also recommends that the hook-up fee collections and expenditures continue to be monitored in each of the Company's subsequent Agua Fria rate cases to determine if intergenerational disparities exist. Staff recommends that the Company provide a reevaluation of the appropriateness of its WFHUF in its 2008 and subsequent rate cases.

Financial Effects

Staff recently completed an evaluation of the Company's request to secure new debt financing to replace maturing obligations and fund new capital projects.[1] The Company's capital structure as of December 31, 2005, is summarized on Exhibit A and indicates that the Company's pro forma total capital is $371.2 million, including $126.9 million of equity (34.2 percent ratio).

The Company has also submitted an equity improvement plan which includes its estimate of exceeding an equity ratio of 40 percent by December 31, 2010.[2]

The Company asserts that approval of the proposed Option 1 or Option 2 hook-up fees will not have an effect on its capital structure, at least through 2012 in the case of Option 1 and 2009 in the case of Option 2. At the end of each of those years, the cumulative hook-up fees meet or are close to exceeding cumulative construction expenditures. Once the hook-up fees exceed construction expenditures, the Company's rate base will begin to decline significantly and ultimately erode the capital structure.

The Company also indicates that if the accounting order, as proposed, is not approved, plant operating expenses may not be timely recovered and will erode both earnings and ultimately its capital structure. Therefore, the Company states that it will request, in its 2008 rate case, a surcharge mechanism approved to recover such costs as discussed below.

Accounting Order

The Company requests an accounting order that addresses two issues. First, the Company requests the ability to accrue post-in-service allowance for funds used during construction on any unfunded balance of the White Tank Plant. This will allow the Company to be made whole on its investment until the hook-up fees are sufficient to fund the plant.

Second, should cumulative collected hook-up fees exceed cumulative related construction expenditures, the collected hook-up fees should not be considered to be contributions until some corresponding eligible plant enters service.

An accounting order is the rate-making mechanism whereby the Commission provides specific authorization, as permitted under the National Association of Regulatory Utility

[1] Docket No. W-01303A-06-0283.
[2] Docket Nos. W-01303A-05-0280, WS-01303A-02-0867 & W-01303A-02-0869.

Commissioners' ("NARUC") Uniform System of Accounts ("USoA"), to treat costs in a manner that is different than under generally accepted accounting principles. The purpose of any authorized accounting order would be to allow the Company to record an allowance for funds used during construction on its in-service White Tank water treatment facility for future consideration by the Commission to authorize possible recovery, not guarantee future recovery.

Staff acknowledges this unique opportunity to develop a regional water treatment that will utilize significant quantities of surface water. The project can also achieve significant economies of scale as it approaches full build out. This will not only benefit the Company's Aqua Fria District customers, but also other potential customers throughout the White Tanks area.

It is also prudent to immediately size the project to accommodate the Company's and third party growth opportunities. Because of these factors, Staff recommends approval of an accounting order to permit recovery of post-in-service plant AFUDC as an appropriate regulatory tool to prevent possible financial harm to the Company. Therefore, to the extent the Company has cumulative construction expenditures that exceed cumulative hook-up fee collections, the Company is allowed to record post-in-service AFUDC related to the White Tanks water treatment facilities.

Staff also recommends as part of its accounting order that all funds collected be deposited into a separate interest bearing bank account and interest earned on any cumulative hook-up fee collections in excess of cumulative construction expenditures be retained in said account.

With respect to any operating and maintenance costs associated with the treatment facilities, the Company plans to propose a mechanism, similar to the Commission's arsenic cost recovery mechanism procedure, in its 2008 rate filing. Staff will review and evaluate the proposed mechanism at that time.

Engineering Analysis

Staff has reviewed the application and concluded that the estimated capital expenditures are reasonable. However, no "used and useful" determination of the proposed project has been made. See attached Engineering Report.

Staff Recommendations

Staff recommends approval of its WFHUF of $3,280 for a 5/8 x ¾ inch meter and graduated for other meter sizes as indicated on Schedule JJD-1.

In recognition of the potential public benefits in developing a regional water treatment facility that utilizes CAP and other surface water supplies, Staff further recommends approval of an accounting order that permits the Company to record post-in-service AFUDC on the unfunded balance, if any, associated with the White Tanks treatment facilities.

Also in recognition of the potential public benefits, Staff further recommends that any cumulative over collections of WFHUF will not be considered contributions until the corresponding eligible plant enters service.

Staff recommends that the Company be required, in its 2008 rate case, to include an update of the assumptions used to develop the WFHUFs.

Staff further recommends that the Company prepare continuing evaluations of the WFHUF in any subsequent rate application to determine if the WFHUFs are appropriate.

Staff further recommends that the Company be required to submit a calendar year status report each January 31st to Docket Control, as a compliance item in this case, beginning January 31, 2008, until the WFHUF Tariff is no longer in effect. This report should contain a list of all customers that have paid the WFHUF Tariff, the amount each has paid, the amount of money spent from the account, the amount of interest earned on the WFHUF Tariff account, and a list of all facilities that have been installed with the WFHUF Tariff funds.

Arizona-America Water Company, Inc.
Docket No. W-01303A-05-0718
In Thousands

Schedule JJD-1

SUMMARY OF PROJECTED CAPITAL EXPENDITURES AND HOOK-UP FEES

Line No.	CAPITAL EXPENDITURES	2005	2006	2007	2008	2009	2010	2011	2012
1	Cummulative Capital Expenditures*	15,853	18,685	38,822	74,990	104,397	109,922	114,700	132,893
2									
3	**HOOK-UP FEES**								
4	Existing Cummulative HUF	3,988	12,397	19,905	27,468	34,794	42,000	48,151	54,611
5	Cummulative Option 1 HUF	3,988	12,397	31,983	51,712	70,824	89,620	105,667	122,520
6	Cummulative Option 2 HUF	3,988	12,397	43,081	73,991	103,932	133,380	158,520	184,923
7	**Staff Cummulative HUF**	3,988	12,397	33,810	55,382	***76,277***	96,828	114,373	***132,803***
8	Cummulative White Tank Treatment Plant					67,325			67,325
9	Cummulative Other Back-bone Plant					37,072			65,568
						104,397			***132,893***

PROPOSED HOOK-UP FEES

	Meter Size	Existing WFHUF	Company Proposed Option 1	Company Proposed Option 2	Staff Proposed
10	5/8 x 3/4 Inch	$1,150	$3,000	$4,700	$3,280
11	3/4 Inch	$1,725	$4,500	$7,050	$4,920
12	1 Inch	$2,875	$7,500	$11,750	$8,200
13	1.5 Inch	$5,750	$15,000	$23,500	$16,400
14	2 Inch	$9,200	$24,000	$37,600	$26,240
15	3 Inch	$18,400	$48,000	$75,200	$52,480
16	4 inch	$28,750	$75,000	$117,500	$82,000
17	6 inch or higher	$57,500	$150,000	$235,000	$164,000

Arizona-American Water Company. Inc.
Docket No. W01303A-05-0718

Schedule JJD-2

CUMULATIVE HOOK-UP FEE COLLECTIONS - STAFF RECOMMENDED

Meter	Factor	2005	2006	2007	2008	2009	2010	2011	2012
5/8"	1.0			706	711	689	677	579	607
3/4"	1.5			1508	1518	1471	1446	1235	1297
1"	2.5			1157	1165	1128	1109	947	995
1.5"	5.0			36	36	35	35	30	31
2"	8.0			61	62	60	59	50	53
5/8"	3,280			2,315,680	2,332,080	2,259,920	2,220,560	1,899,120	1,990,960
3/4"	4,920			7,419,360	7,468,560	7,237,320	7,114,320	6,076,200	6,381,240
1.5"	8,200			9,487,400	9,553,000	9,249,600	9,093,800	7,765,400	8,159,000
1"	16,400			590,400	590,400	574,000	574,000	492,000	508,400
2"	26,240			1,600,640	1,626,880	1,574,400	1,548,160	1,312,000	1,390,720
	Year	3,988,010	8,409,375	21,413,480	21,570,920	20,895,240	20,550,840	17,544,720	18,430,320
	Cumulative		12,397,385	33,810,865	55,381,785	76,277,025	96,827,865	114,372,585	132,802,905

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

JEFF HATCH-MILLER, Chairman
WILLIAM A. MUNDELL
MIKE GLEASON
KRISTIN K. MAYES
BARRY WONG

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR APPROVALS ASSOCIATED WITH A PROPOSED TRANSACTION WITH MARICOPA COUNTY MUNICIPAL WATER CONSERVATION DISTRICT NUMBER ONE TO ALLOW THE CONSTRUCTION OF A SURFACE WATER TREATMENT FACILITY KNOWN AS THE WHITE TANKS PROJECT	DOCKET NO. W-01303A-05-0718 DECISION NO. _____ ORDER

BY THE COMMISSION:

FINDINGS OF FACT

1. On October 11, 2005, Arizona-American Water Company, Inc. ("Arizona-American" or "Company") filed the above-captioned application.

2. The Company's application requested Commission approval of several actions related to a proposed joint project with Maricopa County Municipal Water Conservation District Number One ("MWD") to build a surface water treatment facility known as the White Tanks Regional Water Treatment Facility. The facility would initially serve the Company's customers in its Agua Fria District.

3. The Company provides water and wastewater services in portions of Maricopa, Mohave, and Santa Cruz Counties, Arizona pursuant to various certificates of public convenience and necessity granted by the Arizona Corporation Commission ("Commission"). The Company presently serves approximately 100,000 water and 50,000 wastewater customers in Arizona and is Arizona's largest investor owned utility.

4. The Company's Agua Fria District is located in the rapidly developing western Phoenix suburbs, generally between the White Tank Mountains and the 101 Expressway. The Company currently serves 30,000 water customers and is adding approximately 3,500 new water customers per

year.

5. The initial application indicated that the Company and MWD had entered into a Memorandum of Understanding ("MOU") under which the treatment plant was to be financed, built and owned by MWD. The Company was to obtain treatment services under a long-term capital lease with MWD and the Company was to operate the facility under a Operation and Maintenance Agreement with MWD.

6. The application proposed to increase certain water facility hook-up fees ("WFHUF"), requested authorization to sell certain assets of the Company to MWD, requested authorization to incur debt in the form of a capital lease, and various other regulatory approvals.

7. By Procedural Order issued on December 19, 2005, a procedural schedule was set for the processing of the application, which included a hearing, public notice requirements, and intervention deadlines.

8. Intervention was granted to the Residential Utility Consumer Office ("RUCO") by Procedural Order issued January 10, 2006.

9. On January 23, the Company filed a Confirmation of Mailing and Affidavit of Publication indicating that public notice of the application was accomplished in accordance with the requirements set forth in the December 19, 2005, Procedural Order.

10. On February 10, 2006, Commission Staff filed a Staff Report in this case.

11. By Procedural Order issued March 2, 2006, the Company's request that the procedural schedule be suspended in the matter was granted.

12. On September 1, 2006, the Company filed a Revised Application in this docket, in which the Company stated that it believes no evidentiary hearing is required to process the Revised Application.

13. The Revised Application requests, for its Agua Fria District, relief in the form of an adjustment to its existing WFHUFs for new home construction, an Accounting Order, and a Commission Order that the Company make certain associated filings as part of its previously-ordered 2008 rate case filing for its Agua Fria District.

14. The Company has estimated that its back-bone plant construction expenditures (related to

its existing WFHUF) will approximate $65.6 million and the cost to construct the treatment facility (scheduled for completion in 2009) at a cost of $67.3 million will result in total construction cost of $132.9 million through the end of 2012. Construction expenditures through 2009 will total approximately $104.4 million.

15. The Company proposed two options regarding the increase in its WFHUF. Option 1 proposes a $3,000 per residential unit, 5/8 x ¾ inch meter and graduated for larger meter sizes. The Company estimates that this will result in WFHUF collections of $122.5 through 2012.

16. Option 2 proposes a $4,700 per residential unit, 5/8 x ¾ inch meter and graduated for larger meter sizes. The Company estimates that this will result in WFHUF collections of $132.8 through 2012.

17. The Company requests an accounting order that addresses two issues:

a) First, the Company requests the ability to accrue post-in-service allowance for funds used during construction on any unfunded balance of the White Tank Plant. This will allow the Company to be made whole on its investment until the hook-up fees are sufficient to fund the plant.
b) Second, should cumulative collected hook-up fees exceed cumulative related construction expenditures, the collected hook-up fees should not be considered to be contributions until some corresponding eligible plant enters service.

18. On September 14, a Telephonic Procedural Conference was held for the purpose of discussing the appropriate process for a Commission determination in this docket. The Company, RUCO and Staff attended.

19. On September 25, Staff filed a Joint Request for a Procedural Order ("Joint Request"), which stated that the parties do not believe that an evidentiary hearing is necessary. The Joint Request proposed that Staff file a Staff Report and Staff Recommended Order by October 27, 2006, and that the Company and RUCO file their responses to the filing by November 6, 2006. The Joint Request also recommends that if the responses demonstrate that there are issues in dispute, the Hearing Division would prepare a Recommended Opinion and Order. Regarding the possible need for an evidentiary hearing, the Joint Request included a recommendation that a procedural conference be held if it appears that there is such a need. The Joint Request asked that a Procedural Order be issued adopting its recommendations.

20. On October 5, 2006, a Procedural Order was issued that adopted the Joint Request party's request as being reasonable.

21. On October 23, 2006, Pulte Home Corporation ("Pulte"), through its counsel, applied for an order granting it leave to intervene in these proceedings. Pulte owns several development properties in the Agua Fria District and currently has 1,800 lots under development. Pulte asserts that it will be directly and substantially affected by the proposed hook-up fee. Pulte requests the opportunity to provide evidence supporting Arizona-Americans lower hook-up fee options.

22. On October 27, 2006, Staff filed its Staff Report and included the following recommendations:

a) Staff recommends approval of its WFHUF of $3,280 for a 5/8 x ¾ inch meter and graduated for other meter sizes as indicated on Exhibit A. This would result in WFHUF collections of approximately $76.3 million through 2009 versus $104.4 in construction expenditures and through 2012 it will collect a total of $132.8 million versus cumulative construction expenditures of $132.9 million.

b) In recognition of the potential public benefits in developing a regional water treatment facility that utilizes CAP and other surface water supplies, Staff further recommends approval of an accounting order that permits the Company to record post-in service allowance for funds used in construction on the unfunded balance, if any, associated with the White Tanks treatment facilities.

c) Also in recognition of the potential public benefits, Staff further recommends that any cumulative over collections of WFHUFs will not be considered contributions until the corresponding eligible plant enters service.

d) Staff recommends that the Company be required, in its 2008 rate case, to include an update of the assumptions used to develop the WFHUFs and propose, if necessary, adjustments to the hook-up fee amounts.

e) Staff further recommends that the Company prepare continuing evaluations of the WFHUFs in any subsequent rate application to determine if the WFHUFs are appropriate.

f) Staff further recommends that the Company be required to submit a calendar year status report each January 31st to Docket Control, as a compliance item in this case, beginning January 31, 2008, until the WFHUF Tariff is no longer in effect. This report should contain a list of all customers that have paid the WFHUF Tariff, the amount each has paid, the amount of money spent from the account, the amount of interest earned on the WFHUF Tariff account, and a list of all facilities that have been installed with the WFHUF Tariff funds.

CONCLUSIONS OF LAW

1. The Company is a public service corporation within the meaning of Article 15 of the Arizona Constitution and Title 40 of the Arizona Revised Statutes.

2. The Commission has jurisdiction over the Company and over the subject matter of the application.

3. The Commission having reviewed the application and Staff's Report of October 27, 2006, concludes that Staff's recommendations are reasonable, in the public interest, and should be adopted.

4. The Company will adopt Staff's recommended WFHUF as depicted on Exhibit A attached hereto.

5. In recognition of the potential public benefits in developing a regional water treatment facility that utilizes CAP and other surface water supplies, the Commission approves an accounting order that permits the Company to record post-in service allowance for funds used in construction on the unfunded balance, if any, associated with the White Tanks treatment facilities.

6. Also in recognition of the potential public benefits, the Commission approves an accounting order that allows for any cumulative over collections of WFHUFs as not being considered contributions until the corresponding eligible plant enters service.

7. The Commission requires that the Company, in its 2008 rate case, shall include an update of the assumptions used to develop the WFHUFs and propose, if necessary, adjustments to the hook-up fee amounts.

8. The Commission requires that the Company prepare continuing evaluations of the WFHUFs in any subsequent rate application to determine if the WFHUFs continue to be appropriate.

ORDER

IT IS THEREFORE ORDERED that the Company will adopt Staff's recommended WFHUF as depicted on Exhibit A attached hereto and file a conforming tariff in Docket Control within 30 days of this Order as a compliance item.

IT IS FURTHER ORDERED that the Commission approves an accounting order that permits the Company to record post-in service allowance for funds used in construction on the unfunded

balance, if any, associated with the White Tanks treatment facilities.

IT IS FURTHER ORDERED that the Commission approves an accounting order that allows for any cumulative over collections of WFHUFs as not being considered contributions until the corresponding eligible plant enters service.

IT IS FURTHER ORDERED that the Company be required, in its 2008 rate case, to include an update of the assumptions used to develop the WFHUFs and propose adjustments to the hook-up fee amounts.

IT IS FURTHER ORDERED that the Company prepare continuing evaluations of the WFHUFs in any subsequent rate application to determine if the WFHUFs continue to be appropriate.

IT IS FURTHER ORDERED that the Company be required to submit a calendar year status report each January 31st to Docket Control, as a compliance item in this case, beginning January 31, 2008, until the WFHUF Tariff is no longer in effect. This report should contain a list of all customers that have paid the WFHUF Tariff, the amount each has paid, the amount of money spent from the account, the amount of interest earned on the WFHUF Tariff account, and a list of all facilities that have been installed with the WFHUF Tariff funds.

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

BY ORDER OF THE ARIZONA CORPORATION COMMISSION

CHAIRMAN COMMISSIONER COMMISSIONER

COMMISSIONER COMMISSIONER

IN WITNESS WHEREOF, I, BRIAN C. McNEIL, Executive Secretary of the Arizona Corporation Commission, have hereunto, set my hand and caused the official seal of this Commission to be affixed at the Capitol, in the City of Phoenix, this _____ day of _____, 2006.

_____
BRIAN C. McNEIL
Executive Secretary

DISSENT: _____

DISSENT: _____

EGJ:JJD:red/KL

SERVICE LIST FOR: ARIZONA-AMERICAN WATER COMPANY, INC.
DOCKET NO. W-01303A-05-0718

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Mr. Ernest G. Johnson
Director, Utilities Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Ms. Lyn Farmer
Chief Administrative Law Judge, Hearing Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Arizona-America Water Company, Inc.
Docket No. W-01303A-05-0718

EXHIBIT A

PROPOSED HOOK-UP FEES

Meter Size	Existing WFHUF	Company Proposed Option 1	Company Proposed Option 2	Staff Proposed
5/8 x 3/4 Inch	$1,150	$3,000	$4,700	$3,280
3/4 Inch	$1,725	$4,500	$7,050	$4,920
1 Inch	$2,875	$7,500	$11,750	$8,200
1.5 Inch	$5,750	$15,000	$23,500	$16,400
2 Inch	$9,200	$24,000	$37,600	$26,240
3 Inch	$18,400	$48,000	$75,200	$52,480
4 inch	$28,750	$75,000	$117,500	$82,000
6 inch or higher	$57,500	$150,000	$235,000	$164,000

Arizona-American Water Company
Docket No. WS-01303A-06-0283
Application For Financing

Schedule PMC-1

FINANCIAL ANALYSIS

2005 Income Statement, Capital Structure and Pro Forma
Including Immediate Effects of the Proposed Debt

		[A] 12/31/2005		[B] Pro Forma	
1	Operating Income	$ 6,906,330		$ 6,906,330	
2	Depreciation & Amort.	14,695,302		14,695,302	
3	Income Tax Expense	(1,898,318)		(1,898,318)	
4					
5	Interest Expense	9,576,937		10,844,061	
6	Repayment of Principal	14,857		14,857	
7					
8					
9	**TIER**				
10	[1+3] ÷ [5]	0.52		0.46	
11	**DSC**				
12	[1+2+3] ÷ [5+6]	2.05		1.81	
13	**Cash Coverage Ratio**				
14	[1+2+3] ÷ [5]	2.06		1.82	
15					
16					
17					
18	Short-term Debt	$30,017,995	8.5%	$30,017,995	8.1%
19					
20	Long-term Debt	$207,317,395	58.6%	$214,317,395	57.7%
21					
22	Common Equity	$116,249,739	32.9%	$126,884,955	34.2%
23					
24	Total Capital	$353,585,129	100.0%	$371,220,345	100.0%
25					
26	[A]: Based on 2005 financial statements.				
27	[B]: Column [A] inclusive of the proposed financing.				

MEMORANDUM

DATE: October 24, 2006

TO: James Dorf
Chief Accountant
Utilities Division

FROM: Jian W. Liu
Utilities Engineer
Utilities Division

RE: Arizona–American Water Company
Docket No. W-01303A-05-0718 (White Tanks Hook-up Fees)

Introduction

Arizona–American Water Company ("Arizona–American" or "Company") presently provides utility service to approximately 100,000 water customers and 50,000 sewer customers in Arizona. The Company's Agua Fria District is located in the rapidly developing western Phoenix suburbs, where Arizona–American currently has about 30,000 water customers and is adding approximately 3,500 new water customers per year.

Revised Application

The Company now projects that the White Tanks Plant will be needed in May 2009 to meet customer demands expected for that summer. The White Tanks Plant is designed to be constructed in phases. The capacity of the Phase I(a) plant is 13.4 million gallons per day ("MGD") and is expandable to 20 MGD with the addition of one more treatment-unit train. Three additional phases (20 MGD each) can eventually be added for a total treatment capacity of 80 MGD.

Staff's Hook-up Fee Calculation

The revised application summarizes the latest cost estimates for the White Tanks Plant. For a 13.4 MGD plant the estimated cost is approximately $67,325,000. Arizona–American has estimated that total capital expenditures related to the treatment plant would be $132.89 million through 2012. The 13.4 MGD plant can serve 27,917 potential units assuming 480 gpd per dwelling unit.

Conclusion

Staff has reviewed the list of plant items and costs that comprise the totals above and concludes that the plant additions are appropriate and their estimated construction costs reasonable. However, no "used and useful" determination of the proposed plant was made, and no particular future treatment should be inferred for rate making or rate base purposes.

EXHIBIT
A-35
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

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

IN THE MATTER OF THE (REVISED) APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, AN ARIZONA CORPORATION, FOR APPROVALS ASSOCIATED WITH A PROPOSED TRANSACTION WITH MARICOPA COUNTY MUNICIPAL WATER CONSERVATION DISTRICT NUMBER ONE TO ALLOW THE CONSTRUCTION OF SURFACE WATER TREATMENT FACILITY KNOWN AS THE WHITE TANKS PROJECT	)	DOCKET NO. W-01303A-05-0718

REBUTTAL

TESTIMONY

OF

GERALD BECKER

PUBLIC UTILITIES ANALYST V

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

MARCH 12, 2007

TABLE OF CONTENTS

Page

INTRODUCTION 1

BACKGROUND 2

ISSUES 3

MWD'S CLAIMED ALTERNATIVE COST 4
MWD'S CLAIMS THAT HOOK-UP FEES ARE AVOIDABLE 5
CLAIMS THAT ADJUSTMENTS TO HOOK UP FEES REQUIRE A RATE PROCEEDING 6
THE IN-SERVICE DATE OF THE WHITE TANKS FACILITY 7
HONORING MAIN EXTENSION AGREEMENTS 8
SALE OF TREATMENT CAPACITY TO THIRD PARTIES 8
ARIZONA AMERICAN'S FINANCIAL CONDITION 12
DEPARTURE FROM TRADITIONAL RATE-MAKING 15

STAFF RECOMMENDATIONS 19

ATTACHMENTS

Excerpt from the Audit Financials of Arizona-American Water Company Year Ended December 31, 2005 ..... Appendix A

EXECUTIVE SUMMARY
ARIZONA-AMERICAN WATER COMPANY
DOCKET NO. W-01303A-05-0718

Arizona-American Water Company ("Arizona-American" or "Company") is a public service corporation engaged in providing water and wastewater services in portions of Maricopa, Mohave, and Santa Cruz Counties, Arizona pursuant to various certificates of public convenience and necessity granted by the Arizona Corporation Commission ("Commission"). The Company currently serves approximately 100,000 water customers and 50,000 wastewater customers. The Company is Arizona's largest investor owned water and wastewater utility. Arizona-American Water Company is wholly owned by RWE. The Company's Agua Fria Water District serves approximately 30,000 water customers.

The Company's initial application requested approval to collaborate with the Maricopa Water District ("MWD") to finance, construct and operate a surface water treatment plant, but negotiations have ceased. Each party now states that resuming negotiations is unlikely. Thus, the Company intends to independently proceed with construction of the surface water treatment plant "White Tanks Project". However, the Company asserts that its financial situation will not allow it to attract the funds needed for this project. Accordingly, the Company proposes to increase its hook-up fee to a level sufficient to entirely finance the White Tanks Project.

Staff's review of the intervenors' testimonies revealed that there are valid concerns about the Company's financial condition. Staff normally considers a combination of Advances-In-Aid-of-Construction ("AIAC") and Contributions-In-Aid-of-Contribution ("CIAC') exceeding 30 percent of total capital as excessive. At December 31, 2005, combined AIAC and CIAC represented 35.47 percent of the Company's capital structure inclusive of AIAC and CIAC. The total estimated cost for the White Tanks Project is $132.9 million which compares to Arizona-Arizonan's total debt and equity of $329.2 million at December 31, 2005. Implementing the Company's request to fund the White Tanks Project entirely through increased hook-up fees would exacerbate the Company's already excessive use of AIAC and CIAC. Equity represented approximately $104.5 million, or 30.8 percent of the Company's capital structure at December 31, 2005 (adjusted for a $35.0 million equity infusion and a $24.4 million goodwill write-off). Staff normally considers equity below 40 percent of total capital insufficient. Although Staff recommends approval of a hook-up fee sufficient to finance the entire surface water treatment plant in this proceeding, Staff also recommends re-examination of the hook-up fee in the Company's Agua Fria District 2008 rate case to consider a proper balance of long-term capital structure components.

The application also requests an accounting order to authorize two variances from established rate-making principles. First, the Company requests authorization to accrue post-in-service allowance for funds used during construction ("AFUDC") on any unfunded balance of the White Tank Project. Staff recommends approval of a variance to record post-in-service allowance for funds used during construction on the excess of the construction cost of the White Tanks Project over directly related hook-up fees collected through December 31, 2012, or the date that rates become effective subsequent to a rate case that includes 80 percent (based on

estimated cost) of the White Tanks Project in rate base, whichever comes first. Second, the Company requests that to the extent that cumulative collected hook-up fees exceed cumulative related construction expenditures, the excess hook-up fees should not be considered to be contributions until some corresponding eligible plant enters service. Staff recommends granting of a variance that excludes the excess of hook-up fees directly related to the White Tanks Project collected subsequent to the effect date of a decision in this case over the aggregate of (1) construction expenditures for the same period that are included in rate base and (2) any costs deemed imprudently incurred from contributions use to calculate rate base until December 31, 2012.

Staff recommends that approvals of the Company's requests for an increase in its hook-up fee and variances from established rate-making treatment be subject to the condition that Arizona-American agree that the Commission has complete authority to prescribe the entitlement and rate-making treatment of sales proceeds or other compensation from the sale or commitment, in whole or in part, of the White Tanks Project capacity to third parties.

The treatment of sales of capacity to a third party, whether existing main line extension agreements will be honored at existing rates, and the relevance of the estimated date of completion of the project are additional issues discussed in further detail in this testimony.

INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My name is Gerald Becker. I am a Public Utilities Analyst V employed by the Arizona Corporation Commission ("ACC" or "Commission") in the Utilities Division ("Staff"). My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

Q. Briefly describe your responsibilities as a Public Utilities Analyst V.

A. I am responsible for the examination and verification of financial and statistical information included in utility rate applications and other financial matters before the Commission. In addition, I develop revenue requirements, prepare written reports, testimonies, and schedules that include Staff recommendations to the Commission. I am also responsible for testifying at formal hearings on these matters.

Q. Please describe your educational background and professional experience.

A. I received a Masters of Business Administration with an emphasis in Accounting from Pace University. I am a Certified Public Accountant and a Certified Internal Auditor.

I have participated in multiple rate, financing and other regulatory proceedings. I attended the National Association of Regulatory Utility Commissioners Utilities Rate School.

I began employment with the Commission as a utilities regulatory analyst in April 2006. Prior to joining the Commission, I worked as an Auditor at the Department of Economic Security and Department of Revenue in the Taxpayer Assistance Section. Prior to those jobs, I worked for 15 years as an Auditor, Analyst, Financial Analyst, and Budget Manager at United Illuminating, an investor owned electric company in New Haven, CT.

Q. What is the scope of your testimony in this case?

A. Arizona-American Water Company's (Arizona-American" or "Company") revised application, dated September 1, 2006, seeks (1) approval to increase its hook-up fee for the purpose of financing the building of the White Tanks Water Treatment facility solely through hook-up fees, and (2) an accounting order allowing Arizona-American to variances from established rate-making principles. Intervenors[1] have filed testimonies in response to the Staff Report, dated October 26, 2006, and/or in response to filings by other parties. I am presenting Staff's response to the financial and accounting issues presented in those testimonies.

BACKGROUND

Q. Please review the background of this application.

A. Arizona-American is a public service corporation engaged in providing water and wastewater services in portions of Maricopa, Mohave, and Santa Cruz Counties, Arizona pursuant to various certificates of public convenience and necessity granted by the Commission. The Company currently serves approximately 100,000 water customers and 50,000 wastewater customers in ten districts: Agua Fria Water, Anthem/AF Wastewater, Tubac, Sun City Water, Sun City West Water, Sun City Wastewater, Sun City West Wastewater, Anthem Water, Mohave, and Havasu. The Company is Arizona's largest investor owned water and wastewater utility. Arizona-American Water Company is wholly owned by RWE. Arizona-American proposes to build the White Tanks Water Treatment facility ("White Tanks Project") in the Company's Agua Fria Water District.

[1] The Residential Utility Consumer Office, Maricopa Water District, Trend Homes, Fulton Homes Corporation, Suburban Land Reserve, Westcor /Surprise LLC, CHI Construction Co., Courtland Homes Inc., Taylor Woodrow/Arizona Inc., Pulte Home Corporation.

In its original application, the Company proposed to collaborate with the Maricopa Water District ("MWD") but negotiations have failed and the parties are at an impasse. On October 27, 2006, Staff issued a report that stated that MWD was no longer interested in the project. More accurately, according to MWD, MWD is no longer interested in continuing negotiations with the Arizona-American but MWD continues its desire to build, own, and operate the treatment plant commonly known as the White Tanks facility.

ISSUES

Q. What are the primary accounting and operational issues brought forth by the intervenors related to Arizona-American's proposal (1) to increase its hook-up fee for the purpose of financing the building of the White Tanks Water Treatment facility solely through hook-up fees, and (2) for an accounting order allowing Arizona-American to variances from established rate-making principles?

A. Staff has identified the following primary issues.

1. MWD's claimed alternative cost.
2. MWD's claim that hook-up fees as avoidable costs.
3. MWD's claim that adjustments to hook-up fees may require a rate proceeding.
4. The in-service date of the White Tanks Project.
5. Honoring main extension agreements.
6. Treatment of capacity sales to third parties.
7. Arizona-American's financial condition.
8. Departure from established rate-making principles.

MWD's Claimed Alternative Cost

Q. What is MWD's claim regarding the cost of the White Tanks Project?

A. MWD states that it can build the plant for lower costs and operate it for lower costs than Arizona-American due to its access to lower cost power and not having to pay property taxes. MWD also states that it can fund the project without the hook-up fees on which Arizona-America would rely. MWD also asserts that its cost of capital is less than that of Arizona-American.

Q. What is Staff's assessment of the MWD's assertion regarding costs?

A. Since MWD does not propose to use equity in its capital structure, the absence of what is normally the most costly component of capital should be a cost advantage for MWD over Arizona-American. However, MWD does not offer any commitments that any reduced costs will ultimately be passed to the end consumers. Municipal operations such as MWD enjoy not paying property taxes but this means that local and other taxpayers have to pay higher taxes to compensate for the amounts not assessed to a municipality. In effect, the ability to not pay property taxes does not represent a real gain to society as a whole. MWD has not presented support for its assertion that it has access to lower cost power. MWD's proposal has no provision for the collection of hook-up fees to defray the cost of the project. By not collecting hook-up fees, MWD would allow developers to circumvent paying an appropriate share of the capital cost, thus, placing upward pressure on rates.

The water treatment process is an integral part of the water supply process. If MWD builds the water treatment facility, it would not be under the auspices of a regulated entity and its activities would not be subject to examination by the Commission. MWD's response to Staff Data Request 1.4 states that it will charge rates based on contractual negotiations. This means that customers have no assurances that rates will not escalate

due to MWD charging market based rates and earning profits that could be considered excessive in a regulatory environment. Exposing regulated customers to the risk of market based pricing of water treatment is unnecessary and ill-advised.

MWD's claim that hook-up fees are avoidable

Q. What is MWD's claim regarding the financing of the White Tanks Project?

A. MWD states that it can fund the project without the hook-up fees on which Arizona-America would rely. In response to Staff Data Request 1.6, MWD indicates that it will finance the construction of the plant through a combination of cash, tax exempt loans from the Water Infrastructure Finance Authority of Arizona ("WIFA"), or tax exempt project revenue bonds secured by one or a combination of net water treatment facility revenue, or bank letter of credit.

Q. What is Staff's assessment of the MWD's assertion regarding hook-up fees as unnecessary?

A. Hook-up fees help to ensure that developers contribute an appropriate amount toward the construction of new facilities necessitated by development and to prevent harm to present ratepayers. MWD has neither the ability nor the intention to collect hook-up fees to cover capital investment in the White Tanks Project. This means that when capital recovery is to occur at a future date, capital recovery costs will be included in the treatment costs and reflected in the rates ultimately charged to ratepayers.

MWD's claim that adjustments to Hook Up Fees require a rate proceeding

Q. Does any intervenor say that adjustments to hook-up fees may require a rate proceeding?

A. Yes. MWD states, "...the District is prepared to move quickly with this project. However, Arizona-American may not be able to move as quickly, because it may face legal challenges to the validity of hook-up fees upon which it relies. The Commission considers hook up fees to be rates.[2] .... Arizona-American's proposals violate the Commissions findings that hook-up fees cannot be imposed outside of a rate cases unless the fee is: (1) revenue-neutral; and (2) is recorded as CIAC.[3] The special treatment for AFUDC and CIAC requested by Arizona-American violates these findings."

Q. What is Staff's comment on MWD's statement?

A. The comments of MWD are incomplete. MWD supports its position by reference to certain components of Decision No. 66512, but MWD does not state that the Commission ultimately approved the request to impose certain hook-up fees as part of Decision No. 66512, a non-rate proceeding. Paragraph 5 of the Conclusions of Law in Decision No. 66512 which immediately follows the one cited above by MWD states, "Under the circumstances of this case, and pursuant to Article XV, Sections 3 and 14 of the Arizona Constitution, Arizona-American's proposed hook-up fee tariffs, which will be booked as contributions in aid of construction, do not constitute rates that require a fair value determination prior to approval."[4]

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[2] Footnote 24 in the Comments of the Maricopa Water District, November 16, 2006, which references "Decision No. 66512 (Nov. 10, 2003) at Conclusion of Law No. 4.
[3] Footnote 25 in the Comments of the Maricopa Water District, November 16, 2006, which references "Decision No. 66512 (Nov. 10, 2003) at Finding of Fact No. 10.
[4] Decision No. 66512, Page 5, lines 20-23.

The In-Service Date of the White Tanks Facility

Q. Are Arizona-American and MWD ready to proceed to bring treated surface water to its customers in 2009?

A. Arizona-American has a plan in place with a completion date of 2009[5] but has subsequently qualified its response. In response to Staff Data Request 3.2, the Company states, "As a result of the recent procedural schedule in this case, this updated schedule needs further revision." Staff recommends that the Company file an updated completion date prior to the hearing for this case.

MWD has a plan in place with a completion date of April 1, 2010.[6] However, as Arizona-American states, "By contrast, MWD offers only a preliminary design, but has no site; no permits; no canal improvement; no pipeline; no duty to serve; no customers; and no experience."[7] The District claims to already own land but has yet to finalize and disclose the selected site. Furthermore, MWD is unregulated and in the absence of contractual obligations, MWD could decide to cancel, postpone, sell, or condemn the facility without regulatory approval.

MWD's later completion date than Arizona-American's is relevant due to projected customer demand and the potential to avoid the costs to provide interim supply. Furthermore, MWD could decide to cancel, postpone, sell, or condemn the facility without consulting the Commission.

[5] Company filing of November 22, 2006, Page 1, lines 12-13
[6] MWD response to Staff Data Request 1.2
[7] Company filing of November 22, 2006, Page 1, lines 13-14 and Page 2, 1-6

Honoring Main Extension Agreements

Q. Are there existing Main Line Extension Agreements ("MXA") in place in the White Tanks area?

A Yes.

Q. What is Staff's comment on the concerns expressed by intervenors regarding MXAs such as the following statement by Trend Homes, "On December 13, 2006, Trend filed comments requesting that it be made clear that to the extent that an applicant has already paid the WFHUF (Water Facility Hook Up Fee) under the existing tariff, that the Company be precluded from charging the difference between the existing WFHUF and the new WFHUF and that the Company be further precluded from unilaterally refunding WFHUF's paid under the existing tariff (so that the new higher rate is required)"[8]?

A. Staff notes that Arizona-American must adhere to its authorized tariffs and honor the main extension agreements that have been submitted to and approved by the Commission. The Company must charge according to the tariffs that are in effect at that time. If the authorized tariffs are changed, the Company must charge the new tariffs upon their effective date and not retroactively.

Sale of Treatment Capacity to Third Parties

Q. Has any intervenor noted concern regarding the sale of water treatment capacity to other parties?

A Yes, RUCO has expressed concerns about the treatment of any sale of capacity to third parties and states, "The application indicates that a third party may potentially purchase

[8] Comments of Trend Homes, Inc., December 13, 2006, Page 2, lines 206

capacity in the treatment plant. The Company needs to clarify how the hook-up fee will be modified in the event that this actually happened"[9].

Q. Does Staff also have concerns regarding the impact of sales of capacity of the White Tanks Plant and treatment services to third parties?

A. Yes.

Q. Has the Company presented a proposal to address the accounting/ratemaking treatment for all components of White Tanks Plant capacity sales?

A. No, the Company has proposed a formula to adjust its hook-up fees to account for such transactions,[10] but the Company does not propose treatment for the proceeds from any sale of capacity in the plant.

Q. Does Staff have concerns regarding absence of proposed treatment of the proceeds from the sale or other commitment of the White Tanks Project capacity?

A. Yes. The potential revenues from capacity sales are large relative to the size of the White Tanks Project, the rate base of the Agua Fria division and Arizona-American's capital. Accordingly, the rate-making treatment of capacity sales is significant. For example, assume that the sales of capacity to third parties, hook-up fee collections and the cost of the White Tanks Project all equal $132 million. In this circumstance, if revenues from capacity sales are treated as operating income for Arizona-American and these sales are not recognized in setting rates, the Company would experience a great windfall. Similarly, if the capacity sales revenue was used to refund hook-up fees offsetting CIAC, Arizona-American would gain the full value of the plant cost as an increase to rate base. The potential inequities that could result from not specifying how to treat capacity sales

[9] RUCO Notice of Filing, January 24, 2007.
[10] February 21, 2007, Testimony of Thomas M. Broderick, Page 7, Lines 7-25 and Page 8, Line1.

demand that the issue be addressed in conjunction with the hook-up fee increase and accounting/rate-making variances requested by the Company in this proceeding. However, the rate-making treatment of capacity sales is best considered in a rate case proceeding.

Q. Does Staff have concerns regarding absence of proposed treatment of revenues generated by the provision of service to third parties?

A. Yes. The concern over the rate-making treatment of revenues generated by the White Tanks Project to provide service to third parties is similar to the concern over the absence of a specified treatment for the sales of the White Tanks Project capacity. Revenue from treatment service to third parties is potentially significant and is best considered in a rate case proceeding.

Q. Does Staff have a concern with the Company's proposal to adjust hook-up fees?

A. Yes. Staff's understanding of the Company's testimony[11] is that it proposes to reduce hook-up fees prospectively from the date of sale of White Tanks Project capacity to a third party. The Company's proposal is to reduce the hook-up fee by the amount calculated as 75 percent of the difference between the hook-up fee approved in this proceeding and the existing hook-up fee multiplied by a factor that recognizes the relationship between Arizona-American's capacity use to the combined Arizona-American and third party capacity use. The latter factor also recognizes the relationship of Arizona-American and third party capacity use to total capacity. The Company asserts that the 75 percent factor is an incentive for it to secure capacity agreements with third parties. Proper assessment of the appropriateness of any incentive is predicated on knowing other factors such as the treatment of the proceeds and profit on sales of capacity and from providing third party

[11] February 21, 2007, Testimony of Thomas M. Broderick, Page 6, Lines 18-25 and Page, Lines 1-4.

treatment. Since these other factors are unknown, the Company's proposal cannot be properly assessed.

According to the Company's application, construction costs do not occur evenly as capacity increases. In its revised application, dated September 1, 2007, the Company describes, "...the latest cost estimates for the White Tanks Plant. For a 6.7 MGD plant, Arizona-American estimates a total cost of $64,815,000. For the 13.5 MGD plant the estimated cost increases by just $2,510,000 to $67,325,000."[12] This means that the average cost for the first 6.7 MGD is approximately $9.67 million per MGD. However, the average cost falls to $4.99 million per MGD when the additional 6.8 MGD is included in the calculation. Thus, the projected average cost varies significantly with capacity. These factors complicate consideration of hook-up fee adjustment and are best considered in a rate case proceeding.

Q. What does Staff conclude regarding the treatment of sales of capacity to third parties?

A. First, Staff concludes that it is premature to establish methodologies for the treatment of capacity sales for a plant that is yet to be built, since important relevant factors are yet to be determined such as: (1) the proposed price and amount of the capacity being sold; (2) the gross total expenditures to date; (3) total additional planned expenditures; (4) total hook-up fees collected; (5) projected future hook-up fees to be collected; and (6) treatment of any gain on the sales. Second, Staff concludes that a rate case proceeding is the best forum for considering the rate-making treatment of the sales of capacity of the White Tanks Project to third parties. Third, Staff concludes that a rate case proceeding is the best forum for considering the rate-making treatment of revenue generated by the White

[12] Arizona-American Revised Application, September 1, 2006, Page 7, Lines 3-4.

Tanks Project to provide service to third parties. Fourth, Staff concludes that a rate case proceeding is the best forum for considering adjustments to hook-up fees. Fifth, Staff concludes that to facilitate consideration of sales of capacity, which may be considered a sale of utility assets under § 40-285, approvals of the Company's requests for an increase in its hook-up fee and variances from established rate-making treatment should be conditioned on Arizona-American's agreement that the Commission has complete authority to prescribe both the rate-making treatment of sales proceeds and the applicability of § 40-285 to any sale of capacity. Sixth, Staff concludes that gains on any sales of capacity of the White Tanks Project should be deferred to a rate case for disposition as authorized by the Commission. Finally, Staff concludes that consideration of the aforementioned items is necessary to protect ratepayers from potentially unjust enrichment for Arizona-American if the Company's requests for an increase in its hook-up fee and variances from established rate-making treatment are granted.

Arizona American's Financial Condition

Q. MWD states "Arizona-American's plan will only result in more financial weakness".[13] Please describe Staff's view.

A. Staff agrees with MWD's statement that funding a major project entirely through hook-up fees could have a detrimental effect on the Company's capital structure. An excerpt from the Company's audited financial statements is attached as Appendix A. As of December 31, 2005, the Company's audited financials indicate the following balances on which Staff has calculated the percentages shown:

	(000's)	Percentage
Common Stock Equity	$ 93,854	28.51%
Short Term Debt	$ 27,987	8.50%
Current Portion of Long Term Debt	$162,964	49.51%
Long Term Debt	$ 44,369	13.48%
Total Capitalization	$329,174	100.0%

[13] Company filing of November 22, 2006, Page 6, lines 8

Subsequent to December 31, 2005, the Company wrote-off Goodwill of $24,364,784 and its parent company infused $35,000,000 of equity into the Company. Both of these transactions affected Common Equity and the Total Capitalization. The adjusted pro-forma results are shown below:

	(000's)	Percentage
Common Stock Equity	$104,489	30.75%
Short Term Debt	$ 27,987	8.24%
Current Portion of Long Term Debt	$162,964	47.95%
Long Term Debt	$ 44,369	13.06%
Total Capitalization	$339,809	100.0%

Although the Company increased its equity percentage from 28.51 percent to 30.75 percent, the resulting equity level is below Staff's minimum recommended percentage of 40 percent.

In addition to the above data, the Company's financial statements indicate Contributions in Aid of Construction ("CIAC") and Advances in Aid of Construction ("AIAC") in the amounts of $20,460,000 and $160,475,000, respectively. Staff issued a Staff Report on October 6, 2006, in Docket No. W-00000C-06-0149 with regard to a generic evaluation of the regulatory impacts of non-traditional financing arrangements. That Staff Report recommended that CIAC and AIAC be limited to 30 percent of the total capital inclusive of CIAC and AIAC. A review of the Company's position, inclusive of the 2006 pro forma adjustments discussed above, indicates that the Company's combined AIAC and CIAC is 34.75 percent for the total. The data is shown below:

	(000's)	Percentage
Common Stock Equity	$104,489	20.06%
Short Term Debt	$ 27,987	5.38%
Current Portion of Long Term Debt	$162,964	31.29%
Long Term Debt	$ 44,369	8.52%

Total Capitalization	$339,809	65.25%
AIAC & CIAC	$180,945	34.75%
Total Capitalization plus AIAC/CIAC	$520,744	100.0%

As indicated in this table, the combined, existing levels of AIAC and CIAC already exceed the recommended threshold of 30 percent. Also, the recalculation of Common Stock Equity as a percentage of the total capitalization inclusive of AIAC and CIAC further underscores the equity shortage.

Arizona-American's plan is to fund $132.9 million White Tanks facility solely through hook-up fees, i.e., CIAC. The pro-forma effect of an additional $132.9 million of CIAC on Arizona-American's capitalization plus AIAC and CIAC is shown below:

PRO FORMA $132.9 M CIAC:	(000's)	Percentage
Common Stock Equity	$104,489	15.99%
Short Term Debt	$ 27,987	4.28%
Current Portion of Long Term Debt	$162,964	24.93%
Long Term Debt	$ 44,369	6.79%
Total Capitalization`	$339,809	51.99%
AIAC & CIAC	$313,835	48.01%
Total Capitalization plus AIAC/CIAC	$653,644	100.0%

Other factors not reflected in this data such as the results of operations and additional equity infusions and/or distributions will also affect the Company's future capital structure. However, this data shows the detrimental impact of financing capital improvements exclusively with hook-up fees. Accordingly, Staff concludes that the hook-up fees authorized in this proceeding should be re-examined in the Company's Agua Fria division 2008 rate case to consider a proper balance of long-term capital structure components.

Departure from Traditional Rate-making

Q. What departure from traditional rate-making principles is MWD referring to in its statement, "The Commission need not abandon its rate-making principles to encourage surface water use-it can have the best of both worlds."[14]?

A. Arizona-American proposes to finance the White Tanks Project entirely through hook-up fees and states that it needs special accounting treatment in order to be made whole. The Company's application requests an accounting order to authorize two variances from established rate-making principles. First, the Company requests authorization to accrue post-in-service allowance for funds used during construction ("AFUDC") on any unfunded balance of the White Tanks Project, i.e., until the plant is fully funded by hook-up fees. Accepted rate-making practices required that AFUDC cease when plant enters service. Second, the Company requests that to the extent that cumulative collected hook-up fees exceed cumulative related construction expenditures, the excess hook-up fees should not be considered to be contributions until some corresponding eligible plant enters service. The Company supports the latter request by stating that while the plant is being built, the amounts expended will be in Construction Work in Progress ("CWIP"). Since CWIP is not in rate base, the Company seeks to exclude related CIAC, which reduces rate base according to established rate-making principles, from the rate base calculation until corresponding plant is in service.

Q. What are some considerations related to the Company's requested accounting treatment?

A. The reasonableness of a variance request should be evaluated on a case-by-case basis. Established rate-making practices have become accepted for good reason – essentially, in normal circumstances the normally recognized treatment is considered equitable.

[14] Comment of the Maricopa Water District, November 16, 2005, Page 3, lines 23-24

However, some instances are unusual and call for a variance. As noted above, the projected capital required to finance the White Tanks Plant is relatively large in comparison to Arizona-American's existing capitalization. Typically, the advantages and disadvantages of the various leads and lags pertaining to the rate-making process tend to provide a balance that is equitable to investors and ratepayers. However, any imbalance is magnified by large variances from the normal activity. Accordingly, the White Tanks Project has the potential to introduce a significant imbalance due to its relatively large size.

Arizona-American's first variance request addresses the potential that the Company may have a significant investment of its own capital invested in plant that is not earning a return. If such a scenario materializes, the Company's carrying cost for the lag between the time construction costs are paid and the time hook-up fees are collected may never be offset or recovered by future beneficial regulatory leads and lags. The Company's potential carrying cost must be weighed against other potential benefits. For example, Arizona-American would benefit from its application of AFUDC to CWIP balances to the extent the construction costs are financed by hook-up fees. Application of AFUDC to CWIP financed by non-investor funds has significant potential to offset any carrying costs that may occur on investor provided funds. However, AFUDC does not provide any direct source of cash to fund carrying costs such as interest expense and dividends.

Arizona-American's second variance request addresses the potential for a rate base mismatch as a consequence of the hook-up fees it collects exceeding the plant that is completed and placed in service. Normally, hook-up fees recognized as CIAC are a deduction in the calculation of rate base, plant-in-service is an addition in the calculation of rate base and CWIP is not a component of the rate base calculation. Therefore, if a

portion of the hook-up fees is invested in CWIP and not yet transferred to plant-in-service at the time a rate case is processed, rate base is reduced by the excess of the CIAC over the plant additions. This rate base reduction is not harmful to the Company until the CWIP is transferred to plant-in-service since the Company can apply AFUDC to CWIP. However, when CWIP is transferred to plant-in-service, application of AFUDC terminates. Therefore, when rate base is reduced by CIAC that is funding CWIP and the CWIP is subsequently transferred to plant-in-service, the Company is no longer whole. A potentially offsetting benefit can occur to the extent that the Company collects hook-up fees and holds the fees as an investment before funding capital improvements.

Another consideration is the Company's potential to benefit indirectly by the extensive use of hook-up fees to fund the White Tanks Project. This potential benefit comes from changing the mix of capital used to finance plant. An example can be used to illustrate this benefit. Assume that the Commission processes a rate case and determines that a utility's revenue requirement is composed of the following:

Item	Description	Percent
1	O&M Expenses	50%
2	Depreciation Expense	10%
3	Income Taxes	20%
4	Operating Income/ROR	30%
5	Total	100%

In this example each revenue dollar is composed of 50 cents for O&M, 10 cents for depreciation expense, 20 cents for income taxes and 30 cents for operating income. Now assume the Company builds an identical expansion plant using only hook-up fees to serve

an anticipated doubling of customers. A similar calculation of the revenue requirement exclusively for the expansion plant could be calculated as follows:

Item	Description	Percent
1	O&M Expenses	100%
2	Depreciation Expense	0%
3	Income Taxes	0%
4	Operating Income/ROR	0%
5	Total	100%

The revenue requirement for the expansion plant includes no depreciation expense, income tax, or operating income. Since the expansion plant is built entirely with hook-up fees which are CIAC, there is no rate base upon which to earn resulting in no operating income. The absence of income eliminates income tax expense, and the depreciation expense is entirely offset by the amortization of CIAC. Arizona-American, by building the White Tanks Plant entirely with hook-up fees, is effectively eliminating from the revenue requirement components for depreciation expense and operating income to the extent the plant provides for expansion. However, since the Company will charge new customers the same rates as existing customers, it will collect the depreciation expense and operating income portions of the revenue requirement in those rates despite the absence of those components in its revenue requirement. Since Arizona-American's rates include recovery of all the revenue requirement components, its rates are not an accurate reflection of the White Tanks Project activity and may contribute to additional profits. Whether the operating costs for the White Tanks Plant will offset or negate these profits is unknown.

Q. What does Staff conclude regarding the Company's request for variances in accounting/rate-making treatment?

A. As previously discussed, the magnitude of the White Tanks Project has the potential to introduce a significant imbalance to the normal rate-making process due to its relatively large size. Staff concludes that this circumstance warrants granting of an accounting order authorizing the requested variances from established rate-making practices to provide some protection to the Company from potentially detrimental financial consequences. Staff comes to this conclusion with caution and some trepidation because the circumstances also present some benefits. Accordingly, authorization of variances should come with appropriate conditions to ensure a reasonable balance is maintained between the Company and ratepayer interests, as discussed below.

STAFF RECOMMENDATIONS

Q. Please summarize Staff's recommendations.

A. Staff recommends the following:

1. Approval of the hook-up fee increase as recommended in the Staff Report, dated October 27, 2006, to provide adequate funds to Arizona-America to build the White Tanks Plant.

2. Re-examination of the hook-up fee in the Company's Agua Fria District 2008 rate case to consider, among other items, a proper balance of long-term capital structure components.

3. That the Company file, prior to the hearing in this docket, updated information of the target in-service date of the White Tanks Plant based on the most recent information.

4. Granting approval of a variance to record post-in-service allowance for funds used during construction on the excess of the paid construction cost of the White Tanks Project over directly related hook-up fees collected through December 31, 2012, or the date that rates become effective subsequent to a rate case that includes 80 percent (based on estimated cost) of the White Tanks Project in rate base, whichever comes first.

5. Granting approval of a variance that excludes the excess of hook-up fees directly related to the White Tanks Project collected subsequent to the effect date of a decision in this case over the aggregate of (1) construction expenditures for the same period that are included in rate base, and (2) any costs deemed imprudently incurred from contributions used to calculate rate base until December 31, 2012.

6. Finding that the rate-making treatment of capacity sales of the White Tanks Project to third parties should be determined in a future rate case.

7. Finding that the rate-making treatment of revenue generated by the White Tanks Project to provide service to third parties should be determined in a future rate case.

8. Finding that adjustments to the hook-up fee established in this proceeding should be determined in a future rate case.

9. Conditioning approvals of the Company's requests for an increase in its hook-up fee and variances from established rate-making treatment on Arizona-American's agreement that the Commission has complete authority to prescribe the entitlement and rate-making treatment of sales proceeds or other compensation from the sale or commitment, in whole or in part, of the White Tanks Project capacity to third parties.

In addition, in the event that Arizona-American sells or leases, for any reason, any capacity of the purposed plant, to include any future capacity enhancements, the Company agrees that any such transaction shall be predicated upon a filing of an application pursuant to A.R.S. 40-285.

10. Requiring deferral to a rate case of the gains on any sales of capacity of the White Tanks Project for disposition as authorized by the Commission.

Q. Does this conclude your direct testimony?

A. Yes, it does.

ARIZONA-AMERICAN WATER COMPANY
Balance Sheets
For Years Ended December 31, 2005 and 2004
(Dollars in thousands)

Capital and Liabilities

	2005	2004
Capitalization		
Common stockholder's equity	$ 93,854	$ 95,258
Long-term debt (excluding current portion)	44,369	202,832
Total capitalization	138,223	298,090
Current liabilities		
Notes payable - associated companies	27,987	-
Current portion of long-term debt	162,964	4,524
Accounts payable	8,647	7,483
Accounts payable - associated companies	2,373	1,386
Accrued interest	1,281	1,295
Accrued taxes	1,844	941
Other	5,204	2,885
	210,300	18,514
Long-term liabilities		
Customer advances for construction	160,475	131,428
Deferred investment tax credits	68	71
Deferred revenue	3,865	4,034
Accrued pension expense	3,260	2,503
Accrued postretirement benefit expense	31	29
Other	332	378
	168,031	138,443
Contributions in aid of construction	20,460	16,474
Commitments and contingencies	-	-
	$ 537,014	$ 471,521

The accompanying notes are an integral part of these financial statements.

EXHIBIT
A-36
ADMITTED

Booking Developer Projects (Maricopa County)

1. **Company and Developer Enter into Line Extension Agreement**
   - **a.** LXA Includes Engineer-Certified Cost Estimate
   - **b.** No Costs Booked
2. **Developer-Constructed Facility Receives "Operational Acceptance"**
   - **a.** "Operational Acceptance"
     - i. Developer notifies Arizona-American that the facility under construction is ready for inspection and testing.
     - ii. Arizona-American inspects and tests the facility to determine if it can issue Operational Acceptance.
     - iii. To receive Operational Acceptance the facility must have been constructed in substantial accordance with the approved plans and specifications.
     - iv. Operational Acceptance may contain a reasonable punch list of items that require correction.
     - v. Developer must promptly correct any punch list items specified as part of Arizona-American's Operational Acceptance.
   - b. Arizona-American Provides Operational Acceptance Letter to Developer
   - c. The Date of the Letter Establishes the In-Service Date for the Facility
   - d. Arizona-American sets up an Accrual of the Estimated Costs by Debiting CWIP and Crediting Advances or Contributions in Aid of Construction (as Appropriate)
     - i. Facility will be credited to AIAC if it is eligible for refunds
     - ii. Facility will be credited to CIAC if it is not eligible for refunds
3. **Project Manager Changes Status to Complete with a Complete Date**
   - a. Power Plant software sets up a "late wait" period of typically 3 months to receive all the final costs to be assigned to the Project.
4. **Facility Receives "Final Acceptance"**
   - a. "Final Acceptance" – Four Requirements:
     - i. Developer must correct all punch-list items
     - ii. Developer must complete final grade adjustments
     - iii. Developer must receive and provide Approval of Construction from Maricopa County Environmental Services Department
     - iv. Developer must provide the following:
       1. Copies of all contracts and paid bills, invoices and other statements of expenses incurred by Developer, covering all of the costs of permitting, design, construction and installation of the facility;

2. lien waivers and releases from contractors, subcontractors and vendors for materials, equipment, supplies and construction included in the facility;
3. receipts or copies of checks, specifying exact amount of payments in full by Developer to all contractors, subcontractors and vendors for all materials, equipment, supplies, labor and other costs of construction of the Water Pipeline;
4. one set of "as-built" drawings on 4-mil Mylar and three sets of bond copies, certified as to correctness by an engineer registered in the State of Arizona and showing the locations, materials, and respective sizes, and pertinent construction details for the Water Pipeline; and
5. CAD files, in electronic format acceptable to Utility, of the construction drawings in accordance with Utility's specifications.

b. Arizona-American provides Final Acceptance Letter to Developer.
c. Final costs are unitized "as built" by NARUC plant account.
d. Total project costs are trued up from estimated to actual and transferred from CWIP to UPIS to the individual 300 plant accounts.

<u>Point 1.</u> If the facility has not been transferred from CWIP to UPIS before 12/31/07, the investment would not be in rate base but the associated advance/contribution would reduce the other plant items included in rate base. This is why for rate-making purposes the advance/contribution should be excluded from rate base.

<u>Point 2</u>. As detailed above, there is a great deal for the developer to do to receive Final Acceptance. This can be a multi-month process after Operational Acceptance, even if everything is going smoothly for the developer.

EXHIBIT
A-37

Arizona American Water
Executive Compensation

2009 Base Salary	Position Title	% Salary to Arizona (1)	2008 AIP Target (2)	2008 AIP Paid (3)
$ 284,950	President	90%	$ 113,980	$ 69,756
$ 147,281	Vice President Operations	100%	$ 29,456	$ 22,917
$ 137,655	Director of Engineering	100%	$ 27,531	$ 21,419
$ 156,750	Corporate Counsel	75%	$ 31,350	$ 22,917
$ 123,000	Director of Financial Planning & Analysis	45%	$ 24,600	$ 18,155
$ 104,900	Manager of Human Resources	75%	$ 15,735	$ 11,990
$ 85,832	Manager Environmental Management	100%	$ 12,875	$ 9,823
$ 75,000	Director of Water Resources	100%	$ 11,250	$ 8,753
$ 152,000	Director of Rates & Regulatory	90%	$ 30,400	$ 21,797

Notes:

(1) This is the amount of salary budgeted to Arizona American. The balance is budgeted to other State subsidiaries besides Arizona.

(2) This is the amount of AIP that the individual was eligible to receive if all AIP targets were met.

(3) This is the amount of AIP actually paid in 2009 based on performance against 2008 AIP targets

EXHIBIT
R-1

ARIZONA-AMERICAN WATER COMPANY

DOCKET NO. W-01303A-08-0227

DOCKET NO. SW-01303A-08-0227

DIRECT COST OF CAPITAL TESTIMONY

OF

WILLIAM A. RIGSBY, CRRA

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

JANUARY 9, 2009

TABLE OF CONTENTS

INTRODUCTION 1

SUMMARY OF TESTIMONY AND RECOMMENDATIONS 3

COST OF EQUITY CAPITAL 6

Discounted Cash Flow (DCF) Method 7
Capital Asset Pricing Model (CAPM) Method 28
Current Economic Environment 34

COST OF DEBT 53

CAPITAL STRUCTURE 53

WEIGHTED COST OF CAPITAL 55

COMMENTS ON ARIZONA-AMERICAN'S COST OF EQUITY CAPITAL TESTIMONY 56

ATTACHMENT A – Value Line Water Utility Industry Update

ATTACHMENT B – Value Line Natural Gas (Distribution) Industry Update

ATTACHMENT C – Zacks Earnings Projections

ATTACHMENT D – Historical Value Line Water Utility Industry Projections

ATTACHMENT E – Value Line Selected Yields dated January 2, 2009

SCHEDULES WAR-1 through WAR-9

INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My Name is William A. Rigsby. I am a Public Utilities Analyst V employed by the Residential Utility Consumer Office ("RUCO") located at 1110 W. Washington, Suite 220, Phoenix, Arizona 85007.

Q. Please describe your qualifications in the field of utilities regulation and your educational background.

A. I have been involved with utilities regulation in Arizona since 1994. During that period of time I have worked as a utilities rate analyst for both the Arizona Corporation Commission ("ACC" or "Commission") and for RUCO. I hold a Bachelor of Science degree in the field of finance from Arizona State University and a Master of Business Administration degree, with an emphasis in accounting, from the University of Phoenix. I have been awarded the professional designation, Certified Rate of Return Analyst ("CRRA") by the Society of Utility and Regulatory Financial Analysts ("SURFA"). The CRRA designation is awarded based upon experience and the successful completion of a written examination.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to present recommendations that are based on my analysis of Arizona-American Water Company, Inc.'s ("Arizona-American" or "Company") application for a permanent rate

increase ("Application") for seven of the Company's water and wastewater operations in the state of Arizona. Arizona-American has chosen the operating period ended December 31, 2007 for the test year in this proceeding.

Q. What issues will you address in your testimony?

A. I will address the cost of capital issues associated with the case. I have also filed, under separate cover, direct testimony on RUCO's policy positions in this proceeding. Appendix 1 attached to my policy testimony further describes my educational background and also includes a list of the rate cases and regulatory matters that I have been involved with.

Q. Were you also responsible for conducting an analysis on the Company's proposed revenue level, rate base and rate design?

A. No. RUCO witnesses Rodney L. Moore and Timothy J. Coley handled those aspects of the Company's Application.

Q. Please explain your role in RUCO's analysis of Arizona-American's Application.

A. I reviewed Arizona-American's Application and performed a cost of capital analysis to determine a fair rate of return on the Company's invested capital. In addition to my recommended capital structure, my direct testimony will present my recommended costs of common equity and my

recommended cost of debt (the Company has no preferred stock). The recommendations contained in this testimony are based on information obtained from Company responses to data requests, the Company's Application and from market-based research that I conducted during my analysis.

Q. Please identify the exhibits that you are sponsoring.

A. I am sponsoring Schedules WAR-1 through WAR-9.

SUMMARY OF TESTIMONY AND RECOMMENDATIONS

Q. Briefly summarize how your cost of capital testimony is organized.

A. My cost of capital testimony is organized into seven sections. First, the introduction I have just presented and second, the summary of my testimony that I am about to give. Third, I will present the findings of my cost of equity capital analysis, which utilized both the discounted cash flow ("DCF") method, and the capital asset pricing model ("CAPM"). These are the two methods that RUCO and ACC Staff have consistently used for calculating the cost of equity capital in rate case proceedings in the past, and are the methodologies that the ACC has given the most weight to in setting allowed rates of returns for utilities that operate in the Arizona jurisdiction. In this third section I will also provide a brief overview of the current economic climate that Arizona-American is operating in. Fourth, I will discuss my recommended cost of debt. Fifth, I will compare my

recommended capital structure with the Company-proposed capital structure. Sixth, I will explain my weighted cost of capital recommendation and seventh, I will comment on Arizona-American's cost of capital testimony. Schedules WAR-1 through WAR-9 will provide support for my cost of capital analysis.

Q. Please summarize the recommendations and adjustments that you will address in your testimony.

A. Based on the results of my analysis of Arizona-American, I am making the following recommendations:

Cost of Equity Capital – I am recommending an 8.88 percent cost of equity capital. This 8.88 percent figure is based on the results that I obtained in my cost of equity analysis, which employed both the DCF and CAPM methodologies.

Cost of Debt – I am recommending a 5.46 percent cost of debt. This is based on my review of the costs associated with Arizona-American's various long-term notes and agreements.

Capital Structure – I am recommending a blanket capital structure, for each of the seven systems included in the Company's filing, comprised of

approximately 55.2 percent debt and 44.8 percent common equity, be adopted by the Commission.

Cost of Capital – Based on the results of my recommended blanket capital structure, cost of common equity, and debt analyses, I am recommending a 7.00 percent cost of capital for Arizona-American. This figure represents the weighted cost of my recommended cost of common equity and my recommended cost of debt.

Q. Why do you believe that your recommended 7.00 percent cost of capital is an appropriate rate of return for Arizona-American to earn on its invested capital?

A. The 7.00 percent cost of capital figure that I have recommended meets the criteria established in the landmark Supreme Court cases of Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia (262 U.S. 679, 1923) and Federal Power Commission v. Hope Natural Gas Company (320 U.S. 391, 1944). Simply stated, these two cases affirmed that a public utility that is efficiently and economically managed is entitled to a return on investment that instills confidence in its financial soundness, allows the utility to attract capital, and also allows the utility to perform its duty to provide service to ratepayers. The rate of return adopted for the utility should also be comparable to a return that investors would expect to receive from investments with similar risk.

The Hope decision allows for the rate of return to cover both the operating expenses and the "capital costs of the business" which includes interest on debt and dividend payment to shareholders. This is predicated on the belief that, in the long run, a company that cannot meet its debt obligations and provide its shareholders with an adequate rate of return will not continue to supply adequate public utility service to ratepayers.

Q. Do the Bluefield and Hope decisions indicate that a rate of return sufficient to cover all operating and capital costs is guaranteed?

A. No. Neither case *guarantees* a rate of return on utility investment. What the Bluefield and Hope decisions *do allow*, is for a utility to be provided with the *opportunity* to earn a reasonable rate of return on its investment. That is to say that a utility, such as Arizona-American, is provided with the opportunity to earn an appropriate rate of return if the Company's management exercises good judgment and manages its assets and resources in a manner that is both prudent and economically efficient.

COST OF EQUITY CAPITAL

Q. What is your recommended cost of equity capital for Arizona-American?

A. Based on the results of my DCF and CAPM analyses, which ranged from 5.07 percent to 11.19 percent, I am recommending an 8.88 percent cost of equity capital for Arizona-American. My recommended 8.88 percent figure represents an average of the results of my DCF and CAPM analyses,

which utilized a sample of publicly traded water providers and a sample of publicly traded natural gas local distribution companies ("LDC").

Discounted Cash Flow (DCF) Method

Q. Please explain the DCF method that you used to estimate Arizona-American's cost of equity capital.

A. The DCF method employs a stock valuation model known as the constant growth valuation model, that bears the name of Dr. Myron J. Gordon (i.e. the Gordon model), the professor of finance who was responsible for its development. Simply stated, the DCF model is based on the premise that the current price of a given share of common stock is determined by the present value of all of the future cash flows that will be generated by that share of common stock. The rate that is used to discount these cash flows back to their present value is often referred to as the investor's cost of capital (i.e. the cost at which an investor is willing to forego other investments in favor of the one that he or she has chosen).

Another way of looking at the investor's cost of capital is to consider it from the standpoint of a company that is offering its shares of stock to the investing public. In order to raise capital, through the sale of common stock, a company must provide a required rate of return on its stock that will attract investors to commit funds to that particular investment. In this respect, the terms "cost of capital" and "investor's required return" are one in the same. For common stock, this required return is a function of the

dividend that is paid on the stock. The investor's required rate of return can be expressed as the percentage of the dividend that is paid on the stock (dividend yield) plus an expected rate of future dividend growth. This is illustrated in mathematical terms by the following formula:

$$k = \frac{D_1}{P_0} + g$$

where: k = the required return (cost of equity, equity capitalization rate),

$\frac{D_1}{P_0}$ = the dividend yield of a given share of stock calculated by dividing the expected dividend by the current market price of the given share of stock, and

g = the expected rate of future dividend growth

This formula is the basis for the standard growth valuation model that I used to determine Arizona-American's cost of equity capital. It is similar to one of the models used by the Company.

Q. In determining the rate of future dividend growth for Arizona-American, what assumptions did you make?

A. There are two primary assumptions regarding dividend growth that must be made when using the DCF method. First, dividends will grow by a constant rate into perpetuity, and second, the dividend payout ratio will remain at a constant rate. Both of these assumptions are predicated on

the traditional DCF model's basic underlying assumption that a company's earnings, dividends, book value and share growth all increase at the same constant rate of growth into infinity. Given these assumptions, if the dividend payout ratio remains constant, so does the earnings retention ratio (the percentage of earnings that are retained by the company as opposed to being paid out in dividends). This being the case, a company's dividend growth can be measured by multiplying its retention ratio (1 - dividend payout ratio) by its book return on equity. This can be stated as g = b x r.

Q. Would you please provide an example that will illustrate the relationship that earnings, the dividend payout ratio and book value have with dividend growth?

A. RUCO consultant Stephen Hill illustrated this relationship in a Citizens Utilities Company 1993 rate case by using a hypothetical utility.[1]

Table I

	Year 1	Year 2	Year 3	Year 4	Year 5	Growth
Book Value	$10.00	$10.40	$10.82	$11.25	$11.70	4.00%
Equity Return	10%	10%	10%	10%	10%	N/A
Earnings/Sh.	$1.00	$1.04	$1.082	$1.125	$1.170	4.00%
Payout Ratio	0.60	0.60	0.60	0.60	0.60	N/A
Dividend/Sh	$0.60	$0.624	$0.649	$0.675	$0.702	4.00%

[1] Citizens Utilities Company, Arizona Gas Division, Docket No. E-1032-93-111, Prepared Testimony, dated December 10, 1993, p. 25.

Table I of Mr. Hill's illustration presents data for a five-year period on his hypothetical utility. In Year 1, the utility had a common equity or book value of $10.00 per share, an investor-expected equity return of ten percent, and a dividend payout ratio of sixty percent. This results in earnings per share of $1.00 ($10.00 book value x 10 percent equity return) and a dividend of $0.60 ($1.00 earnings/sh. x 0.60 payout ratio) during Year 1. Because forty percent (1 - 0.60 payout ratio) of the utility's earnings are retained as opposed to being paid out to investors, book value increases to $10.40 in Year 2 of Mr. Hill's illustration. Table I presents the results of this continuing scenario over the remaining five-year period.

The results displayed in Table I demonstrate that under "steady-state" (i.e. constant) conditions, book value, earnings and dividends all grow at the same constant rate. The table further illustrates that the dividend growth rate, as discussed earlier, is a function of (1) the internally generated funds or earnings that are retained by a company to become new equity, and (2) the return that an investor earns on that new equity. The DCF dividend growth rate, expressed as g = b x r, is also referred to as the internal or sustainable growth rate.

...

Q. If earnings and dividends both grow at the same rate as book value, shouldn't that rate be the sole factor in determining the DCF growth rate?

A. No. Possible changes in the expected rate of return on either common equity or the dividend payout ratio make earnings and dividend growth by themselves unreliable. This can be seen in the continuation of Mr. Hill's illustration on a hypothetical utility.

Table II

	Year 1	Year 2	Year 3	Year 4	Year 5	Growth
Book Value	$10.00	$10.40	$10.82	$11.47	$12.158	5.00%
Equity Return	10%	10%	15%	15%	15%	10.67%
Earnings/Sh	$1.00	$1.04	$1.623	$1.720	$1.824	16.20%
Payout Ratio	0.60	0.60	0.60	0.60	0.60	N/A
Dividend/Sh	$0.60	$0.624	$0.974	$1.032	$1.094	16.20%

In the example displayed in Table II, a sustainable growth rate of four percent[2] exists in Year 1 and Year 2 (as in the prior example). In Year 3, Year 4 and Year 5, however, the sustainable growth rate increases to six percent.[3] If the hypothetical utility in Mr. Hill's illustration were expected to earn a fifteen-percent return on common equity on a continuing basis, then a six percent long-term rate of growth would be reasonable. However, the compound growth rates for earnings and dividends,

[2] [(Year 2 Earnings/Sh – Year 1 Earnings/Sh) ÷ Year 1 Earnings/Sh] = [($1.04 - $1.00) ÷ $1.00] = [$0.04 ÷ $1.00] = 4.00%

[3] [(1 – Payout Ratio) x Rate of Return] = [(1 - 0.60) x 15.00%] = 0.40 x 15.00% = 6.00%

displayed in the last column, are 16.20 percent. If this rate were to be used in the DCF model, the utility's return on common equity would be expected to increase by fifty percent every five years, [(15 percent ÷ 10 percent) – 1]. This is clearly an unrealistic expectation.

Although it is not illustrated in Mr. Hill's hypothetical example, a change in only the dividend payout ratio will eventually result in a utility paying out more in dividends than it earns. While it is not uncommon for a utility in the real world to have a dividend payout ratio that exceeds one hundred percent on occasion, it would be unrealistic to expect the practice to continue over a sustained long-term period of time.

Q. Other than the retention of internally generated funds, as illustrated in Mr. Hill's hypothetical example, are there any other sources of new equity capital that can influence an investor's growth expectations for a given company?

A. Yes, a company can raise new equity capital externally. The best example of external funding would be the sale of new shares of common stock. This would create additional equity for the issuer and is often the case with utilities that are either in the process of acquiring smaller systems or providing service to rapidly growing areas.

...

Q. How does external equity financing influence the growth expectations held by investors?

A. Rational investors will put their available funds into investments that will either meet or exceed their given cost of capital (i.e. the return earned on their investment). In the case of a utility, the book value of a company's stock usually mirrors the equity portion of its rate base (the utility's earning base). Because regulators allow utilities the opportunity to earn a reasonable rate of return on rate base, an investor would take into consideration the effect that a change in book value would have on the rate of return that he or she would expect the utility to earn. If an investor believes that a utility's book value (i.e. the utility's earning base) will increase, then he or she would expect the return on the utility's common stock to increase. If this positive trend in book value continues over an extended period of time, an investor would have a reasonable expectation for sustained long-term growth.

Q. Please provide an example of how external financing affects a utility's book value of equity.

A. As I explained earlier, one way that a utility can increase its equity is by selling new shares of common stock on the open market. If these new shares are purchased at prices that are higher than those shares sold previously, the utility's book value per share will increase in value. This would increase both the earnings base of the utility and the earnings

expectations of investors. However, if new shares sold at a price below the pre-sale book value per share, the after-sale book value per share declines in value. If this downward trend continues over time, investors might view this as a decline in the utility's sustainable growth rate and will have lower expectations regarding growth. Using this same logic, if a new stock issue sells at a price per share that is the same as the pre-sale book value per share, there would be no impact on either the utility's earnings base or investor expectations.

Q. Please explain how the external component of the DCF growth rate is determined.

A. In his book, The Cost of Capital to a Public Utility,[4] Dr. Gordon (the individual responsible for the development of the DCF or constant growth model) identified a growth rate that includes both expected internal and external financing components. The mathematical expression for Dr. Gordon's growth rate is as follows:

$$g = (br) + (sv)$$

where: g = DCF expected growth rate,

b = the earnings retention ratio,

r = the return on common equity,

[4] Gordon, M.J., The Cost of Capital to a Public Utility, East Lansing, MI: Michigan State University, 1974, pp. 30-33.

	s	=	the fraction of new common stock sold that accrues to a current shareholder, and
	v	=	funds raised from the sale of stock as a fraction of existing equity.
and	v	=	1 - [(BV) ÷ (MP)]
where:	BV	=	book value per share of common stock, and
	MP	=	the market price per share of common stock.

Q. Did you include the effect of external equity financing on long-term growth rate expectations in your analysis of expected dividend growth for the DCF model?

A. Yes. The external growth rate estimate (sv) is displayed on Page 1 of Schedule WAR-4, where it is added to the internal growth rate estimate (br) to arrive at a final sustainable growth rate estimate.

Q. Please explain why your calculation of external growth on page 2 of Schedule WAR-4, is the current market-to-book ratio averaged with 1.0 in the equation [(M ÷ B) + 1] ÷ 2.

A. The market price of a utility's common stock will tend to move toward book value, or a market-to-book ratio of 1.0, if regulators allow a rate of return that is equal to the cost of capital (one of the desired effects of regulation). As a result of this situation, I used [(M ÷ B) + 1] ÷ 2 as opposed to the

current market-to-book ratio by itself to represent investor's expectations that, in the future, a given utility will achieve a market-to-book ratio of 1.0.

Q. Has the Commission ever adopted a cost of capital estimate that included this assumption?

A. Yes. In a prior Southwest Gas Corporation rate case[5], the Commission adopted the recommendations of ACC Staff's cost of capital witness, Stephen Hill, who I noted earlier in my testimony. In that case, Mr. Hill used the same methods that I have used in arriving at the inputs for the DCF model. His final recommendation for Southwest Gas Corporation was largely based on the results of his DCF analysis, which incorporated the same valid market-to-book ratio assumption that I have used consistently in the DCF model as a cost of capital witness for RUCO.

Q. How did you develop your dividend growth rate estimate?

A. I analyzed data on two separate proxy groups. A water company proxy group comprised of four publicly traded water companies and a natural gas proxy group consisting of ten natural gas local distribution companies ("LDC") which have similar operating characteristics to water providers.

...

[5] Decision No. 68487, Dated February 23, 2006 (Docket No. G-01551A-04-0876)

Q. Why did you use a proxy group methodology as opposed to a direct analysis of Arizona-American?

A. One of the problems in performing this type of analysis is that the utility applying for a rate increase is not always a publicly traded company, as is the case with Arizona-American itself. Although shares of Arizona-American's holding company, American Water Works Company, Inc., are traded on the New York Stock Exchange (NYSE) under the ticker symbol AWK, there is no financial data available on dividends paid on *publicly held* shares of Arizona-American or any of the Company's water or wastewater districts. Consequently it was necessary to create a proxy by analyzing publicly traded water companies and LDC's with similar risk characteristics.

Q. Are there any other advantages to the use of a proxy?

A. Yes. As I noted earlier, the U.S. Supreme Court ruled in the Hope decision that a utility is entitled to earn a rate of return that is commensurate with the returns on investments of other firms with comparable risk. The proxy technique that I have used derives that rate of return. One other advantage to using a sample of companies is that it reduces the possible impact that any undetected biases, anomalies, or measurement errors may have on the DCF growth estimate.

Q. Didn't you state earlier that Arizona-American is seeking rates for both its water and wastewater operations in Arizona?

A. Yes, I did.

Q. Why did you analyze only publicly traded water utilities and LDC's as opposed to firms that provide wastewater service?

A. The use of water utilities and LDC's was necessitated by the fact that there is a lack of financial and market information available on stand-alone wastewater utilities. This in itself is not a problem, given the fact that both water and wastewater utilities share similar risk characteristics. Both types of utilities provide a basic service for which there are no substitutes and are also subject to strict federal and state regulations.

Q. What criteria did you use in selecting the companies that make up your water company proxy for Arizona-American?

A. Three of the water companies used in the proxy are publicly traded on the New York Stock Exchange ("NYSE"), and one of them, Southwest Water Company is traded over the counter through the National Association of Securities Dealers Automated Quotation System ("NASDAQ"). All four water companies are followed by The Value Line Investment Survey ("Value Line") and are the same companies that comprise Value Line's large capitalization Water Utility Industry segment of the U.S. economy (Attachment A contains Value Line's October 24, 2008 update of the water

utility industry and evaluations of the four water companies used in my proxy).

Q. What companies comprise your water company proxy group?

A. My water company proxy group includes American States Water Company (stock ticker symbol "AWR"), Aqua America, Inc. ("WTR"), California Water Service Group ("CWT") and Southwest Water Company ("SWWC"). Each of these water companies face the same types of risk that Arizona-American faces. For the sake of brevity, I will refer to each of these companies by their appropriate stock ticker symbols henceforth.

Q. Briefly describe the areas served by the companies in your water company sample proxy.

A. In addition to providing water service to residents of Fountain Hills, Arizona, through its wholly owned subsidiary Chaparral City Water Company, AWR serves communities located in Los Angeles, Orange and San Bernardino counties in California. CWT provides service to customers in seventy-five communities in California, New Mexico and Washington. CWT's principal service areas are located in the San Francisco Bay area, the Sacramento, Salinas and San Joaquin Valleys and parts of Los Angeles. SWWC owns and manages regulated systems in California, New Mexico, Oklahoma and Texas. WTR is a holding company for a large number of water and wastewater utilities operating in

nine different states including Pennsylvania, Ohio, New Jersey, Illinois, Maine, North Carolina, Texas, Florida and Kentucky.

Q. Are these the same water companies that Arizona-American used in its application?

A. Arizona-American's cost of equity witness, Dr. Bente Villadsen, used the same four water companies included in my proxy. In addition to these four companies, Dr. Villadsen also uses four other water companies in her DCF and risk positioning (i.e. CAPM) analyses,[6] which are included in Value Line's Small and Mid Cap Edition.

Q. Why did you exclude the water companies that are followed in Value Line's Small and Mid Cap Edition?

A. Value Line does not provide the same type of forward-looking information (i.e. long-term estimates on return on common equity and share growth) on small and mid-cap companies that it provides on the four water companies that I used in my proxy. Consequently, these water companies are not as suitable as the ones that I have used in my analysis.

Q. What criteria did you use in selecting the natural gas LDC's included in your proxy for Arizona-American?

[6] Connecticut Water Service, Inc., Middlesex Water Company, SJW Corp., and York Water Co.

A. As are the water companies that I just described, each of the natural gas LDC's used in the proxy are publicly traded on a major stock exchange (all ten trade on the NYSE) and are followed by Value Line. Each of the ten LDC's are tracked in Value Line's natural gas (distribution) industry segment. All of the companies in the proxy are engaged in the provision of regulated natural gas distribution services. Attachment B of my testimony contains Value Line's most recent evaluation of the natural gas proxy group that I used for my cost of common equity analysis.

Q. What companies are included your natural gas proxy?

A. The ten natural gas LDC's included in my proxy (and their NYSE ticker symbols) are AGL Resources, Inc. ("ATG"), Atmos Energy Corp. ("ATO"), Laclede Group, Inc. ("LG"), New Jersey Resources Corporation ("NJR"), Nicor, Inc. ("GAS"), Northwest Natural Gas Co. ("NWN"), Piedmont Natural Gas Company ("PNY"), South Jersey Industries, Inc. ("SJI") Southwest Gas Corporation ("SWX"), which is the dominant natural gas provider in Arizona, and WGL Holdings, Inc. ("WGL"). These are the same ten LDC's that I analyzed recently in the UNS Gas, Inc. proceeding.[7]

...

[7] Docket No. G-04204A-06-0463

Q. Briefly describe the regions of the U.S. served by the ten natural gas LDC's that make up your sample proxy.

A. The ten LDC's listed above provide natural gas service to customers in the Middle Atlantic region (i.e. NJI which serves portions of northern New Jersey, SJI which serves southern New Jersey and WGL which serves the Washington D.C. metro area), the Southeast and South Central portions of the U.S. (i.e. ATG which serves Virginia, southern Tennessee and the Atlanta, Georgia area and PNY which serves customers in North Carolina, South Carolina and Tennessee), the South, deep South and Midwest (i.e. ATO which serves customers in Kentucky, Mississippi, Louisiana, Texas, Colorado and Kansas, GAS which provides service to northern and western Illinois, and LG which serves the St. Louis area), and the Pacific Northwest (i.e. NWN which serves Washington state and Oregon). Portions of Arizona, Nevada and California are served by SWX.

Q. Did the Company's witness also perform a similar analysis using natural gas LDC's?

A. Yes, she did.

Q. Does your sample of LDC's include all of the same companies that Dr. Villadsen included in her sample?

A. Yes.

Q. Please explain your DCF growth rate calculations for the sample companies used in your proxy.

A. Schedule WAR-5 provides retention ratios, returns on book equity, internal growth rates, book values per share, numbers of shares outstanding, and the compounded share growth for each of the water and gas utilities included in my samples for the historical observation period 2003 to 2007. Schedule WAR-5 also includes Value Line's projected 2008, 2009 and 2011-13 values for the retention ratio, equity return, book value per share growth rate, and number of shares outstanding for both the water utilities and the LDC's in my samples.

Q. Please describe how you used the information displayed in Schedule WAR-5 to estimate each comparable utility's dividend growth rate.

A. In explaining my analysis, I will use American States Water Company, (NYSE symbol AWR) as an example. The first dividend growth component that I evaluated was the internal growth rate. I used the "b x r" formula (described on page 9) to multiply AWR's earned return on common equity by its earnings retention ratio for each year in the 2003 to 2007 observation period to derive the utility's annual internal growth rates. I used the mean average of this five-year period as a benchmark against which I compared the projected growth rate trends provided by Value Line. Because an investor is more likely to be influenced by recent growth trends, as opposed to historical averages, the five-year mean noted earlier

was used only as a benchmark figure. As shown on Schedule WAR-5, Page 1, AWR's average internal growth rate of 2.51% over the 2003 to 2007 time frame reflects an upward trend that began during the 2004 operating period. AWR rebounded from non-meaningful negative growth in 2003 to 1.01% in 2004. Internal growth climbed from 1.01% in 2004 to 3.79% during 2007. Value Line is predicting that growth will increase steadily from 4.79% in 2008, to 7.18% during the 2011-13 time frame. After weighing Value Line's increased projections on earnings, I believe that a 6.75% rate of growth is reasonable for AWR.

Q. Please continue with the external growth rate component portion of your analysis.

A. Schedule WAR-5 demonstrates that the pattern of share's outstanding increased from 15.21 million to 17.23 million from 2003 to 2007. Value Line is predicting that this level will increase from 18.00 million in 2008 to 20.00 million by the end of 2013. Based on this data, I believe that a 3.25% growth in shares is not unreasonable for AWR. My final dividend growth rate estimate for AWR is 7.98 percent (6.75 percent internal + 1.23 percent external) and is shown on Page 1 of Schedule WAR-4.

...

Q. What is your average dividend growth rate estimate using the DCF model for the sample water utilities?

A. Based on the DCF model, my average dividend growth rate estimate is 7.66 percent as displayed on page 1 of Schedule WAR-4.

Q. How does your average dividend growth rate estimates on water companies compare to the growth rate data published by Value Line and other analysts?

A. Schedule WAR-6 compares my sustainable growth estimates with the five-year projections of both Zacks (Attachment C) and Value Line. In the case of the water companies, my 7.66 percent estimate is 235 basis points higher than the 5.31 percent projection of analysts at Value Line (which is an average of EPS, DPS and BVPS), and 102 basis points lower than the 8.68 percent consensus opinions published by Zacks Investment Research, Inc. ("Zacks"). My 7.66 percent estimate is 190 basis points higher than the 5.76 percent Value Line 5-year compound historical average also displayed in Schedule WAR-6. This indicates that investors are expecting increased performance from water utilities in the future. On balance, I would say my 7.66 percent estimate is a good representation of the growth projections that are available to the investing public.

...

Q. Did you use the same approach to determine an average dividend growth rate for the proxy comprised of natural gas LDC's?

A. Yes.

Q. What is your average dividend growth rate estimate using the DCF model for the sample natural gas utilities?

A. Based on the DCF model, my average dividend growth rate estimate is 6.81 percent, which is also displayed on page 1 of Schedule WAR-4.

Q. How do your average dividend growth rate estimates on natural gas LDC's compare to the growth rate data published by Value Line and other analysts?

A. In regard to the natural gas LDC's, my 6.81 percent estimate is 34 basis points lower than the 7.15 percent consensus projections published by Zacks, and 201 basis points higher than Value Line's 4.80 percent projected estimates. As can also be seen on Schedule WAR-6, the 6.81 percent estimate that I have calculated is 125 basis points higher than the 5.56 percent average of the 5-year historic EPS, DPS and BVPS means of Value Line and 107 basis points higher than the 5.74 percent five-year compound historical average of Value Line data (on EPS, DPS and BVPS). In fact, my 6.81 percent estimate is 133 basis points higher than the combined Value Line and Zacks averages of 5.48 percent. As with water companies, this indicates that investors are expecting increased

performance from natural gas distribution companies in the future. In the case of the LDC's I would say that my 6.81 percent estimate, which is higher than Zack's projections and higher than Value Line's forecasts, is a fair representation of the growth projections presented by securities analysts at this point in time.

Q. How did you calculate the dividend yields displayed in Schedule WAR-3?

A. For both the water companies and the natural gas LDC's I used the estimated annual dividends, for the next twelve-month period, that appeared in Value Line's October 24, 2008 Ratings and Reports Water Services Industry update and Value Line's December 12, 2008 Ratings and Reports Natural Gas (Distribution) update. I then divided those figures by the eight-week average price per share of the appropriate utility's common stock. The eight-week average price is based on the daily closing stock prices for each of the companies in my proxies for the period November 3, 2008 to December 26, 2008.

Q. Based on the results of your DCF analysis, what is your cost of equity capital estimate for the water and natural gas utilities included in your sample?

A. As shown in Schedule WAR-2, the cost of equity capital derived from my DCF analysis is 11.19 percent for the water utilities and 11.16 percent for the natural gas LDC's.

Capital Asset Pricing Model (CAPM) Method

Q. Please explain the theory behind CAPM and why you decided to use it as an equity capital valuation method in this proceeding.

A. CAPM is a mathematical tool that was developed during the early 1960's by William F. Sharpe[8], the Timken Professor Emeritus of Finance at Stanford University, who shared the 1990 Nobel Prize in Economics for research that eventually resulted in the CAPM model. CAPM is used to analyze the relationships between rates of return on various assets and risk as measured by beta.[9] In this regard, CAPM can help an investor to determine how much risk is associated with a given investment so that he or she can decide if that investment meets their individual preferences. Finance theory has always held that as the risk associated with a given investment increases, so should the expected rate of return on that investment and vice versa. According to CAPM theory, risk can be classified into two specific forms: nonsystematic or diversifiable risk, and systematic or non-diversifiable risk. While nonsystematic risk can be virtually eliminated through diversification (i.e. by including stocks of various companies in various industries in a portfolio of securities),

[8] William F. Sharpe, "A Simplified Model of Portfolio Analysis," Management Science, Vol. 9, No. 2 (January 1963), pp. 277-93.

[9] Beta is defined as an index of volatility, or risk, in the return of an asset relative to the return of a market portfolio of assets. It is a measure of systematic or non-diversifiable risk. The returns on a stock with a beta of 1.0 will mirror the returns of the overall stock market. The returns on stocks with betas greater than 1.0 are more volatile or riskier than those of the overall stock market; and if a stock's beta is less than 1.0, its returns are less volatile or riskier than the overall stock market.

systematic risk, on the other hand, cannot be eliminated by diversification. Thus, systematic risk is the only risk of importance to investors. Simply stated, the underlying theory behind CAPM states that the expected return on a given investment is the sum of a risk-free rate of return plus a market risk premium that is proportional to the systematic (non-diversifiable risk) associated with that investment. In mathematical terms, the formula is as follows:

$$k = r_f + [\, ß\, (r_m - r_f)\,]$$

where:

k	=	the expected return of a given security,
r_f	=	risk-free rate of return,
$ß$	=	beta coefficient, a statistical measurement of a security's systematic risk,
r_m	=	average market return (e.g. S&P 500), and
$r_m - r_f$	=	market risk premium.

Q. What types of financial instruments are generally used as a proxy for the risk-free rate of return in the CAPM model?

A. Generally speaking, the yields of U.S. Treasury instruments are used by analysts as a proxy for the risk-free rate of return component.

...

Q. Please explain why U.S. Treasury instruments are regarded as a suitable proxy for the risk-free rate of return?

A. As citizens and investors, we would like to believe that U.S. Treasury securities (which are backed by the full faith and credit of the United States Government) pose no threat of default no matter what their maturity dates are. However, a comparison of various Treasury instruments will reveal that those with longer maturity dates do have slightly higher yields. Treasury yields are comprised of two separate components,[10] a true rate of interest (believed to be approximately 2.00 percent) and an inflationary expectation. When the true rate of interest is subtracted from the total treasury yield, all that remains is the inflationary expectation. Because increased inflation represents a potential capital loss, or risk, to investors, a higher inflationary expectation by itself represents a degree of risk to an investor. Another way of looking at this is from an opportunity cost standpoint. When an investor locks up funds in long-term T-Bonds, compensation must be provided for future investment opportunities foregone. This is often described as maturity or interest rate risk and it can affect an investor adversely if market rates increase before the instrument matures (a rise in interest rates would decrease the value of the debt instrument). As discussed earlier in the DCF portion of my

[10] As a general rule of thumb, there are three components that make up a given interest rate or rate of return on a security: the real rate of interest, an inflationary expectation, and a risk premium. The approximate risk premium of a given security can be determined by simply subtracting a 91-day T-Bill rate from the yield on the security.

testimony, this compensation translates into higher rates of returns to the investor.

Q. What security did you use for a risk-free rate of return in your CAPM analysis?

A. I used the most recent yield on a 5-year U.S. Treasury instrument which was published in Value Line's January 2, 2009 Selection and Opinion publication. (Attachment E). This resulted in a risk-free (r_f) rate of return of 1.50 percent.

Q. Why did you use the yield on a 5-year year U.S. Treasury instrument as opposed to a short-term T-Bill?

A. While a shorter term instrument, such as a 91-day T-Bill, presents the lowest possible total risk to an investor, a good argument can be made that the yield on an instrument that matches the investment period of the asset being analyzed in the CAPM model should be used as the risk-free rate of return. Since utilities in Arizona generally file for rates every three to five years, the yield on a 5-year U.S. Treasury Instrument closely matches the investment period or, in the case of regulated utilities, the period that new rates will be in effect.

...

Q. How did you calculate the market risk premium used in your CAPM analysis?

A. I used both a geometric and an arithmetic mean of the historical returns on the S&P 500 index from 1926 to 2007 as the proxy for the market rate of return (r_m). For the risk-free portion of the risk premium component (r_f), I used the geometric mean of the yields of intermediate-term government bonds for the same eighty-one year period. The risk premium (r_m - r_f) that results by using these inputs is 5.10 percent (10.40% - 5.30% = 5.10%). The risk premium that results by using the arithmetic mean calculation is 6.80 percent (12.30% - 5.50% = 6.80%).

Q. How did you select the beta coefficients that were used in your CAPM analysis?

A. The beta coefficients (ß), for the individual utilities used in both my proxy groups, were calculated by Value Line and were current as of October 24, 2008 for the water companies and December 12, 2008 for the natural gas LDC's. Value Line calculates its betas by using a regression analysis between weekly percentage changes in the market price of the security being analyzed and weekly percentage changes in the NYSE Composite Index over a five-year period. The betas are then adjusted by Value Line for their long-term tendency to converge toward 1.00. The beta coefficients for the service providers included in my water company sample ranged from 0.95 to 1.10 with an average beta of 1.01. The beta

coefficients for the LDC's included in my natural gas sample ranged from 0.65 to 0.75 with an average beta of 0.70.

Q. What are the results of your CAPM analysis?

A. As shown on pages 1 and 2 of Schedule WAR-7, my CAPM calculation using a geometric mean to calculate the risk premium results in an average expected return of 6.66 percent for the water companies and 5.07 percent for the natural gas LDC's. My calculation using an arithmetic mean results in an average expected return of 8.39 percent for the water companies and 6.26 percent for the natural gas LDC's.

Q. Please summarize the results derived under each of the methodologies presented in your testimony.

A. The following is a summary of the cost of equity capital derived under each methodology used:

METHOD	RESULTS
DCF (Water Sample)	11.19%
DCF (Natural Gas Sample)	11.16%
CAPM (Water Sample)	6.66% – 8.39%
CAPM (Natural Gas)	5.07% – 6.26%

Based on these results, my best estimate of an appropriate range for a cost of common equity for Arizona-American is 5.07 percent to 11.19 percent. My final recommendation for Arizona-American is 8.88 percent.

Q How did you arrive at your recommended 8.88 percent cost of common equity?

A. My recommended 8.88 percent cost of common equity is the average of my DCF and CAPM results. The calculation can be seen on Page 3 of Schedule WAR-1.

Q. How does your recommended cost of equity capital compare with the cost of equity capital proposed by the Company?

A. The 11.75 percent cost of equity capital proposed by the Company is 287 basis points higher than the 8.88 percent cost of equity capital that I am recommending.

Current Economic Environment

Q. Please explain why it is necessary to consider the current economic environment when performing a cost of equity capital analysis for a regulated utility.

A. Consideration of the economic environment is necessary because trends in interest rates, present and projected levels of inflation, and the overall state of the U.S. economy determine the rates of return that investors earn

on their invested funds. Each of these factors represent potential risks that must be weighed when estimating the cost of equity capital for a regulated utility and are, most often, the same factors considered by individuals who are also investing in non-regulated entities.

Q. Please discuss your analysis of the current economic environment.

A. My analysis includes a brief review of the economic events that have occurred since 1990. Schedule WAR-8 displays various economic indicators and other data that I will refer to during this portion of my testimony.

In 1991, as measured by the most recently revised annual change in gross domestic product ("GDP"), the U.S. economy experienced a rate of growth of negative 0.20 percent. This decline in GDP marked the beginning of a mild recession that ended sometime before the end of the first half of 1992. Reacting to this situation, the Federal Reserve Board ("Federal Reserve" or "Fed"), then chaired by noted economist Alan Greenspan, lowered its benchmark federal funds rate[11] in an effort to further loosen monetary constraints - an action that resulted in lower interest rates.

[11] This is the interest rate charged by banks with excess reserves at a Federal Reserve district bank to banks needing overnight loans to meet reserve requirements. The federal funds rate is the most sensitive indicator of the direction of interest rates, since it is set daily by the market, unlike the prime rate and the discount rate, which are periodically changed by banks and by the Federal Reserve Board, respectively.

During this same period, the nation's major money center banks followed the Federal Reserve's lead and began lowering their interest rates as well. By the end of the fourth quarter of 1993, the prime rate (the rate charged by banks to their best customers) had dropped to 6.00 percent from a 1990 level of 10.01 percent. In addition, the Federal Reserve's discount rate on loans to its member banks had fallen to 3.00 percent and short-term interest rates had declined to levels that had not been seen since 1972.

Although GDP increased in 1992 and 1993, the Federal Reserve took steps to increase interest rates beginning in February of 1994, in order to keep inflation under control. By the end of 1995, the Federal discount rate had risen to 5.21 percent. Once again, the banking community followed the Federal Reserve's moves. The Fed's strategy, during this period, was to engineer a "soft landing." That is to say that the Federal Reserve wanted to foster a situation in which economic growth would be stabilized without incurring either a prolonged recession or runaway inflation.

Q. Did the Federal Reserve achieve its goals during this period?

A. Yes. The Fed's strategy of decreasing interest rates to stimulate the economy worked. The annual change in GDP began an upward trend in 1992. A change of 4.50 percent and 4.20 percent were recorded at the end of 1997 and 1998 respectively. Based on daily reports that were

presented in the mainstream print and broadcast media during most of 1999, there appeared to be little doubt among both economists and the public at large that the U.S. was experiencing a period of robust economic growth highlighted by low rates of unemployment and inflation. Investors, who believed that technology stocks and Internet company start-ups (with little or no history of earnings) had high growth potential, purchased these types of issues with enthusiasm. These types of investors, who exhibited what former Chairman Greenspan described as "irrational exuberance," pushed stock prices and market indexes to all time highs from 1997 to 2000.

Q. What has been the state of the economy since 2001?

A. The U.S. economy entered into a recession near the end of the first quarter of 2001. The bullish trend, which had characterized the last half of the 1990's, had already run its course sometime during the third quarter of 2000. Economic data released since the beginning of 2001 had already been disappointing during the months preceding the September 11, 2001 terrorist attacks on the World Trade Center and the Pentagon. Slower growth figures, rising layoffs in the high technology manufacturing sector, and falling equity prices (due to lower earnings expectations) prompted the Fed to begin cutting interest rates as it had done in the early 1990's. The now infamous terrorist attacks on New York City and Washington D.C. marked a defining point in this economic slump and prompted the

Federal Reserve to continue its rate cutting actions through December 2001. Prior to the 9/11 attacks, commentators, reporting in both the mainstream financial press and various economic publications including Value Line, believed that the Federal Reserve was cutting rates in the hope of avoiding a recession.

Despite several intervals during 2002 and 2003 in which the Federal Open Market Committee ("FOMC") decided not to change interest rates – moves which indicated that the worst may be over and that the recession might have bottomed out during the last quarter of 2001 – a lackluster economy persisted. The continuing economic malaise and even fears of possible deflation prompted the FOMC to make a thirteenth rate cut on June 25, 2003. The quarter point cut reduced the federal funds rate to 1.00 percent, the lowest level in forty-five years.

Even though some signs of economic strength, mainly attributed to consumer spending, began to crop up during the latter part of 2002 and into 2003, Chairman Greenspan appeared to be concerned with sharp declines in capital spending in the business sector.

During the latter part of 2003, the FOMC went on record as saying that it intended to leave interest rates low "for a considerable period." After its two-day meeting that ended on January 28, 2004, the FOMC announced

"that with inflation 'quite low' and plenty of excess capacity in the economy, policy-makers 'can be patient in removing its policy accommodation.[12]"

Q. What actions has the Federal Reserve taken in terms of interest rates since the beginning of 2001?

A. As noted earlier, from January 2001 to June 2003 the Federal Reserve cut interest rates a total of thirteen times. During this period, the federal funds rate fell from 6.50 percent to 1.00 percent. The FOMC reversed this trend on June 29, 2004 and raised the federal funds rate 25 basis points to 1.25 percent. From June 29, 2004 to January 31, 2006, the FOMC raised the federal funds rate thirteen more times to a level of 4.50 percent.

The FOMC's January 31, 2006 meeting marked the final appearance of Alan Greenspan, who had presided over the rate setting body for a total of eighteen years. On that same day, Greenspan's successor, Ben Bernanke, the former chairman of the President's Council of Economic Advisers and a former Fed governor under Greenspan from 2002 to 2005, was confirmed by the U.S. Senate to be the new Federal Reserve chief.

As expected by Fed watchers, Chairman Bernanke picked up where his predecessor left off and increased the federal funds rate by 25 basis points during each of the next three FOMC meetings for a total of seventeen consecutive rate increases since June 2004, and raising the

[12] Wolk, Martin, "Fed holds interest rates steady," MSNBC, January 28, 2004.

federal funds rate to a level of 5.25 percent. The Fed's rate increase campaign finally came to a halt at the FOMC meeting held on August 8, 2006, when the FOMC decided not to raise rates.

Q. What was the reaction in the financial community to the Fed's decision not to raise interest rates?

A. As in the past, banks followed the Fed's lead once again and held the prime rate to a level of 8.25 percent, or 300 basis points higher than the federal funds rate of 5.25 percent established on June 29, 2006.

Q. How did analysts view the Fed's actions between January 2001 and August 2006?

A. According to an article that appeared in the December 2, 2004 edition of The Wall Street Journal, the FOMC's decision to begin raising rates two years ago was viewed as a move to increase rates from emergency lows in order to avoid creating an inflation problem in the future as opposed to slowing down the strengthening economy.[13] In other words, the Fed was trying to head off inflation *before* it became a problem. During the period following the August 8, 2006 FOMC meeting, the Fed's decisions not to

[13] McKinnon, John D. and Greg IP, "Fed Raises Rates by a Quarter Point," The Wall Street Journal, September 22, 2004.

raise rates were viewed as a gamble that a slower U.S. economy would help to cap growing inflationary pressures.[14]

Q. Was the Fed attempting to engineer another "soft landing", as it did in the mid-nineties, by holding interest rates steady?

A. Yes, however, as pointed out in an August 2006 article in The Wall Street Journal by E.S. Browning, soft landings – like the one that the Fed managed to pull off during the 1994-95 time frame, in which a recession or a bear market were avoided – rarely happen[15]. Since it began increasing the federal funds rate in June 2004, the Fed had assured investors that it would increase rates at a "measured" pace. Many analysts and economists interpreted this language to mean that former Chairman Greenspan would be cautious in increasing interest rates too quickly in order to avoid what is considered to be one of the Fed's few blunders during Greenspan's tenure – a series of increases in 1994 that caught the financial markets by surprise after a long period of low rates. The rapid rise in rates contributed to the bankruptcy of Orange County, California and the Mexican peso crisis[16]. According to Mr. Browning, at the time that his article was published, the hope was that Chairman Bernanke would

[14] Ip, Greg, "Fed Holds Interest Rates Steady As Slowdown Outweighs Inflation," The Wall Street Journal Online Edition, August 8, 2006.

[15] Browning, E.S, "Not Too Fast, Not Too Slow...," The Wall Street Journal Online Edition, August 21, 2006.

[16] Associated Press (AP), "Fed begins debating interest rates" USA Today, June 29, 2004.

succeed in slowing the economy "just enough to prevent serious inflation, but not enough to choke off growth." In other words, "a 'Goldilocks economy,' in which growth is not too hot and not too cold."

Q. Was the Fed's attempt to engineer a soft landing successful during the period that followed the August 8, 2006 FOMC meeting?

A. It would appear so. Articles published in the mainstream financial press were generally upbeat on the economy during that period. An example of this is an article written by Nell Henderson that appeared in the January 30, 2007 edition of The Washington Post. According to Ms. Henderson, "a year into [Fed Chairman] Bernanke's tenure, the [economic] picture has turned considerably brighter. Inflation is falling; unemployment is low; wages are rising; and the economy, despite continued problems in housing, is growing at a brisk clip."[17]

Q. What has been the state of the economy over the past two years?

A. Reports in the mainstream financial press during the majority of 2007 reflected the view that the U.S. economy was slowing as a result of a worsening situation in the housing market and higher oil prices. The overall outlook for the economy was one of only moderate growth at best.

[17] Henderson, Nell, "Bullish on Bernanke" The Washington Post, January 30, 2007.

Also during this period the Fed's key measure of inflation began to exceed the rate setting body's comfort level.

On August 7, 2007, the FOMC decided not to increase or decrease the federal funds rate for the ninth straight time and left its target rate unchanged at 5.25 percent.[18] At the time of the Fed's decision, analysts speculated that a rate cut over the next several months was unlikely given the Fed's concern that inflation would fail to moderate. However, during this same period, evidence of an even slower economy and a possible recession was beginning to surface. Within days of the Fed's decision to stand pat on rates, a borrowing crises rooted in a deterioration of the market for subprime mortgages and securities linked to them, forced the Fed to inject $24 billion in funds (raised through open market operations) into the credit markets.[19] By Friday, August 17, 2007, after a turbulent week on Wall Street, the Fed made the decision to lower its discount rate (i.e. the rate charged on direct loans to banks) by 50 basis points, from 6.25 percent to 5.75 percent, and took steps to encourage banks to borrow from the Fed's discount window in order to provide liquidity to lenders. According to an article that appeared in the August 18, 2007 edition of The Wall Street Journal, [20] the Fed had used all of its tools to

[18] Ip, Greg, "Markets Gyrate As Fed Straddles Inflation, Growth" The Wall Street Journal, August 8, 2007

[19] Ip, Greg, "Fed Enters Market To Tamp Down Rate" The Wall Street Journal, August 9, 2007

[20] Ip, Greg, Robin Sidel and Randall Smith, "Fed Offers Banks Loans Amid Crises" The Wall Street Journal, August 9, 2007

restore normalcy to the financial markets. If the markets failed to settle down, the Fed's only weapon left was to cut the Federal Funds rate – possibly before the next FOMC meeting scheduled on September 18, 2007.

Q. Did the Fed cut rates as a result of the subprime mortgage borrowing crises?

A. Yes. At its regularly scheduled meeting on September 18, 2007, the FOMC surprised the investment community and cut both the federal funds rate and the discount rate by 50 basis points (25 basis points more than what was anticipated). This brought the federal funds rate down to a level of 4.75 percent. The Fed's action was seen as an effort to curb the aforementioned slowdown in the economy. Over the course of the next four months, the FOMC reduced the Federal funds rate by a total 175 basis points to a level of 3.00 percent – mainly as a result of concerns that the economy was slipping into a recession. This included a 75 basis point reduction that occurred one week prior to the FOMC's meeting on January 29, 2008.

Q. What recent actions have the Fed taken in regard to interest rates?

A. The Fed made two more rate cuts which included a 75 basis point reduction in the federal funds rate on March 18, 2008 and an additional 25 basis point reduction on April 30, 2008. The Fed's decision to cut rates

was based on its belief that the slowing economy was a greater concern than the current rate of inflation (which the majority of FOMC members believed would moderate during the economic slowdown).[21] As a result of the Fed's actions, the federal funds rate was reduced to a level of 2.00 percent. From April 30, 2008 through September 16, 2008, the Fed took no further action on its key interest rate. However, the days before and after the Fed's September 16, 2008 meeting saw longstanding Wall Street firms such as Lehman Brothers, Merrill Lynch and AIG failing as a result of their subprime holdings. By the end of the week, the Bush administration had announced plans to deal with the deteriorating financial condition which had now become a worldwide crisis. The administrations actions included Treasury Secretary Henry Paulson's request to Congress for $700 billion to buy distressed assets as part of a plan to halt what has been described as the worst financial crisis since the 1930's[22]. Amidst this turmoil, the Fed made the decision to cut the federal funds rate by another 50 basis points in a coordinated move with foreign central banks on October 8, 2008. This was followed by another 50 basis point cut during the regular FOMC meeting on October 29, 2008. At the time of this writing, the federal funds target rate now stands at 0.25 percent, the result of a 75 basis point cut announced on December 16, 2008. The Fed's

[21] Ip, Greg, "Credit Worries Ease as Fed Cuts, Hints at More Relief" The Wall Street Journal, March 19, 2008

[22] Soloman, Deborah, Michael R. Crittenden and Damian Paletta, "U.S. Bailout Plan Calms Markets, But Struggle Looms Over Details" The Wall Street Journal, September 20, 2008

discount rate is at 0.50 percent, a level not seen since 1940s.[23] Based on data released during the early part of December 2008, the U.S. is now officially in a recession which began in December of 2007.

Q. Putting this all into perspective, how have the Fed's actions since 2000 affected benchmark rates?

A. U.S. Treasury instruments are for the most part still at historically low levels. The Fed's actions have also had the overall effect of reducing the cost of many types of business and consumer loans. As can be seen in Schedule WAR-8, the previously mentioned federal discount rate (the rate charged to the Fed's member banks), has fallen to 0.50 percent from 4.75 percent in 2007.

Q. What has been the trend in other leading interest rates over the last year?

A. As of December 23, 2008, the leading interest rates have all dropped from the levels that existed a year ago (Attachment C). The prime rate has fallen from 7.25 percent a year ago to 3.25 percent. The benchmark federal funds rate, just discussed, has decreased from 4.25 percent, in December 2007, to a level of 0.25 percent (as a result of the December 16th rate cut discussed above). The yields on all of the maturities of U.S. Treasury instruments exhibited in my Attachment C have also decreased

[23] Hilsenrath, Jon, "Fed Cuts Rates Near Zero to Battle Slump" The Wall Street Journal, December 17, 2008

over the past year. A previous trend, described by former Chairman Greenspan as a "conundrum"[24], in which long-term rates fell as short-term rates increased, thus creating a somewhat inverted yield curve that existed as late as June 2007, is completely reversed and a more traditional yield curve (one where yields increase as maturity dates lengthen) presently exists (Attachment C). The 5-year Treasury yield, used in my CAPM analysis, has fallen from 3.70 percent, in December 2007, to 1.50 percent as of December 23, 2008. The 1-Year Treasury constant maturity rate also decreased from 3.46 percent over the past year to 0.35 percent. These current yields are considerably lower than corresponding yields that existed during the early nineties and at the beginning of the current decade (as can be seen on Schedule WAR-8).

Q. What is the current outlook for the economy?

A. Value Line's analysts have been decidedly pessimistic in their outlook on the economy as of late and had this to say in their Economic and Stock Market Commentary that appeared in the December 12, 2008 edition of Value Line's Selection and Opinion publication:

> **The economic picture continues to darken**, with data recently showing additional slippage in manufacturing activity (to a 26-year low), a sharp decline in construction spending, and another setback in nonmanufacturing. Add to this, expectations for a weak holiday shopping season and for new turmoil in the housing and automobile industries and it is not hard to make a case that the current quarter could see a drop in the U.S. gross domestic product of 3% to 5%.

[24] Wolk, Martin, "Greenspan wrestling with rate 'conundrum'," MSNBC, June 8, 2005

Value Line's analysts went on to state:

> **We face several difficult quarters up ahead**. Our sense is that the first and second quarters of 2009 will see declines in business activity of 2% to 3%, as the broad contraction in the economy drones on for a possible six to nine months more. At this point, none of the consumer and industrial markets that we view as critical to a sustained revival in economic activity (such as the housing, retail, auto, and manufacturing sectors) appears to be even close to bottoming out.

Q. What is Value Line's outlook for credit availability and interest rates?

A. In the recent Selection and Opinion publication noted above, Value Line's analysts had this to say:

> **Challenges will await the Obama Administration and the Federal Reserve**. Those challenges are likely to center around the need for greater credit availability, more lending by the banks, the adoption of a program to revive the auto industry, the passage of an effective stimulus plan, and, possibly, further in interest rate cuts. How well these issues are addressed will go a long way toward determining the severity of the recession, which the National Bureau of Economic Research now claims has been under way since December of 2007.

Value Line's analysts continued to state:

> **It is likely to be late next year before we see a durable economic comeback start to take hold**. Once that recovery does unfold, it is likely to be led, ironically, by the housing market, which was the first area of the economy to falter and could be the first to revive thanks to falling home prices and lower mortgage rates.

Q. How has the current economic environment of lower interest rates affected various regulated utility industries as a whole?

A. Value Line analyst Nils C. Van Liew took note of the environment of low interest rates that existed in the early part of 2007. In Value Line's Electric Utility (East) Industry update dated March 2, 2007, Mr. Van Liew had this to say:

> **Low Interest Rates.** Several factors are, no doubt, driving the electric utilities' strong share-price performance. Perhaps most important is a benign interest-rate environment. Utilities frequently tap the credit markets to fund their operations. (Low interest rates mean they can cost effectively build new power plants and maintain existing ones.) "Cheap money" also tends to drive economic expansion, thereby increasing electricity demand. That said, interest rates should remain relatively low, though the likelihood that the Federal Reserve eases (monetary) policy is small, given persistent inflation concerns.

While Mr. Van Liew's views appeared in Value Line's Electric Utility Industry update, I believe his comments hold true for all regulated utilities including the water and natural gas distribution segments. Given the fact that interest rates are even lower now than they were at the time of Mr. Van Liew's writing, and A-rated utility bond rates are currently lower than their 2007 averages (Schedule WAR 8), I believe that his views are still valid.

Q. Has the subprime mortgage crises had an impact on borrowing?

A. Yes. The situation has had a strong impact on liquidity for both banks and the capital markets. Hopefully the actions of both the U.S. Treasury and the Fed will succeed in eliminating the credit crunch that presently exists and restore the credit markets to their pre-subprime status.

Q. How are water utilities faring in the current economic environment?

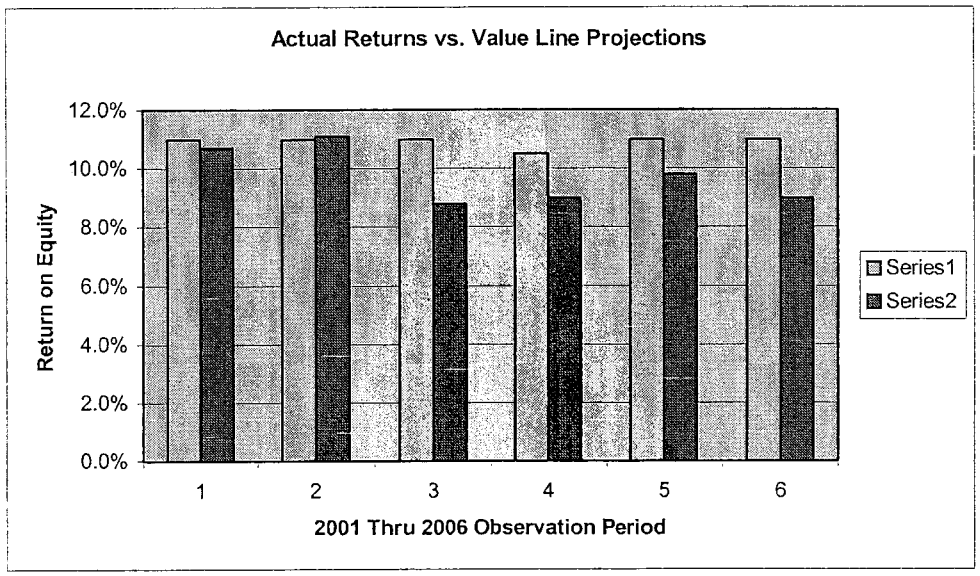
A. Although there are some concerns regarding long-term infrastructure requirements, water utilities appear to be doing well according to Value

Line analyst Andre J. Costanza. In the October 24, 2008 quarterly update on the water utility industry Mr. Costanza stated the following:

> The Water Utility Industry has held up relatively well over the past few months. Although the broad market has been sent into a tailspin by growing economic uncertainties and a tightening credit market, water utility stocks have given little, if any, ground, and have thus jumped into the middle of the pack of The Value Line Investment Survey for Timeliness. Companies here are enjoying an increasingly favorable regulatory environment, but the primary reason for the share-price strength boils down to their perceived safety. Indeed, because of the steady stream of income these stocks generate and the necessity for water itself, the group provides shelter for investors looking to get out of the treacherous economic waters that have been pulling many under without having to take too conservative a stance. With no end to the volatility in sight, these stocks are likely to continue outpacing the broad market averages over the coming six to 12 months.

Q. What has been the trend in Value Line's return on common equity projections for the water utility industry over the last seven years?

A. Up until 2005, and with the exception of 2003, Value Line's analysts have been making downward projections on water industry book returns on common equity ("ROE"). In addition to the downward trend in projections that I just addressed (exhibited in Attachment D), Value Line's analysts have been somewhat more optimistic in their forward-looking one-year and long-term projections. As can be seen in the chart below, Value Line's analysts have been somewhat high in their coming year projections on ROE.



The bar chart above illustrates Value Line's water utility industry projections on ROE (the lighter bar identified as series 1), over the 2001 to 2006 period, versus the actual returns (the darker bar identified as series 2) that actually occurred during that same time frame (observation periods 1 through 6). The actual basis point spreads between the Value Line projections and the actual returns on ROE are as follows:

Year	Value Line Projected	Actual Book Return on ROE	Difference
2001	11.0%	10.7%	-30 Basis Points
2002	11.0%	11.1%	+10 Basis Points
2003	10.5%	8.8%	-170 Basis Points
2004	11.0%	9.0%	-200 Basis Points
2005	11.0%	9.8%	-120 Basis Points
2006	11.0%	9.0%	-200 Basis Points

As can be seen above, with the exception of the 2002 operating period, Value Line's analyst's projections on water utility ROE's from one year out were 30 to 200 basis points higher than the actual returns booked by the water utilities. This is why I rarely rely on projections at face value, and

only use Value Line's and Zacks' analyst's projections as guides in developing my growth estimates for the DCF model. According to the most recent Value Line update for the water utility industry, average returns on common equity for the industry are expected to range from 6.00 percent in 2008 to 7.50 percent through the end of 2013.

Q. After weighing the economic information that you've just discussed, do you believe that the 8.88 percent cost of equity capital that you have estimated is reasonable for Arizona-American?

A. I believe that my recommended 8.88 percent cost of equity will provide Arizona-American with a reasonable rate of return on the Company's invested capital when economic data on interest rates (that are low by historical standards), the current slowdown in growth in new housing construction, and the Fed's ability to keep inflation in check are all taken into consideration. As I noted earlier, the Hope decision determined that a utility is entitled to earn a rate of return that is commensurate with the returns it would make on other investments with comparable risk. I believe that my cost of equity analysis, which is an average of the results of both the DCF and CAPM models, has produced such a return.

COST OF DEBT

Q. Have you reviewed the costs associated on Arizona-American's various debt issuances?

A. Yes. Based on information provided by Arizona-American in ACC Staff data request PMC 15.1, I have arrived at my recommended cost of debt of 5.46 percent.

CAPITAL STRUCTURE

Q. What capital structure are you proposing for Arizona-American?

A. Relying again on information provided by Arizona-American in ACC Staff data request PMC 15.1, I am recommending a blanket capital structure, for each of the seven systems included in the Company's filing, comprised of approximately 55.2 percent debt and 44.8 percent common equity.

Q. Is Arizona-American's capital structure in line with industry averages?

A. No. Arizona-American's capital structure is heavier in debt than the capital structures of the other water companies included in my cost of capital analysis (Schedule WAR-9). The capital structures for those utilities averaged 50.2 percent for debt and 49.8 percent for equity (49.8 percent common equity + 0.1 percent preferred equity).

...

Q. In terms of risk, how does Arizona-American's capital structure compare to the water utilities in your sample?

A. The water utilities in my sample would be considered as having a somewhat lower level of financial risk (i.e. the risk associated with debt repayment) because of their lower levels of debt. The additional financial risk due to debt leverage is embedded in the cost of equities derived for those companies through the DCF analysis. Thus, the cost of equity derived in my DCF analysis is applicable to companies that are not as leveraged and, theoretically speaking, not as risky than a utility with a level of debt similar to Arizona-American's. In the case of a publicly traded company, such as those included in my proxy, a company with Arizona-American's level of debt would be perceived as having a somewhat higher level of financial risk.

Q. Have you made an adjustment to your DCF estimate based on this perception of higher financial risk?

A. No, I have not.

Q. Why have you decided not to make an upward adjustment to Arizona-American's cost of common equity?

A. In prior Arizona-American cases I have made such an adjustment and in some cases I have even done so in conjunction with a hypothetical capital structure. In this case I have decided not to make such an adjustment

because I believe that the Company should start making a concerted effort to increase its level of common equity in order to achieve a more balanced capital structure. I should point out that ACC staff has taken such a position in other cases before the Commission and have placed utilities on notice that the use of hypothetical capital structures to improve their operating incomes may not be a given in future rate cases.

WEIGHTED COST OF CAPITAL

Q. How does the Company's proposed weighted cost of capital compare with your recommendation?

A. The Company has proposed a weighted cost of capital of 8.40 percent. This composite figure is the result of a weighted average of Arizona-American's proposed 5.46 percent cost of debt and 11.75 percent cost of equity capital. The Company-proposed 8.40 percent weighted cost of capital is 140 basis points higher than the 7.00 percent weighted cost that I am recommending.

...

COMMENTS ON ARIZONA-AMERICAN'S COST OF EQUITY CAPITAL TESTIMONY

Q. How does your recommended cost of equity capital compare with the cost of equity capital proposed by the Company?

A. The 11.75 percent cost of equity capital proposed by the Company is 287 basis points higher than the 8.88 percent cost of equity capital that I am recommending.

Q. Who estimated the Company-proposed cost of equity capital?

A. As noted earlier Dr. Bente Villadsen, a principal of the Brattle Group, a consulting firm located in Cambridge, Massachusetts, estimated the Company-proposed cost of equity capital. Dr. Villadsen estimated a cost of common equity to be within a range of 11.00 percent to 12.50 percent. Her final recommendation is 11.75 percent. In arriving at her recommended cost of equity, Dr. Villadsen employs an after tax weighted average cost of capital ("ATWACC") methodology which was advocated by Dr. A. Lawrence Kolbe, also of the Brattle Group, in a prior Arizona-American proceeding that involved the Company's Paradise Valley Water District.

...

Q. Did the Commission adopt Dr. Kolbe's ATWACC methodology in the Company's Paradise Valley Water District proceeding?

A. No. Dr. Kolbe's ATWACC methodology for estimating the cost of equity capital for the Company's Paradise Valley Water District was rejected by the Commission[25].

Q. Has the Commission adopted the results of the ATWACC methodology in any other Arizona-American cases that have been before the Commission?

A. No.

Q. Does your silence on any of the issues, matters or findings addressed in the testimony of Dr. Villadsen or any other witness for Arizona-American constitute your acceptance of their positions on such issues, matters or findings?

A. No, it does not.

Q. Does this conclude your direct testimony on the cost of capital issues in Arizona-Americans filing?

A. Yes, it does.

[25] Decision No. 68858, Dated July 28, 2006

ATTACHMENT A

INDUSTRY TIMELINESS: 50 (of 99)

The Water Utility Industry has held up relatively well over the past few months. Although the broad market has been sent into a tailspin by growing economic uncertainties and a tightening credit market, water utility stocks have given little, if any, ground, and have thus jumped into the middle of the pack of *The Value Line Investment Survey* for Timeliness. Companies here are enjoying an increasingly favorable regulatory environment, but the primary reason for the share-price strength boils down to their perceived safety. Indeed, because of the steady stream of income these stocks generate and the necessity for water itself, the group provides shelter for investors looking to get out of the treacherous economic waters that have been pulling many under without having to take too conservative a stance. With no end to the volatility in sight, these stocks are likely to continue outpacing the broad market averages over the coming six to 12 months.

The long-term picture is not as rosy, unfortunately. Yes, industry fundamentals are improving, but increasingly stringent infrastructure costs threaten to wipe out most of these gains stemming from regulatory reform. And while some of the larger entities in the group will be able to pick off smaller players incapable of meeting the increasing capital requirements, even many of them do not have the funds to stay afloat and will have to look to outside financiers.

Economic Backdrop

The economy has gone into shock and wild market swings appear to have become commonplace of late. With the federal government's bail out of big banks failing to stimulate the economy as hoped, visibility surrounding a market recovery has been clouded even further. Water utilities will probably benefit from such a market environment, as many on Wall Street look to limit the risk profile of their portfolios.

Regulatory Improvements

Water utility companies have long come up on the short end in regards to regulatory backing. The authorities, put in place in an effort to maintain a balance of power between customers and providers, as well as ensure fair business practices, have tended to side with costumers. But those days may well be coming to an end. Commissions have been handing down more timely and favorable general rate cases in recent months, auguring well for utilities going forward.

Long-Term Limitations

Despite the favorable backdrop current economic conditions and more friendly regulations create, there are some concerns. The costs of maintaining current water systems in the United States continue to climb and do not appear to be slowing down. Many systems are over the century mark and require significant upkeep or even rebuilding. Coupled with increasingly stringent EPA requirements, infrastructure repairs are likely to require hundreds of millions of dollars in maintenance the coming decade. However, many do not have the finances to foot the bill and will have to tap finance and debt markets to do so, or, in the case of smaller operators, close up shop. That said, M&A activity is expected to remain at a feverish pace.

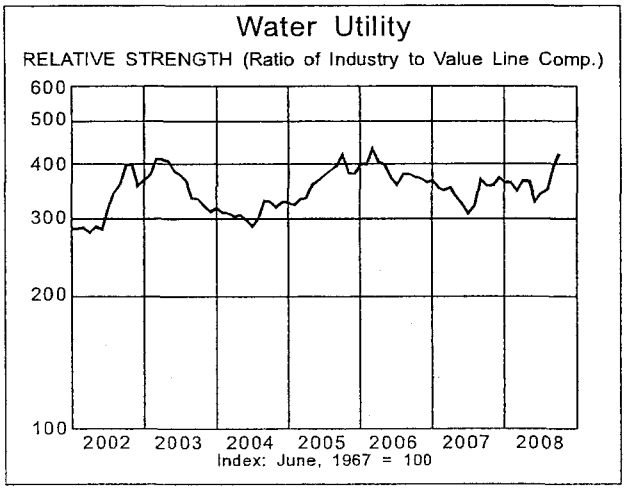
Conclusion

We have reversed course with regard to entry into the Water Utility industry and, for the first time in recent memory, are advising investors to consider establishing a position here. The economic backdrop is likely to remain difficult for the foreseeable future and these stocks stand to be the beneficiaries, as investors look to ride out the rough investment waters in less volatile areas of the market. The industry's healthy dividend yields ought to whet the appetite of anxious participants. That said, the 3- to 5-year prospects of these stock's are not as promising, with the aforementioned infrastructure expenditures and necessary financing hovering over shareholder returns. *American Water Works* is an extremely intriguing play, but its short trading history adds some uncertainty to its future trading patterns. Although *Aqua America's* aggressive acquisition game places it atop our list for appreciation potential, it also increases its risk profile. *American States Water* is now ranked 2 (Above Average) for Timeliness, and it is on our recommended list for the coming six to 12 months.

Andre J. Costanza

Composite Statistics: Water Utility Industry

2004	2005	2006	2007	2008	2009		11-13
1173.6	1256.9	3454.1	3100.0	*3925*	*4300*	Revenues ($mill)	*5275*
127.1	148.2	d5.8	d278.0	*360*	*450*	Net Profit ($mill)	*600*
39.1%	40.5%	NMF	NMF	*38.0%*	*40.0%*	Income Tax Rate	*38.5%*
1.0%	1.1%	3.7%	NMF	*5.0%*	*5.0%*	AFUDC % to Net Profit	*5.0%*
49.1%	50.4%	54.0%	50.1%	*52.0%*	*53.0%*	Long-Term Debt Ratio	*52.0%*
50.7%	49.5%	45.9%	49.9%	*48.0%*	*47.0%*	Common Equity Ratio	*48.0%*
2782.1	3049.9	12110.2	10790.6	*12950*	*13600*	Total Capital ($mill)	*16225*
3836.9	4200.7	13308.3	11522.4	*15180*	*16125*	Net Plant ($mill)	*18350*
6.0%	6.3%	1.6%	NMF	*5.0%*	*5.5%*	Return on Total Cap'l	*6.0%*
9.0%	9.8%	NMF	NMF	*6.0%*	*7.0%*	Return on Shr. Equity	*7.5%*
9.0%	9.8%	NMF	NMF	*6.0%*	*7.0%*	Return on Com Equity	*7.5%*
3.1%	3.7%	NMF	NMF	*3.0%*	*3.0%*	Retained to Com Eq	*3.5%*
66%	62%	NMF	NMF	*51%*	*57%*	All Div'ds to Net Prof	*56%*
25.4	29.4	NMF	NMF	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*18.0*
.79	1.57	NMF	NMF			Relative P/E Ratio	*1.20*
6.1%	5.2%	2.0%	2.6%			Avg Ann'l Div'd Yield	*2.4%*



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AMER. STATES WATER NYSE-AWR

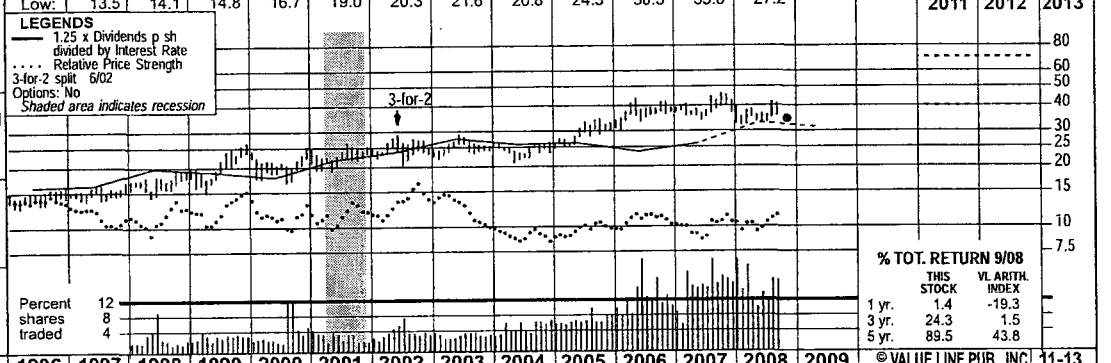
RECENT PRICE 34.38 | P/E RATIO 18.3 (Trailing: 21.2 Median: 20.0) | RELATIVE P/E RATIO 1.51 | DIV'D YLD 2.9% | VALUE LINE

TIMELINESS 2 Raised 9/26/08
SAFETY 3 New 2/4/00
TECHNICAL 3 Lowered 10/10/08
BETA .95 (1.00 = Market)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
High:	17.1	19.5	26.5	25.3	26.4	29.0	29.0	26.8	34.6	43.8	46.1	42.0
Low:	13.5	14.1	14.8	16.7	19.0	20.3	21.6	20.8	24.3	30.3	33.6	27.2

Target Price Range 2011 | 2012 | 2013

LEGENDS
— 1.25 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
3-for-2 split 6/02
Options: No
Shaded area indicates recession



2011-13 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	70	(+105%)	22%
Low	40	(+15%)	7%

Insider Decisions

	N	D	J	F	M	A	M	J	J
to Buy	0	1	0	0	0	0	0	2	0
Options	4	0	0	0	0	0	1	0	0
to Sell	4	0	0	0	0	0	1	0	0

Institutional Decisions

	4Q2007	1Q2008	2Q2008
to Buy	63	53	59
to Sell	52	59	50
Hld's(000)	9617	9783	10177

% TOT. RETURN 9/08

	THIS STOCK	VL ARITH. INDEX
1 yr.	1.4	-19.3
3 yr.	24.3	1.5
5 yr.	89.5	43.8

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	© VALUE LINE PUB., INC.	11-13
10.10	9.27	10.43	11.03	11.37	11.44	11.02	12.91	12.17	13.06	13.78	13.98	13.61	14.06	15.76	17.49	*17.60*	*18.10*	Revenues per sh	*21.25*
1.81	1.67	1.68	1.75	1.75	1.85	2.04	2.26	2.20	2.53	2.54	2.08	2.23	2.64	2.89	3.31	*3.55*	*3.85*	"Cash Flow" per sh	*4.65*
1.15	1.11	.95	1.03	1.13	1.04	1.08	1.19	1.28	1.35	1.34	.78	1.05	1.32	1.33	1.62	*1.85*	*2.00*	Earnings per sh A	*2.65*
.77	.79	.80	.81	.82	.83	.84	.85	.86	.87	.87	.88	.89	.90	.91	.96	*1.00*	*1.08*	Div'd Decl'd per sh B■	*1.24*
2.31	1.90	2.43	2.19	2.40	2.58	3.11	4.30	3.03	3.18	2.68	3.76	5.03	4.24	3.91	2.89	*4.45*	*4.00*	Cap'l Spending per sh	*4.25*
8.85	9.95	10.07	10.29	11.01	11.24	11.48	11.82	12.74	13.22	14.05	13.97	15.01	15.72	16.64	17.53	*18.35*	*18.90*	Book Value per sh	*19.50*
9.96	11.71	11.77	11.77	13.33	13.44	13.44	13.44	15.12	15.12	15.18	15.21	16.75	16.80	17.05	17.23	*18.00*	*18.50*	Common Shs Outst'g C	*20.00*
10.6	13.4	12.8	11.6	12.6	14.5	15.5	17.1	15.9	16.7	18.3	31.9	23.2	21.9	27.7	24.0	*Bold figures are*		Avg Ann'l P/E Ratio	*22.0*
.64	.79	.84	.78	.79	.84	.81	.97	1.03	.86	1.00	1.82	1.23	1.17	1.50	1.26	*Value Line*		Relative P/E Ratio	*1.45*
6.3%	5.3%	6.6%	6.7%	5.8%	5.5%	5.0%	4.2%	4.2%	3.9%	3.6%	3.5%	3.6%	3.1%	2.5%	2.5%	*estimates*		Avg Ann'l Div'd Yield	*2.2%*

CAPITAL STRUCTURE as of 6/30/08
Total Debt $324.4 mill. **Due in 5 Yrs** $50.0 mill.
LT Debt $267.1 mill. **LT Interest** $22.0 mill.
(LT interest earned: 5.1x: total interest coverage: 4.7x) (46% of Cap'l)

Leases, Uncapitalized: None
Pension Assets-12/07 $70.9 mill.
Oblig. $83.4 mill.
Pfd Stock None.

Common Stock 17,253,910 shs.
MARKET CAP: $600 million (Small Cap)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	© VALUE LINE PUB., INC.	11-13
148.1	173.4	184.0	197.5	209.2	212.7	228.0	236.2	268.6	301.4	*317*	*335*	Revenues ($mill)	*425*
14.6	16.1	18.0	20.4	20.3	11.9	16.5	22.5	23.1	28.0	*33.0*	*37.5*	Net Profit ($mill)	*53.0*
40.9%	46.0%	45.7%	43.0%	38.9%	43.5%	37.4%	47.0%	40.5%	42.6%	*40.0%*	*40.0%*	Income Tax Rate	*40.0%*
--	--	--	--	--	--	--	--	12.2%	8.5%	*5.0%*	*5.0%*	AFUDC % to Net Profit	*Nil*
43.6%	51.0%	47.5%	54.9%	52.0%	52.0%	47.7%	50.4%	48.6%	46.9%	*45.5%*	*44.0%*	Long-Term Debt Ratio	*44.5%*
55.7%	48.4%	51.9%	44.7%	48.0%	48.0%	52.3%	49.6%	51.4%	53.1%	*54.5%*	*56.0%*	Common Equity Ratio	*55.5%*
277.1	328.2	371.1	447.6	444.4	442.3	480.4	532.5	551.6	569.4	*605*	*625*	Total Capital ($mill)	*700*
414.8	449.6	509.1	539.8	563.3	602.3	664.2	713.2	750.6	776.4	*825*	*865*	Net Plant ($mill)	*980*
7.0%	6.6%	6.4%	6.1%	6.5%	4.6%	5.2%	5.4%	6.0%	6.7%	*7.0%*	*7.5%*	Return on Total Cap'l	*9.0%*
9.4%	10.0%	9.2%	10.1%	9.5%	5.6%	6.6%	8.5%	8.1%	9.3%	*10.0%*	*10.5%*	Return on Shr. Equity	*13.5%*
9.4%	10.1%	9.3%	10.1%	9.5%	5.6%	6.6%	8.5%	8.1%	9.3%	*10.0%*	*10.5%*	Return on Com Equity	*13.5%*
2.1%	2.9%	3.0%	3.6%	3.3%	NMF	1.0%	2.8%	2.7%	3.9%	*4.5%*	*5.5%*	Retained to Com Eq	*7.5%*
78%	72%	68%	65%	65%	113%	84%	67%	67%	58%	*55%*	*53%*	All Div'ds to Net Prof	*47%*

CURRENT POSITION ($MILL.)	2006	2007	6/30/08
Cash Assets	3.2	1.7	.4
Receivables	14.8	16.1	26.2
Inventory (Avg Cst)	1.6	1.6	1.7
Other	44.8	43.7	41.7
Current Assets	64.4	63.1	70.0
Accts Payable	24.0	29.1	34.9
Debt Due	32.6	37.8	57.3
Other	29.3	27.4	27.1
Current Liab.	85.9	94.3	119.3
Fix. Chg. Cov.	268%	314%	300%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '05-'07 to '11-'13
Revenues	3.5%	4.0%	*5.0%*
"Cash Flow"	5.0%	4.0%	*8.0%*
Earnings	3.0%	1.5%	*11.0%*
Dividends	1.0%	1.5%	*5.0%*
Book Value	4.5%	4.5%	*2.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2005	49.8	60.5	68.1	57.8	236.2
2006	64.3	63.0	75.0	66.3	268.6
2007	72.3	79.3	75.8	74.0	301.4
2008	68.9	*80.3*	*85.8*	*82.0*	*317*
2009	*74.0*	*86.0*	*89.0*	*86.0*	*335*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2005	.22	.34	.47	.29	1.32
2006	.35	.36	.32	.30	1.33
2007	.40	.42	.44	.35	1.62
2008	.30	.53	*.60*	*.42*	*1.85*
2009	*.33*	*.55*	*.65*	*.47*	*2.00*

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.221	.221	.221	.225	.89
2005	.225	.225	.225	.225	.90
2006	.225	.225	.225	.235	.91
2007	.235	.235	.235	.250	.96
2008	.250	.250	.250		

BUSINESS: American States Water Co. operates as a holding company. Through its principal subsidiary, Golden State Water Company, it supplies water to more than 250,000 customers in 75 communities in 10 counties. Service areas include the greater metropolitan areas of Los Angeles and Orange Counties. The company also provides electric utility services to nearly 23,250 customers in the city of Big Bear Lake and in areas of San Bernardino County. Acquired Chaparral City Water of Arizona (10/00). Has roughly 572 employees. Officers & directors own 4.4% of common stock (4/08 Proxy). Chairman: Lloyd Ross. President & CEO: Floyd Wicks. Inc: CA. Addr.: 630 East Foothill Boulevard, San Dimas, CA 91773. Tele.: 909-394-3600. Internet: www.aswater.com.

Improvements on the regulatory front are helping American States Water. With more favorable backing from the California Public Utilities Commission (CPUC) in place, the utility provider was able to overcome the difficult backdrop that conservation efforts (related to the federally proclaimed June 5th state wide drought) created, posting a 26% earnings growth in the second quarter. Indeed, approved rate increases added roughly $5.5 million to the top line and boosted water margins by $3.0 million. Recently filed general rate cases for Region II and III should result in meaningful annual rate increases effective the beginning of 2009.

There may be additional support on the horizon. Now that more timely and company-friendly rulings seem to have become more commonplace, the revamped CPUC can work on implementing some of the regulatory mechanisms laid out in the California Water Action Plan of 2005. If so, the company stands to benefit from the adoption of the water revenue adjustment mechanism, which attempts to limit the effects of weather conditions and generate more-stable earnings patterns. Consequently, we've bumped up our 2008 and 2009 earnings estimates by 12% and 8%, to $1.85 and $2.00, respectively.

These shares have moved up a couple of notches on our Timeliness system and are now ranked 2 (Above Average). They've inched up a bit since our July review, despite the difficulties of the overall market. We think this issue will likely continue to better the broad market over the coming six to 12 months, benefiting from the continued regulatory improvements mentioned above, as well as the issue's more conservative bent, namely the healthy income stream it provides.

Still, the stock does not stand out for 3- to 5-year appreciation potential. The financial cupboard is barren, meaning that the lofty infrastructure costs that we suspect to persist will have to be funded by outside financiers. The troubles of the debt markets make share offerings a bit more likely, but either method would dilute the future shareholder gains we envision, as well as limit the company's ability to take advantage of a highly fragmented industry landscape.

Andre J. Costanza *October 24, 2008*

(A) Primary earnings. Excludes nonrecurring gains: '91, 73¢; '92, 13¢; '04, 14¢; '05, 25¢; '06, 6¢. Next earnings report due early November. May not add due to rounding.
(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions, adjusted for splits.

Company's Financial Strength	B++
Stock's Price Stability	80
Price Growth Persistence	75
Earnings Predictability	60

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CALIFORNIA WATER NYSE-CWT

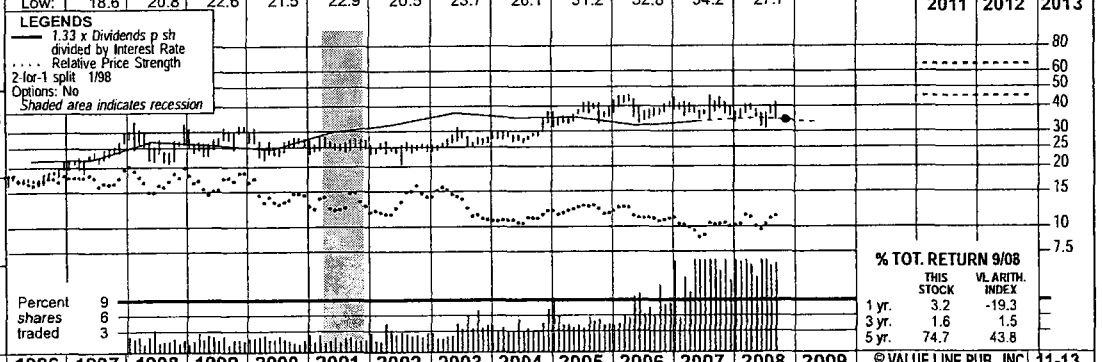
RECENT PRICE 34.34 | P/E RATIO 19.0 (Trailing: 22.2 Median: 22.0) | RELATIVE P/E RATIO 1.57 | DIV'D YLD 3.4% | VALUE LINE

TIMELINESS 3 Raised 3/7/08
SAFETY 3 Lowered 7/27/07
TECHNICAL 3 Lowered 9/12/08
BETA 1.10 (1.00 = Market)

High:	29.6	33.8	32.0	31.4	28.6	26.9	31.4	37.9	42.1	45.8	45.4	42.0
Low:	18.6	20.8	22.6	21.5	22.9	20.5	23.7	26.1	31.2	32.8	34.2	27.7

Target Price Range 2011 | 2012 | 2013

LEGENDS
— 1.33 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
2-for-1 split 1/98
Options: No
Shaded area indicates recession



2011-13 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	65	(+90%)	20%
Low	45	(+30%)	10%

Insider Decisions

	N	D	J	F	M	A	M	J	J
to Buy	0	0	0	0	1	0	0	0	0
Options	0	0	0	0	0	0	0	0	0
to Sell	0	0	0	0	0	0	0	0	0

Institutional Decisions

	4Q2007	1Q2008	2Q2008
to Buy	62	60	65
to Sell	49	40	45
Hld's(000)	9554	10255	9849

Percent shares traded 9 6 3

% TOT. RETURN 9/08

	THIS STOCK	VL ARITH. INDEX
1 yr.	3.2	-19.3
3 yr.	1.6	1.5
5 yr.	74.7	43.8

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	© VALUE LINE PUB., INC.	11-13
12.29	13.34	12.59	13.17	14.48	15.48	14.76	15.96	16.16	16.26	17.33	16.37	17.18	17.44	16.20	17.76	*18.60*	*19.55*	Revenues per sh	*21.30*
1.92	2.25	2.02	2.07	2.50	2.92	2.60	2.75	2.52	2.20	2.65	2.51	2.83	3.03	2.71	3.12	*3.45*	*3.75*	"Cash Flow" per sh	*4.50*
1.09	1.35	1.22	1.17	1.51	1.83	1.45	1.53	1.31	.94	1.25	1.21	1.46	1.47	1.34	1.50	*1.70*	*1.95*	Earnings per sh A	*2.55*
.93	.96	.99	1.02	1.04	1.06	1.07	1.09	1.10	1.12	1.12	1.12	1.13	1.14	1.15	1.16	*1.17*	*1.18*	Div'd Decl'd per sh B ■	*1.30*
3.09	2.53	2.26	2.17	2.83	2.61	2.74	3.44	2.45	4.09	5.82	4.39	3.73	4.01	4.28	3.68	*3.90*	*3.95*	Cap'l Spending per sh	*4.75*
10.51	10.90	11.56	11.72	12.22	13.00	13.38	13.43	12.90	12.95	13.12	14.44	15.66	15.79	18.15	18.50	*19.30*	*20.00*	Book Value per sh C	*21.90*
11.38	11.38	12.49	12.54	12.62	12.62	12.62	12.94	15.15	15.18	15.18	16.93	18.37	18.39	20.66	20.67	*21.25*	*22.00*	Common Shs Outst'g D	*23.50*
14.1	13.6	14.1	13.7	11.9	12.6	17.8	17.8	19.6	27.1	19.8	22.1	20.1	24.9	29.2	26.1	*Bold figures are*		Avg Ann'l P/E Ratio	*22.0*
.86	.80	.92	.92	.75	.73	.93	1.01	1.27	1.39	1.08	1.26	1.06	1.33	1.58	1.37	*Value Line*		Relative P/E Ratio	*1.45*
6.1%	5.2%	5.8%	6.4%	5.8%	4.6%	4.2%	4.0%	4.3%	4.4%	4.5%	4.2%	3.9%	3.1%	2.9%	3.0%	*estimates*		Avg Ann'l Div'd Yield	*2.4%*

CAPITAL STRUCTURE as of 6/30/08
Total Debt $314.0 mill. **Due in 5 Yrs** $25.0 mill.
LT Debt $288.3 mill. **LT Interest** $20.5 mill.

(LT interest earned: 2.7x; total int. cov.: 2.6x)

Pension Assets-12/07 $85.3 mill.
Oblig. $105.8 mill.
Pfd Stock $3.5 mill. **Pfd Div'd** $.15 mill.
139,000 shares, 4.4% cumulative ($25 par).

Common Stock 20,716,702 shs.
as of 8/1/08
MARKET CAP: $700 million (Small Cap)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		11-13
186.3	206.4	244.8	246.8	263.2	277.1	315.6	320.7	334.7	367.1	*395*	*430*	Revenues ($mill)	*500*
18.4	19.9	20.0	14.4	19.1	19.4	26.0	27.2	25.6	31.2	*36.0*	*43.0*	Net Profit ($mill)	*60.0*
36.4%	37.9%	42.3%	39.4%	39.7%	39.9%	39.6%	42.4%	37.4%	39.9%	*40.0%*	*40.0%*	Income Tax Rate	*40.0%*
--	--	--	--	--	10.3%	3.2%	3.3%	10.6%	8.3%	*5.0%*	*5.0%*	AFUDC % to Net Profit	*5.0%*
44.2%	46.9%	48.9%	50.3%	55.3%	50.2%	48.6%	48.3%	43.5%	42.9%	*42.0%*	*41.0%*	Long-Term Debt Ratio	*43.0%*
54.7%	52.0%	50.2%	48.8%	44.0%	49.1%	50.8%	51.1%	55.9%	56.6%	*57.5%*	*58.5%*	Common Equity Ratio	*57.0%*
308.6	333.8	388.8	402.7	453.1	498.4	565.9	568.1	670.1	674.9	*710*	*750*	Total Capital ($mill)	*900*
478.3	515.4	582.0	624.3	697.0	759.5	800.3	862.7	941.5	1010.2	*1055*	*1100*	Net Plant ($mill)	*1250*
7.8%	7.8%	6.8%	5.3%	5.9%	5.6%	6.1%	6.3%	5.2%	5.9%	*6.5%*	*7.0%*	Return on Total Cap'l	*8.0%*
10.7%	11.2%	10.0%	7.2%	9.4%	7.8%	8.9%	9.3%	6.8%	8.1%	*9.0%*	*10.0%*	Return on Shr. Equity	*11.5%*
10.8%	11.4%	10.1%	7.2%	9.5%	7.9%	9.0%	9.3%	6.8%	8.1%	*9.0%*	*10.0%*	Return on Com Equity	*11.5%*
2.8%	3.5%	1.8%	NMF	1.0%	.7%	2.1%	2.1%	1.0%	1.8%	*2.5%*	*4.0%*	Retained to Com Eq	*5.5%*
74%	70%	82%	119%	90%	91%	77%	78%	86%	77%	*69%*	*60%*	All Div'ds to Net Prof	*51%*

CURRENT POSITION ($MILL.)	2006	2007	6/30/08
Cash Assets	60.3	6.7	6.1
Other	49.3	53.3	63.0
Current Assets	109.6	60.0	69.1
Accts Payable	33.1	36.7	46.9
Debt Due	1.8	2.7	25.7
Other	35.3	30.3	40.3
Current Liab.	70.2	69.7	112.9
Fix. Chg. Cov.	317%	365%	400%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '05-'07 to '11-'13
Revenues	2.0%	0.5%	*3.5%*
"Cash Flow"	1.5%	4.0%	*7.0%*
Earnings	-0.5%	4.5%	*10.0%*
Dividends	1.0%	0.5%	*2.0%*
Book Value	3.5%	6.0%	*4.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2005	60.3	81.5	101.1	77.8	320.7
2006	65.2	81.1	107.8	80.6	334.7
2007	71.6	95.8	113.8	85.9	367.1
2008	72.9	105.6	*124.5*	*92.0*	*395*
2009	*80.0*	*115*	*135*	*100*	*430*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2005	.03	.41	.71	.32	1.47
2006	.04	.31	.68	.31	1.34
2007	.07	.37	.67	.39	1.50
2008	.01	.48	*.78*	*.43*	*1.70*
2009	*.12*	*.54*	*.83*	*.46*	*1.95*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.283	.283	.283	.283	1.13
2005	.285	.285	.285	.285	1.14
2006	.2875	.2875	.2875	.2875	1.15
2007	.290	.290	.290	.290	1.16
2008	.293	.293	.293		

BUSINESS: California Water Service Group provides regulated and nonregulated water service to roughly 463,600 customers in 83 communities in California, Washington, New Mexico, and Hawaii. Main service areas: San Francisco Bay area, Sacramento Valley, Salinas Valley, San Joaquin Valley & parts of Los Angeles. Acquired National Utility Company (5/04); Rio Grande Corp. (11/00). Revenue breakdown, '07: residential, 69%; business, 18%; public authorities, 5%; industrial, 5%; other, 3%. '07 reported depreciation rate: 2.2%. Has roughly 890 employees. Chairman: Robert W. Foy. President & CEO: Peter C. Nelson (4/08 Proxy). Inc.: Delaware. Address: 1720 North First Street, San Jose, California 95112-4598. Telephone: 408-367-8200. Internet: www.calwatergroup.com.

California Water Service Group has been the beneficiary of vast changes in the Californian regulatory infrastructure. The company reported second-quarter earnings of $0.48, 30% better than the year before. More impressive was the fact that California, where the company does the bulk of its business, was under conservation guidelines, due to drought-like conditions. Revenues surged 10%, to $105.6 million, in the period, with rate increases responsible for nearly two-thirds of the jump. The California Public Utilities Commission (CPUC) has undergone a significant change in methodology of late, creating a more favorable backdrop for utility providers.

We suspect that things will continue to improve. Shortly after the second quarter ended, the CPUC approved a settlement between its Division of Ratepayer Advocates and CWT, authorizing rate increases totaling $33.4 million, as well as authoring additional requests in the remaining districts. Meanwhile, as per an earlier agreement, several new regulatory decisions went into effect July 1st. The implementation of a water revenue adjustment mechanism ought to better allow the company to recover incurred costs and make for a smoother earnings stream going forward. Consequently, we've raised our 2008 and 2009 share-earning estimates by a dime a piece, to $1.70 and $1.95, respectively.

We like the diversification strategy that is being employed. Management has completed the acquisition of Waikoloa Water and Wastewater Systems, which provides services to resort areas in Hawaii. This is its second purchase there this year and should limit geographic-specific weather constraints.

These shares do not stand out . . . They are ranked 3 (Average) for Timeliness and offer below-average 3- to 5-year appreciation potential, due to the high infrastructure costs we envision persisting.

. . . but may whet the appetite of risk-averse investors. CWT has not given much ground since our July review, a novelty in such a tumultuous market environment. Investors may favor the stock's steady returns and healthy dividend yield until there is evidence of market recovery.

Andre J. Costanza *October 24, 2008*

(A) Basic EPS. Excl. nonrecurring gain (loss): '00, (7¢); '01, 4¢; 02, 8¢. Next earnings report due late Oct.
(B) Dividends historically paid in mid-Feb., May, Aug., and Nov. ■ Div'd reinvestment plan available.
(C) Incl. deferred charges. In '07: $69.7 mill., $3.37/sh.
(D) In millions, adjusted for split.

Company's Financial Strength	B++
Stock's Price Stability	65
Price Growth Persistence	65
Earnings Predictability	75

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SOUTHWEST WATER NDQ-SWWC

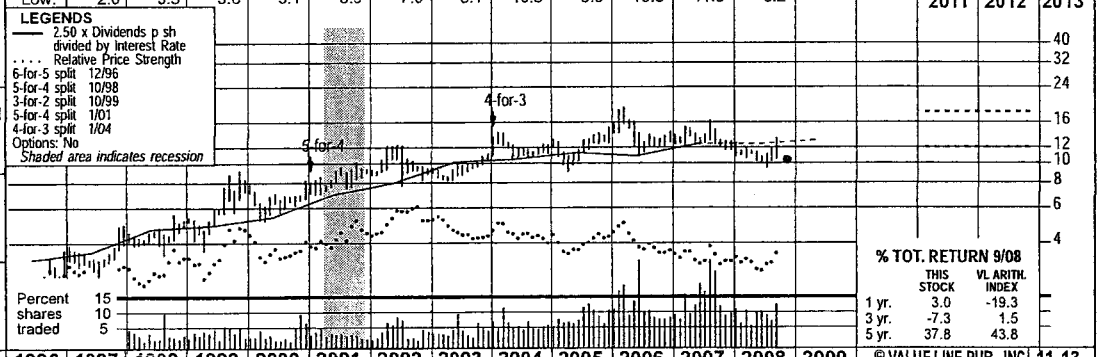
RECENT PRICE	P/E RATIO		RELATIVE P/E RATIO	DIV'D YLD	
10.41	33.6	(Trailing: 47.3 Median: 25.0)	2.78	2.3%	VALUE LINE

TIMELINESS 3 Raised 10/10/08
SAFETY 3 New 10/28/05
TECHNICAL 3 Raised 7/11/08
BETA 1.00 (1.00 = Market)

High:	5.0	5.6	9.2	8.3	10.2	12.4	11.2	14.3	15.2	19.1	16.4	13.4				
Low:	2.6	3.5	3.6	5.1	6.9	7.6	8.1	10.3	9.0	10.8	11.5	8.2				

Target Price Range 2011 | 2012 | 2013

LEGENDS
— 2.50 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
6-for-5 split 12/96
5-for-4 split 10/98
3-for-2 split 10/99
5-for-4 split 1/01
4-for-3 split 1/04
Options: No
Shaded area indicates recession



2011-13 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	18	(+75%)	18%
Low	12	(+15%)	7%

Insider Decisions

	N	D	J	F	M	A	M	J	J
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	0	0	1	3	0	0
to Sell	1	1	1	0	0	0	2	0	0

Institutional Decisions

	4Q2007	1Q2008	2Q2008
to Buy	31	41	45
to Sell	26	23	24
Hld's(000)	11090	12145	13228

% TOT. RETURN 9/08

	THIS STOCK	VL ARITH. INDEX
1 yr.	3.0	-19.3
3 yr.	-7.3	1.5
5 yr.	37.8	43.8

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	© VALUE LINE PUB., INC.	11-13
3.77	4.03	4.20	4.84	5.31	5.61	5.63	6.16	7.49	8.15	9.12	10.70	9.23	9.10	9.42	8.96	*9.00*	*9.25*	Revenues per sh	*10.00*
.44	.38	.38	.44	.46	.53	.59	.65	.76	.87	.86	.91	.67	.78	.85	.86	*.95*	*1.10*	"Cash Flow" per sh	*1.55*
.19	.08	.09	.12	.15	.21	.25	.31	.38	.42	.39	.44	.23	.34	.40	.31	*.25*	*.40*	Earnings per sh A	*.60*
.18	.14	.08	.08	.09	.09	.10	.11	.13	.14	.15	.16	.18	.20	.21	.23	*.24*	*.24*	Div'd Decl'd per sh B	*.30*
.42	.60	.72	.84	.95	.74	.79	.53	.55	1.06	1.78	1.14	1.26	1.66	1.87	1.70	*1.60*	*1.60*	Cap'l Spending per sh	*1.70*
2.42	2.31	2.31	2.45	2.40	2.52	2.70	3.05	3.44	3.84	4.27	4.90	6.17	6.49	6.98	5.98	*6.60*	*6.70*	Book Value per sh D	*7.10*
11.80	11.97	12.13	11.74	12.45	12.65	12.83	13.12	13.99	14.17	14.35	16.17	20.36	22.33	23.80	24.27	*25.00*	*26.00*	Common Shs Outst'g C	*29.00*
14.5	35.8	22.3	14.6	16.5	16.9	17.2	19.6	17.0	19.8	24.8	21.2	51.6	35.5	34.8	--	*Bold figures are*		Avg Ann'l P/E Ratio	*25.0*
.88	2.11	1.46	.98	1.03	.97	.89	1.12	1.11	1.01	1.35	1.21	2.73	1.89	1.88	--	*Value Line*		Relative P/E Ratio	*1.65*
6.6%	4.7%	4.2%	4.7%	3.4%	2.7%	2.3%	1.8%	2.0%	1.7%	1.5%	1.7%	1.5%	1.6%	1.5%	1.8%	*estimates*		Avg Ann'l Div'd Yield	*1.7%*

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		11-13
72.2	80.9	104.7	115.5	130.8	173.0	188.0	203.2	224.2	217.3	*225*	*240*	Revenues ($mill)	*290*
3.4	4.2	5.4	6.2	6.0	7.2	4.5	7.3	9.3	5.0	*6.2*	*9.1*	Net Profit ($mill)	*17.5*
39.5%	39.0%	37.0%	36.0%	34.9%	35.9%	36.1%	36.0%	35.0%	NMF	*35.0%*	*35.0%*	Income Tax Rate	*36.0%*
--	--	--	14.4%	3.2%	--	11.0%	9.5%	12.5%	11.0%	*13.0%*	*13.2%*	AFUDC % to Net Profit	*16.8%*
48.7%	45.2%	48.8%	51.4%	56.7%	47.9%	47.9%	44.7%	43.6%	50.0%	*53.5%*	*51.0%*	Long-Term Debt Ratio	*42.0%*
50.5%	54.1%	50.7%	48.2%	42.9%	51.8%	52.0%	55.1%	56.3%	50.0%	*46.5%*	*49.0%*	Common Equity Ratio	*58.0%*
68.5	73.9	95.0	113.0	142.8	152.8	242.0	262.9	295.2	290.0	*355*	*355*	Total Capital ($mill)	*355*
109.2	113.7	157.8	171.1	203.9	219.5	302.6	344.8	389.6	410.3	*440*	*460*	Net Plant ($mill)	*525*
7.1%	7.6%	7.6%	7.6%	5.8%	6.2%	3.1%	4.1%	4.5%	3.0%	*3.0%*	*4.0%*	Return on Total Cap'l	*6.0%*
9.5%	10.3%	11.1%	11.4%	9.7%	9.0%	3.6%	5.0%	5.6%	3.5%	*3.5%*	*5.0%*	Return on Shr. Equity	*8.5%*
9.6%	10.4%	11.1%	11.4%	9.7%	9.1%	3.6%	5.0%	5.6%	3.5%	*3.5%*	*5.0%*	Return on Com Equity	*8.5%*
6.0%	7.0%	7.8%	7.8%	6.3%	5.8%	.8%	2.1%	2.6%	NMF	*0.5%*	*1.5%*	Retained to Com Eq	*4.5%*
38%	33%	31%	32%	36%	36%	78%	58%	54%	NMF	*NMF*	*74%*	All Div'ds to Net Prof	*51%*

CAPITAL STRUCTURE as of 6/30/08
Total Debt $193.3 mill. **Due in 5 Yrs** $60.5 mill.
LT Debt $191.4 mill. **LT Interest** $9.0 mill.
(Total interest coverage: 2.7x) (48% of Cap'l)

Leases, Uncapitalized: Annual rentals $6.7 mill.
Pension Liability None

Pfd Stock $.458 mill. **Pfd Div'd** $.020 mill.
Common Stock 24,592,039 shs.
as of 8/1/08

MARKET CAP: $250 million (Small Cap)

CURRENT POSITION ($MILL.)	2006	2007	6/30/08
Cash Assets	4.3	2.9	3.9
Receivables	27.5	26.0	30.2
Inventory (Avg Cst)	--	--	--
Other	16.5	32.7	30.7
Current Assets	48.3	61.6	64.8
Accts Payable	12.7	14.9	8.1
Debt Due	1.4	1.9	1.9
Other	21.7	29.4	25.6
Current Liab.	35.8	46.2	35.6

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '05-'07 to '11-'13
Revenues	5.5%	2.0%	*1.5%*
"Cash Flow"	2.0%	-6.5%	*12.5%*
Earnings	-1.5%	-19.5%	*9.5%*
Dividends	9.5%	9.0%	*6.0%*
Book Value	10.5%	11.5%	*1.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2005	45.2	51.3	54.7	52.0	203.2
2006	50.8	55.4	60.1	57.9	224.2
2007	48.1	55.0	57.4	56.8	217.3
2008	50.8	57.1	*59.0*	*58.1*	*225*
2009	*55.0*	*62.0*	*63.0*	*60.0*	*240*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2005	d.01	.15	.14	.06	.34
2006	.03	.08	.16	.13	.40
2007	.03	.09	.09	.11	.31E
2008	d.01	.04	*.10*	*.12*	*.25*
2009	*.05*	*.09*	*.12*	*.14*	*.40*

Cal-endar	QUARTERLY DIVIDENDS PAID B Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.044	.044	.044	.048	.18
2005	.048	.048	.048	.052	.20
2006	.052	.052	.052	.058	.21
2007	.058	.058	.058	.058	.23
2008	.06	.06	.06	.06	

BUSINESS: Southwest Water Company provides a broad range of services including water production, treatment and distribution; wastewater collection and treatment; utility billing and collection; utility infrastructure construction management; and public works services. It operates out of two groups, Utility (43% of 2007 revenues) and Services (57%). Utility owns and manages rate-regulated public water utilities in California, New Mexico, Oklahoma, and Texas. Services does mostly maintenance work on a contract basis. Off. & dir. own 6.4% of com. shs.; Stein Roe Investment Council, 9.2% (4/08 proxy). CEO and Chairman: Mark Swatek. Inc.: DE. Addr.: One Wilshire Building, 624 S. Grand Ave. Ste. 2900, Los Angeles, CA 90017. Tel.: 213-929-1800. Internet: www.swwc.com.

Profits may likely dry up this year for Southwest Water. Revenues for the second quarter showed a slight 4% increase from the prior year. However, the bottom line did not fare as well, dropping 55%, year over year. The top line benefited from higher contributions from the utility segment, which showed growth of 17%. This was a result of the rate increase that was approved in Texas late last year, as well as the acquisition of a wastewater treatment plant in Birmingham, Alabama, a $23.3 million purchase that was completed in the beginning of the year. The Services division business was down 6%, year over year, but investors should note that comparisons are distorted by the shift of capital project work to the Utilities divisions. Other factors that impacted the top line included weakness in the housing market, the loss of revenues from the electrical contracting department that was shut down late last year, and loss of customer accounts in an increasingly competitive marketplace. The bottom line suffered from rising costs of repair and maintenance, and greater depreciation costs applied to the Texas utility.

A number of outstanding petitions in the courts may lead to an earnings recovery over the next few years. In California, a rate increase case has been filed, and if approved, will add up to $6.8 million in annualized revenues. The price hike would begin to be implemented in the first quarter of 2009. Also, an application has been accepted by the New Mexico Public Regulation Commission for a rate hike to cover rising costs of sewage treatment, and a rate increase case will likely be entered with the Albuquerque Bernalillo County Water Utility Authority once an ongoing litigation is concluded. Overall, higher prices from rate increases should support top-and bottom-line improvements out to 2011–2013.

This stock is ranked to mirror the broader market in the coming six- to 12-month period. Also, the earnings recovery we foresee over the approaching 3 to 5 years has already been discounted in the current share price, limiting SWWC's price appreciation potential over this period. As a result, this stock does not have much appeal at this juncture.

John D. Burke *October 24, 2008*

(A) Diluted earnings. Excludes nonrecurring gains (losses): '00, (3¢); '01, (5¢); '02, 1¢; '05, (23¢); '07, (54¢). Next earnings report due mid-December.
(B) Dividends historically paid in late January, April, July, and October.
(C) In millions, adjusted for splits.
(D) Includes intangibles. In 2007: $19.9 million, $0.83/share.
(E) Earnings may not add due to rounding.

Company's Financial Strength	B
Stock's Price Stability	60
Price Growth Persistence	50
Earnings Predictability	55

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ATTACHMENT B

INDUSTRY TIMELINESS: 21 (of 99)

The Natural Gas Utility Industry has moved to the top quartile of our industry spectrum for Timeliness since our September review. However, this group has been facing a challenging operating environment due to a tough regulatory climate, frustrating weather conditions, and weakness in the economy. These utilities have remained resilient, though, and have continued to post solid results. Thus, investor sentiment has improved for these good-quality businesses, despite of the turmoil in the world's financial markets.

Macroeconomic Climate

Much has happened since our last report. The global economy has weakened considerably in recent months. Accordingly, the domestic economy has moved into a recession. The weak real estate market and the credit crunch have been among the factors behind the slowdown. Natural Gas Utilities have not been immune to these problems. To be sure, weakness in the housing market has weighed on demand in this industry. Furthermore, consumers are becoming more cost-conscious, which has led to more energy conservation. As a result, usage continues to decline across the industry. What's more, as consumers continue to face this tough economic environment, bill collection will likely become increasingly difficult in the year ahead. Despite these pressures, this sector has become a more attractive choice relative to the rest of the market. Indeed, members in this group tend to offer fairly predictable results, solid balance sheets, and attractive yields.

Regulation

The most important factor for natural gas utilities remains the regulatory environment. This is determined by state commissions that dictate the return on equity these companies can achieve. On point, many of the players in this industry have rate cases pending. The decisions on these cases will be a key factor driving this sector's performance in the near term. If a company receives an unfavorable ruling, it can end up with a tight budget that can hurt profitability. In fact, a few of these utilities appear to be operating with insufficient relief. On the other hand, a positive decision can provide a boost to earnings. Therefore, regulators try to strike a balance between shareholder and consumer interests when evaluating rate cases. All told, investors should keep an eye out for these decisions, which will likely continue to impact this industry's performance going forward.

Weather

The majority of this sector's annual profits will be derived over the next few months during the peak heating seasons. Thus far, earnings have been mostly unimpressive for this group this year. Therefore, the coming months will be key for companies trying to post gains in 2008.

Investors should watch for unseasonably warm or cold weather because these patterns can create volatility for this group. Many enterprises contend with this risk by using weather-adjusted rate mechanisms. This strategy hedges the risk of weather abnormalities, enabling utilities to maintain their steady operating performance.

Conclusion

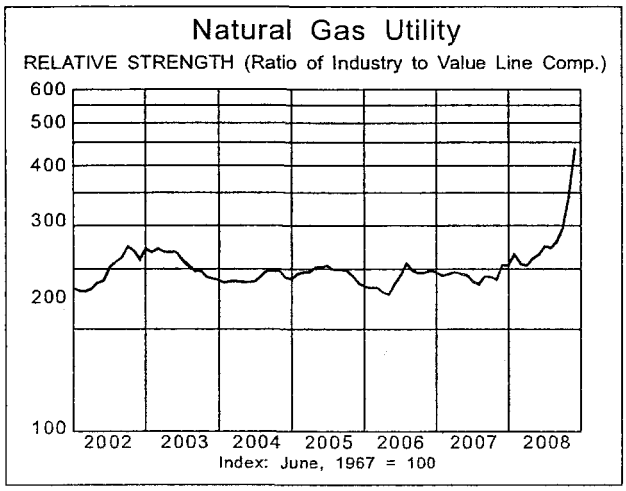
The majority of the stocks in this industry are ranked 3 (Average) for Timeliness. However, *Atmos Energy*, *Laclede Group*, *UGI Corporation*, and *New Jersey Resources* are ranked Above Average for relative price performance. Investors should note that this group has moved to the top quartile of our industry spectrum for Timeliness since our September report. Given these businesses predictable cash flows and solid balance sheets, utilities tend to be more defensive plays when there is volatility in the global economy. However, we recommend interested investors look for companies with a favorable regulatory environment.

The main appeal of this sector is its above-average dividend yield. The average yield for this industry is about 4.4%, which is above the *Value Line* median of 3.5%. Most notably, *AGL Resources*, *Atmos Energy*, *NiSource*, and *Nicor* all offer yields that top the industry norm. Thus, conservative income-oriented accounts may find these stocks of interest.

Richard Gallagher

Composite Statistics: Natural Gas Utility

2004	2005	2006	2007	2008	2009		11-13
21683	28176	30783	30588	**32000**	**34000**	Revenues ($mill)	**40500**
908.1	1087.3	1218.7	1250.4	**1325**	**1400**	Net Profit ($mill)	**1650**
36.4%	36.7%	35.4%	33.5%	**36.0%**	**36.0%**	Income Tax Rate	**36.0%**
4.2%	3.9%	4.0%	4.1%	**4.1%**	**4.1%**	Net Profit Margin	**4.1%**
50.9%	51.3%	51.5%	49.5%	**51.0%**	**51.0%**	Long-Term Debt Ratio	**52.0%**
48.9%	48.6%	48.4%	50.4%	**48.0%**	**48.0%**	Common Equity Ratio	**46.0%**
16806	18933	20687	21592	**22500**	**24000**	Total Capital ($mill)	**27500**
18979	21340	22849	23904	**25250**	**26500**	Net Plant ($mill)	**40000**
6.9%	7.5%	7.5%	7.4%	**6.0%**	**6.0%**	Return on Total Cap'l	**6.0%**
11.0%	11.8%	12.2%	11.5%	**11.0%**	**11.5%**	Return on Shr. Equity	**12.0%**
11.0%	11.8%	12.2%	11.5%	**11.0%**	**11.5%**	Return on Com Equity	**12.0%**
4.3%	4.9%	5.4%	4.9%	**5.3%**	**5.5%**	Retained to Com Eq	**6.0%**
61%	59%	55%	57%	**60%**	**60%**	All Div'ds to Net Prof	**60%**
15.5	15.9	14.7	16.1	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	**13.0**
.82	.85	.79	.85			Relative P/E Ratio	**.85**
3.9%	3.7%	3.8%	3.6%			Avg Ann'l Div'd Yield	**4.6%**
359%	371%	381%	397%	**375%**	**375%**	Fixed Charge Coverage	**400%**



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AGL RESOURCES NYSE-ATG

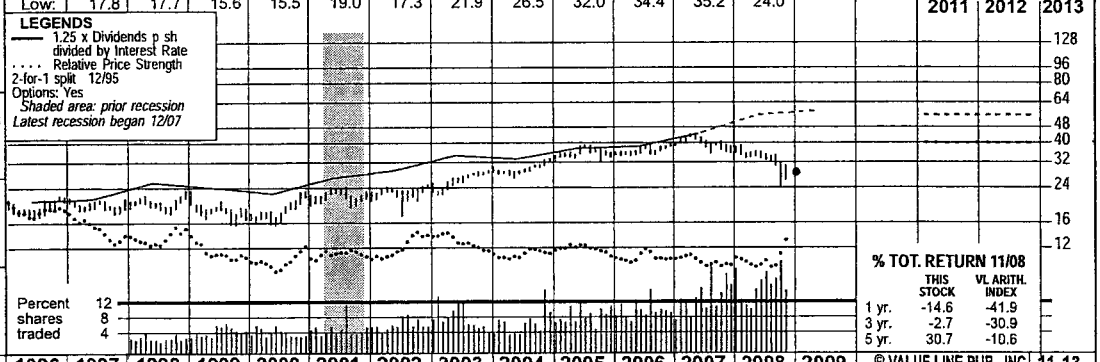
RECENT PRICE	28.54	P/E RATIO	10.2 (Trailing: 11.0 / Median: 14.0)	RELATIVE P/E RATIO	1.00	DIV'D YLD	6.0%	VALUE LINE

TIMELINESS 3 Raised 11/7/08
SAFETY 2 New 7/27/90
TECHNICAL 3 Raised 12/21/07
BETA .75 (1.00 = Market)

High:	21.6	23.4	23.4	23.2	24.5	25.0	29.3	33.7	39.3	40.1	44.7	39.1
Low:	17.8	17.7	15.6	15.5	19.0	17.3	21.9	26.5	32.0	34.4	35.2	24.0

Target Price Range 2011 | 2012 | 2013

LEGENDS
— 1.25 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
2-for-1 split 12/95
Options: Yes
Shaded area: prior recession
Latest recession began 12/07



2011-13 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	55	(+95%)	21%
Low	40	(+40%)	13%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	0
Options	3	2	1	0	3	0	0	1	0
to Sell	0	1	0	0	2	0	0	1	0

Institutional Decisions

	1Q2008	2Q2008	3Q2008
to Buy	105	131	92
to Sell	127	106	130
Hld's(000)	47696	46762	48796

% TOT. RETURN 11/08

	THIS STOCK	VL ARITH. INDEX
1 yr.	-14.6	-41.9
3 yr.	-2.7	-30.9
5 yr.	30.7	-10.6

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	© VALUE LINE PUB., INC.	11-13
20.43	22.73	23.59	19.32	21.91	22.75	23.36	18.71	11.25	19.04	15.32	15.25	23.89	34.98	33.73	32.64	*35.40*	*35.90*	Revenues per sh A	*41.25*
2.31	2.25	2.24	2.33	2.49	2.42	2.65	2.29	2.86	3.31	3.39	3.47	3.29	4.20	4.50	4.64	*4.70*	*4.80*	"Cash Flow" per sh	*5.40*
1.13	1.08	1.17	1.33	1.37	1.37	1.41	.91	1.29	1.50	1.82	2.08	2.28	2.48	2.72	2.72	*2.70*	*2.80*	Earnings per sh A B	*3.15*
1.03	1.04	1.04	1.04	1.06	1.08	1.08	1.08	1.08	1.08	1.08	1.11	1.15	1.30	1.48	1.64	*1.68*	*1.72*	Div'ds Decl'd per sh C■	*1.84*
2.74	2.49	2.37	2.17	2.37	2.59	2.05	2.51	2.92	2.83	3.30	2.46	3.44	3.44	3.26	3.39	*4.20*	*4.35*	Cap'l Spending per sh	*5.00*
9.70	9.90	10.19	10.12	10.56	10.99	11.42	11.59	11.50	12.19	12.52	14.66	18.06	19.29	20.71	21.74	*22.60*	*22.75*	Book Value per sh D	*23.15*
48.69	49.72	50.86	55.02	55.70	56.60	57.30	57.10	54.00	55.10	56.70	64.50	76.70	77.70	77.70	76.40	*77.00*	*78.00*	Common Shs Outst'g E	*80.00*
15.5	17.9	15.1	12.6	13.8	14.7	13.9	21.4	13.6	14.6	12.5	12.5	13.1	14.3	13.5	14.7	*Bold figures are*		Avg Ann'l P/E Ratio	*15.0*
.94	1.06	.99	.84	.86	.85	.72	1.22	.88	.75	.68	.71	.69	.76	.73	.78	*Value Line*		Relative P/E Ratio	*1.00*
5.9%	5.4%	5.9%	6.2%	5.6%	5.4%	5.5%	5.5%	6.2%	4.9%	4.7%	4.3%	3.9%	3.7%	4.0%	4.1%	*estimates*		Avg Ann'l Div'd Yield	*3.9%*

CAPITAL STRUCTURE as of 9/30/08
Total Debt $2444.0 mill. **Due in 5 Yrs** $1088 mill.
LT Debt $1675.0 mill. **LT Interest** $85.0 mill.
(Total interest coverage: 3.8x)

Leases, Uncapitalized Annual rentals $26.0 mill.

Pension Assets-12/07 $383.0 mill. **Oblig.** $427.0 mill.

Pfd Stock None
Common Stock 76,780,439 shs. as of 10/22/08

MARKET CAP: $2.2 billion (Mid Cap)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		11-13
1338.6	1068.6	607.4	1049.3	868.9	983.7	1832.0	2718.0	2621.0	2494.0	*2725*	*2800*	Revenues ($mill) A	*3300*
80.6	52.1	71.1	82.3	103.0	132.4	153.0	193.0	212.0	210.5	*210*	*220*	Net Profit ($mill)	*250*
32.5%	33.1%	34.3%	40.7%	36.0%	35.9%	37.0%	37.7%	37.8%	37.6%	*39.0%*	*38.0%*	Income Tax Rate	*38.0%*
6.0%	4.9%	11.7%	7.8%	11.9%	13.5%	8.4%	7.1%	8.1%	8.4%	*7.7%*	*7.9%*	Net Profit Margin	*7.6%*
47.5%	45.3%	45.9%	61.3%	58.3%	50.3%	54.0%	51.9%	50.2%	50.2%	*49.0%*	*48.0%*	Long-Term Debt Ratio	*45.5%*
47.1%	49.2%	48.3%	38.7%	41.7%	49.7%	46.0%	48.1%	49.8%	49.8%	*51.0%*	*52.0%*	Common Equity Ratio	*54.5%*
1388.4	1345.8	1286.2	1736.3	1704.3	1901.4	3008.0	3114.0	3231.0	3335.0	*3415*	*3425*	Total Capital ($mill)	*3400*
1534.0	1598.9	1637.5	2058.9	2194.2	2352.4	3178.0	3271.0	3436.0	3566.0	*3750*	*3850*	Net Plant ($mill)	*4200*
7.6%	5.7%	7.4%	6.5%	8.1%	8.9%	6.3%	7.9%	8.0%	7.7%	*7.5%*	*7.5%*	Return on Total Cap'l	*8.5%*
11.1%	7.1%	10.2%	12.3%	14.5%	14.0%	11.0%	12.9%	13.2%	12.7%	*12.0%*	*12.5%*	Return on Shr. Equity	*13.5%*
12.3%	7.9%	11.5%	12.3%	14.5%	14.0%	11.0%	12.9%	13.2%	12.7%	*12.0%*	*12.5%*	Return on Com Equity	*13.5%*
4.4%	NMF	3.2%	4.2%	7.0%	6.6%	5.6%	6.2%	6.3%	5.3%	*4.5%*	*5.0%*	Retained to Com Eq	*5.5%*
64%	101%	72%	65%	52%	53%	49%	52%	52%	58%	*62%*	*61%*	All Div'ds to Net Prof	*59%*

CURRENT POSITION ($MILL.)	2006	2007	9/30/08
Cash Assets	20.0	21.0	11.0
Other	1802.0	1790.0	1929.0
Current Assets	1822.0	1811.0	1940.0
Accts Payable	213.0	172.0	181.0
Debt Due	539.0	580.0	769.0
Other	875.0	893.0	872.0
Current Liab.	1627.0	1645.0	1822.0
Fix. Chg. Cov.	397%	391%	390%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '05-'07 to '11-'13
Revenues	3.5%	13.5%	3.5%
"Cash Flow"	5.5%	7.0%	3.5%
Earnings	7.0%	15.0%	3.0%
Dividends	2.5%	4.0%	4.0%
Book Value	6.5%	10.5%	2.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2005	908	430	387	993	2718
2006	1044	436	434	707	2621
2007	973	467	369	685	2494
2008	1012	444	539	*730*	*2725*
2009	*1040*	*480*	*505*	*775*	*2800*

Cal-endar	EARNINGS PER SHARE B Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2005	1.14	.30	.19	.85	2.48
2006	1.41	.25	.46	.60	2.72
2007	1.29	.40	.17	.86	2.72
2008	1.16	.30	.28	*.96*	*2.70*
2009	*1.20*	*.35*	*.30*	*.95*	*2.80*

Cal-endar	QUARTERLY DIVIDENDS PAID C■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.28	.29	.29	.29	1.15
2005	.31	.31	.31	.37	1.30
2006	.37	.37	.37	.37	1.48
2007	.41	.41	.41	.41	1.64
2008	.42	.42	.42	.42	

BUSINESS: AGL Resources, Inc. is a public utility holding company. Its distribution subsidiaries include Atlanta Gas Light, Chattanooga Gas, and Virginia Natural Gas. The utilities have more than 2.2 million customers in Georgia, Virginia, Tennessee, New Jersey, Florida, and Maryland. Engaged in nonregulated natural gas marketing and other allied services. Also wholesales and retails propane. Deregulated subsidiaries: Georgia Natural Gas markets natural gas at retail. Sold Utilipro, 3/01. Acquired Compass Energy Services, 10/07. Officers/directors own less than 1.0% of common (3/08 Proxy). Pres. & CEO: John W. Somerhalder II. Inc.: GA. Addr.: Ten Peachtree Place N.E., Atlanta, GA 30309. Telephone: 404-584-4000. Internet: www.aglresources.com.

Shares of AGL Resources have held up relatively well since our September review, despite considerable weakness in the broader market. The company reported healthy performance in the third quarter. Revenues and share earnings advanced considerably in the recent interim. This was primarily due to strength in the Wholesale Services business, which reported much higher operating income for the period. Elsewhere, performance at the Distribution Operations was helped by greater pipeline replacement revenues for Atlanta Gas Light. However, the utility operations continued to be dampened by weakness in the housing market, and customer growth has slowed significantly in recent times. Despite the challenging economic environment, healthy performance should continue at the company's core businesses. Thus, we anticipate solid results at AGL Resources going forward.

The company continues to progress with its capital projects. The Hampton Roads Crossing Project remains on schedule and within budget. This initiative will connect two pipeline systems crossing the Hampton Roads harbor, and provide for an ample supply of natural gas to the region. The project will likely be completed late in 2009, and ought to earn solid returns for the company. Elsewhere, construction continues on the Spindletop salt dome in Beaumont, Texas. This underground natural gas storage facility will offer up to 12 billion cubic feet (bcf) of gas capacity in two caverns. The project should meet a growing demand for natural gas storage in the region. Meantime, AGL is moving forward with the Magnolia Pipeline Project. This $48 million initiative will provide transportation of regasified liquid natural gas from Elba Island to Atlanta Gas Light in the Macon and Atlanta areas.

Overall, this stock offers attractive total return potential for a utility. We anticipate steady bottom-line growth from 2009 onward, assuming capital projects pay off. Moreover, AGL earns high marks for Safety, Price Stability, and Earnings Predictability. Income investors may find this neutrally-ranked issue's healthy dividend yield appealing. Earnings need to pick up for dividend growth to remain above average, though.

Michael Napoli, CPA *December 12, 2008*

(A) Fiscal year ends December 31st. Ended September 30th prior to 2002.
(B) Diluted earnings per share. Excl. nonrecurring gains (losses): '95, ($0.83); '99, $0.39; '00, $0.13; '01, $0.13; '03, ($0.07); '08, ($0.45). Next earnings report due late January/early February. (C) Dividends historically paid early March, June, Sept., and Dec. ■ Div'd reinvest. plan available. (D) Includes intangibles. At 9/30/08: $418 million, $5.44/share. (E) In millions, adjusted for stock split.

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	80
Earnings Predictability	85

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ATMOS ENERGY CORP. NYSE-ATO

RECENT PRICE	23.24	P/E RATIO	10.8 (Trailing: 11.6 / Median: 16.0)	RELATIVE P/E RATIO	1.06	DIV'D YLD	5.7%	VALUE LINE

TIMELINESS 2 Raised 12/12/08
SAFETY 2 Raised 12/16/05
TECHNICAL 2 Raised 12/12/08
BETA .65 (1.00 = Market)

High:	30.5	32.3	33.0	26.3	25.8	24.5	25.5	27.6	30.0	33.1	33.5	29.3
Low:	22.1	24.8	19.6	14.3	19.5	17.6	20.8	23.4	25.0	25.5	23.9	19.7

2011-13 PROJECTIONS

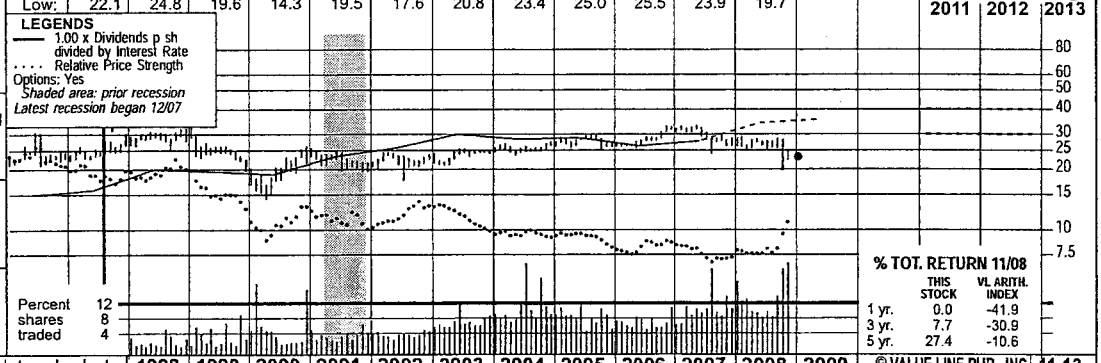
	Price	Gain	Ann'l Total Return
High	40	(+70%)	19%
Low	30	(+30%)	11%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	1	0	0	0	0	0	0
Options	0	0	0	0	0	0	0	0	0
to Sell	0	0	0	0	0	3	0	1	1

Institutional Decisions

	1Q2008	2Q2008	3Q2008
to Buy	112	119	103
to Sell	103	89	119
Hld's(000)	58504	58318	56301



% TOT. RETURN 11/08

	THIS STOCK	VL ARITH. INDEX
1 yr.	0.0	-41.9
3 yr.	7.7	-30.9
5 yr.	27.4	-10.6

Atmos Energy's history dates back to 1906 in the Texas Panhandle. Over the years, through various mergers, it became part of Pioneer Corporation, and, in 1981, Pioneer named its gas distribution division Energas. In 1983, Pioneer organized Energas as a separate subsidiary and distributed the outstanding shares of Energas to Pioneer shareholders. Energas changed its name to Atmos in 1988. Atmos acquired Trans Louisiana Gas in 1986, Western Kentucky Gas Utility in 1987, Greeley Gas in 1993, United Cities Gas in 1997, and others.

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	© VALUE LINE PUB., INC.	11-13
27.90	22.09	26.61	35.36	22.82	54.39	46.50	61.75	75.27	66.03	79.35	86.95	Revenues per sh A	93.05
3.38	2.62	3.01	3.03	3.39	3.23	2.91	3.90	4.26	4.14	4.20	4.40	"Cash Flow" per sh	4.65
1.84	.81	1.03	1.47	1.45	1.71	1.58	1.72	2.00	1.94	2.00	2.10	Earnings per sh A B	2.45
1.06	1.10	1.14	1.16	1.18	1.20	1.22	1.24	1.26	1.28	1.30	1.32	Div'ds Decl'd per sh C■	1.40
4.44	3.53	2.36	2.77	3.17	3.10	3.03	4.14	5.20	4.39	5.20	5.65	Cap'l Spending per sh	6.30
12.21	12.09	12.28	14.31	13.75	16.66	18.05	19.90	20.16	22.01	23.65	24.10	Book Value per sh	25.55
30.40	31.25	31.95	40.79	41.68	51.48	62.80	80.54	81.74	89.33	91.00	92.00	Common Shs Outst'g D	115.00
15.4	33.0	18.9	15.6	15.2	13.4	15.9	16.1	13.5	15.9	13.6		Avg Ann'l P/E Ratio	14.5
.80	1.88	1.23	.80	.83	.76	.84	.86	.73	.83	.80		Relative P/E Ratio	.95
3.7%	4.1%	5.9%	5.1%	5.4%	5.2%	4.9%	4.5%	4.7%	4.2%	4.8%		Avg Ann'l Div'd Yield	4.0%
848.2	690.2	850.2	1442.3	950.8	2799.9	2920.0	4973.3	6152.4	5898.4	7221.3	8000	Revenues ($mill) A	10700
55.3	25.0	32.2	56.1	59.7	79.5	86.2	135.8	162.3	170.5	180.3	195	Net Profit ($mill)	280
36.5%	35.0%	36.1%	37.3%	37.1%	37.1%	37.4%	37.7%	37.6%	35.8%	38.4%	38.5%	Income Tax Rate	40.0%
6.5%	3.6%	3.8%	3.9%	6.3%	2.8%	3.0%	2.7%	2.6%	2.9%	2.5%	2.4%	Net Profit Margin	2.6%
51.8%	50.0%	48.1%	54.3%	53.9%	50.2%	43.2%	57.7%	57.0%	52.0%	51.0%	51.0%	Long-Term Debt Ratio	51.0%
48.2%	50.0%	51.9%	45.7%	46.1%	49.8%	56.8%	42.3%	43.0%	48.0%	49.0%	49.0%	Common Equity Ratio	49.0%
769.7	755.1	755.7	1276.3	1243.7	1721.4	1994.8	3785.5	3828.5	4092.1	4170	4450	Total Capital ($mill)	6000
917.9	965.8	982.3	1335.4	1300.3	1516.0	1722.5	3374.4	3629.2	3836.8	4135	4350	Net Plant ($mill)	5800
9.0%	5.1%	6.5%	5.9%	6.8%	6.2%	5.8%	5.3%	6.1%	5.9%	6.0%	6.0%	Return on Total Cap'l	6.0%
14.9%	6.6%	8.2%	9.6%	10.4%	9.3%	7.6%	8.5%	9.8%	8.7%	9.0%	9.0%	Return on Shr. Equity	9.5%
14.9%	6.6%	8.2%	9.6%	10.4%	9.3%	7.6%	8.5%	9.8%	8.7%	9.0%	9.0%	Return on Com Equity	9.5%
6.3%	NMF	NMF	2.1%	1.9%	2.8%	1.7%	2.3%	3.6%	3.0%	3.0%	3.5%	Retained to Com Eq	4.0%
58%	NMF	112%	79%	82%	70%	77%	73%	63%	65%	66%	62%	All Div'ds to Net Prof	58%

CAPITAL STRUCTURE as of 6/30/08
Total Debt $2234.0 mill. **Due in 5 Yrs** $920.0 mill.
LT Debt $2119.7 mill. **LT Interest** $125.0 mill.
(LT interest earned: 2.9x; total interest coverage: 2.8x)
Leases, Uncapitalized Annual rentals $16.9 mill.
Pfd Stock None
Pension Assets-9/07 $389.1 mill. **Oblig.** $335.6 mill.
Common Stock 90,627,522 shs. as of 7/31/08
MARKET CAP: $2.1 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2006	2007	6/30/08
Cash Assets	75.8	60.7	46.5
Other	1041.7	1008.2	1350.5
Current Assets	1117.5	1068.9	1397.0
Accts Payable	345.1	355.3	582.4
Debt Due	385.6	154.4	114.3
Other	388.5	410.0	472.1
Current Liab.	1119.2	919.7	1168.8
Fix. Chg. Cov.	408%	405%	410%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '05-'07 to '11-'13
Revenues	8.5%	19.0%	5.5%
"Cash Flow"	4.0%	5.5%	2.0%
Earnings	3.5%	7.5%	4.5%
Dividends	2.5%	1.5%	2.0%
Book Value	7.0%	9.0%	3.5%

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2005	1371.0	1687.8	909.9	1004.6	4973.3
2006	2283.8	2033.8	863.2	971.6	6152.4
2007	1602.6	2075.6	1218.2	1002.0	5898.4
2008	1657.5	2484.0	1639.1	1440.7	7221.3
2009	1855	2925	1735	1485	8000

Fiscal Year Ends	EARNINGS PER SHARE A B E Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2005	.79	1.11	.06	d.21	1.72
2006	.88	1.10	d.22	.25	2.00
2007	.97	1.20	d.15	d.05	1.94
2008	.82	1.24	d.07	.02	2.00
2009	.90	1.30	d.06	d.04	2.10

Cal-endar	QUARTERLY DIVIDENDS PAID C■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.305	.305	.305	.31	1.23
2005	.31	.31	.31	.315	1.25
2006	.315	.315	.315	.32	1.27
2007	.32	.32	.32	.325	1.29
2008	.325	.325	.325	.33	

BUSINESS: Atmos Energy Corporation is engaged primarily in the distribution and sale of natural gas to 3.2 million customers via six regulated natural gas utility operations: Louisiana Division, West Texas Division, Mid-Tex Division, Mississippi Division, Colorado-Kansas Division, and Kentucky/Mid-States Division. Combined 2007 gas volumes: 297 MMcf. Breakdown: 56%, residential; 32%, commercial; 8%, industrial; and 4% other. 2007 depreciation rate 3.7%. Has around 4,470 employees. Officers and directors own approximately 1.8% of common stock (12/07 Proxy). Chairman and Chief Executive Officer: Robert W. Best. Incorporated: Texas. Address: P.O. Box 650205, Dallas, Texas 75265. Telephone: 972-934-9227. Internet: www.atmosenergy.com.

Atmos Energy's core natural gas utility stands to perform decently in fiscal 2009 (began on October 1st). That division should benefit from a rise in throughput, plus more aggressive collection efforts, which should keep bad debt expense under control. Note that revenues from pending rate cases are excluded from our presentation.

We are constructive about the other operations, as well. The regulated transmission and storage segment ought to be boosted by healthy transportation volumes from production in the Barnett Shale region of Texas. Moreover, respectable results seem achievable for the nonregulated marketing segment. But that unit's record showing in fiscal 2006 (when it was able to capture highly favorable arbitrage spreads created by natural gas volatility) probably won't be repeated.

Consolidated share net may rise around 5%, to $2.10, this fiscal year. One threat to this estimate is higher interest expense. The company has normally used short-term commercial paper to finance natural gas purchases. But Atmos had to access a line of credit when the commercial paper market froze. Efficiency gains may provide an offset, though. We expect a similar rate of bottom-line growth (to $2.20 a share) in fiscal 2010.

Steady, albeit unspectacular, annual earnings gains appear to be in store over the 2011-2013 horizon. The utility is one of the country's leading natural gas-only distributors, serving some 3.2 million customers across 12 states. Furthermore, the unregulated segments (contributing between 15% and 35% to net income annually on a historical basis) seem to possess healthy overall prospects. Finally, management should continue to implement its successful strategy of purchasing less-efficient utilities and shoring up their profitability via expense-reduction efforts, rate relief, and aggressive marketing.

These good-quality shares offer a healthy dose of current dividend income, which is adequately covered by earnings. Continued moderate increases in the distribution seem likely, too.

Total return prospects look decent, on a risk-adjusted basis. Also, the stock is ranked 2 (Above Average) for Timeliness.

Frederick L. Harris, III December 12, 2008

(A) Fiscal year ends Sept. 30th. (B) Diluted shrs. Excl. nonrec. items: '99, d23¢; '00, 12¢; '03, d17¢; '06, d18¢; '07, d2¢. Next egs. rpt. due early Feb. (C) Dividends historically paid in early March, June, Sept., and Dec. ■ Div. reinvestment plan. Direct stock purchase plan avail. (D) In millions. (E) Qtrs may not add due to change in shrs outstanding. (F) ATO completed United Cities merger 7/97.

Company's Financial Strength	B+
Stock's Price Stability	100
Price Growth Persistence	40
Earnings Predictability	80

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LACLEDE GROUP NYSE-LG

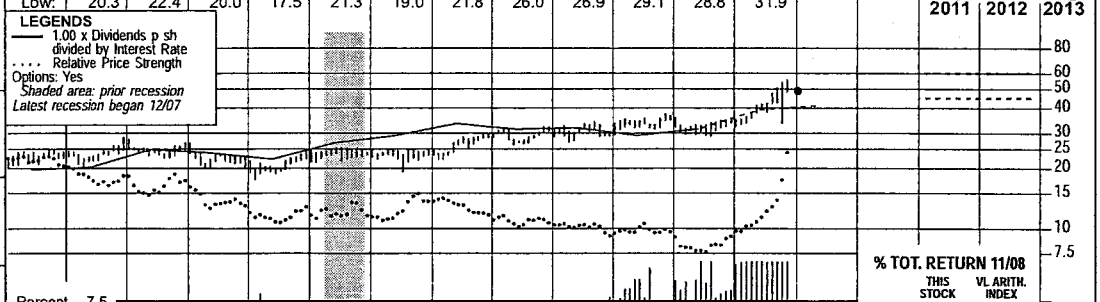
RECENT PRICE	48.89	P/E RATIO	21.2 (Trailing: 18.4 / Median: 15.0)	RELATIVE P/E RATIO	2.08	DIV'D YLD	3.1%	VALUE LINE

TIMELINESS **2** Raised 10/10/08
SAFETY **2** Raised 6/20/03
TECHNICAL **1** Raised 12/5/08
BETA .65 (1.00 = Market)

High:	28.6	27.9	27.0	24.8	25.5	25.0	30.0	32.5	34.3	37.5	36.0	55.8
Low:	20.3	22.4	20.0	17.5	21.3	19.0	21.8	26.0	26.9	29.1	28.8	31.9

Target Price Range 2011 | 2012 | 2013

LEGENDS
— 1.00 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
Options: Yes
Shaded area: prior recession
Latest recession began 12/07



2011-13 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	60	(+25%)	8%
Low	45	(-10%)	1%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	1	0	9	0	0	2	0
to Sell	0	0	1	0	9	0	0	2	0

Institutional Decisions

	1Q2008	2Q2008	3Q2008
to Buy	72	97	82
to Sell	55	50	72
Hld's(000)	10492	11750	11943

Percent shares traded 7.5 / 5 / 2.5

% TOT. RETURN 11/08

	THIS STOCK	VL ARITH. INDEX
1 yr.	59.3	-41.9
3 yr.	100.2	-30.9
5 yr.	124.7	-10.6

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	© VALUE LINE PUB., INC.	11-13
26.83	32.33	33.43	24.79	31.03	34.33	31.04	26.04	29.99	53.08	39.84	54.95	59.59	75.43	93.51	93.40	*100.40*	*96.00*	Revenues per sh	*111.75*
2.32	2.81	2.65	2.55	3.29	3.32	3.02	2.56	2.68	3.00	2.56	3.15	2.79	2.98	3.81	3.87	*4.20*	*4.30*	"Cash Flow" per sh	*5.30*
1.17	1.61	1.42	1.27	1.87	1.84	1.58	1.47	1.37	1.61	1.18	1.82	1.82	1.90	2.37	2.31	2.64	*2.50*	Earnings per sh A B	*2.85*
1.20	1.22	1.22	1.24	1.26	1.30	1.32	1.34	1.34	1.34	1.34	1.34	1.35	1.37	1.40	1.45	1.49	*1.53*	Div'ds Decl'd per sh C■	*1.65*
2.87	2.62	2.50	2.63	2.35	2.44	2.68	2.58	2.77	2.51	2.80	2.67	2.45	2.84	2.97	2.72	*2.55*	*2.65*	Cap'l Spending per sh	*3.40*
11.79	12.19	12.44	13.05	13.72	14.26	14.57	14.96	14.99	15.26	15.07	15.65	16.96	17.31	18.85	19.79	*22.10*	*21.90*	Book Value per sh D	*26.00*
15.59	15.59	15.67	17.42	17.56	17.56	17.63	18.88	18.88	18.88	18.96	19.11	20.98	21.17	21.36	21.65	*22.00*	*22.50*	Common Shs Outst'g E	*25.50*
15.8	13.5	16.4	15.5	11.9	12.5	15.5	15.8	14.9	14.5	20.0	13.6	15.7	16.2	13.6	14.2	14.3		Avg Ann'l P/E Ratio	*18.0*
.96	.80	1.08	1.04	.75	.72	.81	.90	.97	.74	1.09	.78	.83	.86	.73	.75	.85		Relative P/E Ratio	*1.20*
6.5%	5.6%	5.3%	6.3%	5.6%	5.6%	5.4%	5.8%	6.6%	5.7%	5.7%	5.4%	4.7%	4.4%	4.3%	4.4%	3.9%		Avg Ann'l Div'd Yield	*3.1%*

CAPITAL STRUCTURE as of 6/30/08
Total Debt $368.0 mill. **Due in 5 Yrs** $275.0 mill.
LT Debt $309.2 mill. **LT Interest** $20.0 mill.
(Total interest coverage: 3.0x)

Leases, Uncapitalized Annual rentals $.9 mill.
Pension Assets-9/07 $260.3 mill. **Oblig.** $293.3 mill.
Pfd Stock $.5 mill. **Pfd Div'd** $.04 mill.
Common Stock 21,971,760 shs. as of 8/5/08

MARKET CAP: $1.1 billion (Mid Cap)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		11-13
547.2	491.6	566.1	1002.1	755.2	1050.3	1250.3	1597.0	1997.6	2021.6	2209.0	*2160*	Revenues ($mill) A	*2850*
27.9	26.9	26.0	30.5	22.4	34.6	36.1	40.1	50.5	49.8	57.5	*56.5*	Net Profit ($mill)	*75.0*
35.6%	35.5%	35.2%	32.7%	35.4%	35.0%	34.8%	34.1%	32.5%	33.4%	31.3%	*31.5%*	Income Tax Rate	*35.0%*
5.1%	5.5%	4.6%	3.0%	3.0%	3.3%	2.9%	2.5%	2.5%	2.5%	2.6%	*2.6%*	Net Profit Margin	*2.7%*
40.9%	41.8%	45.2%	49.5%	47.5%	50.4%	51.6%	48.1%	49.5%	45.3%	*44.5%*	*45.0%*	Long-Term Debt Ratio	*47.0%*
58.6%	57.8%	54.5%	50.2%	52.3%	49.4%	48.3%	51.8%	50.4%	54.6%	*55.5%*	*55.0%*	Common Equity Ratio	*53.0%*
438.0	488.6	519.2	574.1	546.6	605.0	737.4	707.9	798.9	784.5	*875*	*895*	Total Capital ($mill)	*1250*
490.6	519.4	575.4	602.5	594.4	621.2	646.9	679.5	763.8	793.8	*825*	*855*	Net Plant ($mill)	*1150*
8.1%	7.1%	6.7%	6.9%	6.0%	7.4%	6.6%	7.6%	8.4%	8.5%	*8.0%*	*7.5%*	Return on Total Cap'l	*7.5%*
10.8%	9.5%	9.1%	10.5%	7.8%	11.5%	10.1%	10.9%	12.5%	11.6%	*12.0%*	*11.5%*	Return on Shr. Equity	*11.5%*
10.8%	9.5%	9.1%	10.5%	7.8%	11.6%	10.1%	10.9%	12.5%	11.6%	*12.0%*	*11.5%*	Return on Com Equity	*11.5%*
1.8%	1.0%	.2%	1.8%	NMF	3.1%	2.7%	3.1%	5.1%	4.3%	*5.0%*	*4.5%*	Retained to Com Eq	*5.0%*
83%	89%	98%	83%	113%	74%	73%	72%	59%	63%	*57%*	*61%*	All Div'ds to Net Prof	*56%*

CURRENT POSITION ($MILL.)	2006	2007	6/30/08
Cash Assets	50.8	52.7	33.0
Other	409.0	414.6	395.9
Current Assets	459.8	467.3	428.9
Accts Payable	103.3	106.8	191.4
Debt Due	207.5	251.6	58.8
Other	120.1	115.3	75.3
Current Liab.	430.9	473.7	325.5
Fix. Chg. Cov.	285%	282%	285%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '05-'07 to '11-'13
Revenues	11.5%	16.5%	*4.5%*
"Cash Flow"	1.5%	5.5%	*7.0%*
Earnings	3.0%	9.5%	*4.5%*
Dividends	1.0%	1.0%	*2.5%*
Book Value	3.0%	4.5%	*5.5%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.)A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2005	442.5	576.5	311.3	266.7	1597.0
2006	689.2	708.8	330.6	269.0	1997.6
2007	539.6	700.8	457.9	323.3	2021.6
2008	504.0	747.7	505.5	451.8	2209.0
2009	*540*	*540*	*540*	*540*	*2160*

Fiscal Year Ends	EARNINGS PER SHARE A B F Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2005	.79	1.06	.29	d.24	1.90
2006	1.23	1.05	.13	d.04	2.37
2007	.89	.97	.43	.03	2.31
2008	.99	1.39	.41	d.14	2.64
2009	*.96*	*1.16*	*.33*	*.05*	*2.50*

Cal-endar	QUARTERLY DIVIDENDS PAID C■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2005	.34	.345	.345	.345	1.38
2006	.345	.355	.355	.355	1.41
2007	.365	.365	.365	.365	1.46
2008	.375	.375	.375	.375	1.50
2009	.385				

BUSINESS: Laclede Group, Inc., is a holding company for Laclede Gas, which distributes natural gas in eastern Missouri, including the city of St. Louis, St. Louis County, and parts of 10 other counties. Has roughly 632,000 customers. Purchased SM&P Utility Resources, 1/02; divested, 3/08. Therms sold and transported in fiscal 2007: 1.12 mill. Revenue mix for regulated operations: residential, 60%; commercial and industrial, 24%; transportation, 1%; other, 15%. Has around 3,845 employees. Officers and directors own approximately 7.0% of common shares (1/08 proxy). Chairman, Chief Executive Officer, and President: Douglas H. Yaeger. Incorporated: Missouri. Address: 720 Olive Street, St. Louis, Missouri 63101. Telephone: 314-342-0500. Internet: www.thelacledegroup.com.

We do not believe that Laclede Group's share net in fiscal 2009 (which began on October 1st) will reach last year's level, attributable mainly to the difficult comparison. Regarding Laclede Gas, accounting for the biggest portion of profits, it appears that the substantial rate increase effective August 1st of 2007 won't be repeated. Furthermore, there may not be a recording of additional previously unrecognized tax benefits here. Meanwhile, Laclede Energy Resources stands to have a respectable performance (depending greatly on natural gas price volatility), but we do not anticipate a reversal of more tax-related expenses. All things considered, consolidated share net ought to decrease roughly 5%, to $2.50, this fiscal year. Laclede Group's bottom line could expand in the mid-single-digit range (to $2.60 a share) in fiscal 2010, assuming additional expansion in operating margins.

Steady, if unspectacular, earnings increases seem achievable over the 3- to 5-year timeframe. Expansion of the customer base for the natural gas distribution unit has been moderate for some time because the service area, located in eastern Missouri, is in a mature stage. That being the case, internal growth here will likely remain a challenge. The non-regulated division has promising expansion opportunities, but it has contributed just a small portion to Laclede Group's profits on a historical basis. A significant acquisition could help to offset this, but it appears that management has no such plans in the works at this juncture. Consequently, annual bottom-line advances could be only between 4% and 5% over the 2011-2013 horizon.

This favorably ranked equity offers a decent level of current dividend income, which is adequately covered by earnings. But further increases in the distribution will probably be slow in coming. This is primarily because of the regulated gas segment's unexciting long-term growth prospects.

Total-return possibilities are limited. That is attributable to these shares' relatively high present quotation and our expectation of moderate increases in the dividend.

Frederick L. Harris, III December 12, 2008

(A) Fiscal year ends Sept. 30th.
(B) Based on average shares outstanding thru. '97, then diluted. Excludes nonrecurring loss: '06, 7¢. Excludes gain from discontinued operations: '08, 94¢. Next earnings report due late Jan. (C) Dividends historically paid in early January, April, July, and October. ■ Dividend reinvestment plan available. (D) Incl. deferred charges. In '07: $289.7 mill., $13.38/sh.
(E) In millions.
(F) Qtly. egs. may not sum due to rounding or change in shares outstanding.

Company's Financial Strength	B+
Stock's Price Stability	100
Price Growth Persistence	60
Earnings Predictability	75

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NEW JERSEY RES. NYSE-NJR

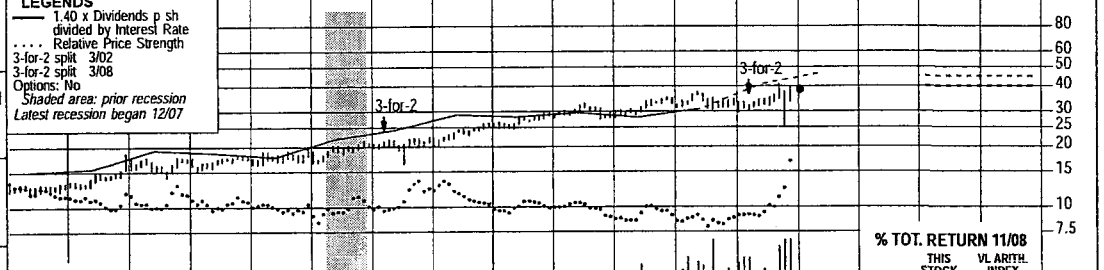
RECENT PRICE	P/E RATIO		RELATIVE P/E RATIO	DIV'D YLD	
38.42	12.2	(Trailing: 14.2 Median: 15.0)	1.20	3.2%	VALUE LINE

TIMELINESS **2** Raised 11/28/08
SAFETY **1** Raised 9/15/06
TECHNICAL **2** Raised 11/21/08
BETA .70 (1.00 = Market)

High:	18.7	17.9	18.3	19.8	21.7	22.4	26.4	29.7	32.9	35.4	37.6	41.1
Low:	12.5	14.0	14.9	16.1	16.6	16.2	20.0	24.3	27.1	27.7	30.3	24.6

Target Price Range 2011 | 2012 | 2013

LEGENDS
— 1.40 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
3-for-2 split 3/02
3-for-2 split 3/08
Options: No
Shaded area: prior recession
Latest recession began 12/07



2011-13 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(+15%)	7%
Low	40	(+5%)	4%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	0
Options	2	0	0	1	2	0	0	1	0
to Sell	0	2	0	0	2	0	0	1	0

Institutional Decisions

	1Q2008	2Q2008	3Q2008
to Buy	85	90	64
to Sell	70	62	88
Hld's(000)	26518	26910	26312

Percent shares traded 12 8 4

% TOT. RETURN 11/08

	THIS STOCK	VL ARITH. INDEX
1 yr.	23.5	-41.9
3 yr.	56.0	-30.9
5 yr.	84.1	-10.6

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	© VALUE LINE PUB., INC.	11-13
11.25	12.02	12.81	11.36	13.48	17.31	17.73	22.65	29.42	51.22	44.11	62.29	60.89	76.19	79.63	72.62	91.12	*92.45*	Revenues per sh A	*97.60*
1.30	1.42	1.54	1.42	1.48	1.63	1.74	1.86	1.99	2.12	2.14	2.38	2.50	2.62	2.73	2.44	3.64	*3.70*	"Cash Flow" per sh	*3.90*
.73	.76	.84	.86	.92	.99	1.04	1.11	1.20	1.30	1.39	1.59	1.70	1.77	1.87	1.55	2.70	*2.80*	Earnings per sh B	*3.00*
.68	.68	.68	.68	.69	.71	.73	.75	.76	.78	.80	.83	.87	.91	.96	1.01	1.11	*1.24*	Div'ds Decl'd per sh C■	*1.36*
1.33	1.54	1.40	1.18	1.19	1.15	1.07	1.21	1.23	1.10	1.02	1.14	1.45	1.28	1.28	1.46	1.73	*1.75*	Cap'l Spending per sh	*1.80*
6.29	6.54	6.43	6.47	6.73	6.92	7.26	7.57	8.29	8.80	8.71	10.26	11.25	10.60	15.00	15.50	17.36	*19.35*	Book Value per sh D	*25.75*
36.64	37.84	38.93	40.03	40.69	40.23	40.07	39.92	39.59	40.00	41.50	40.85	41.61	41.32	41.44	41.61	41.88	*42.50*	Common Shs Outst'g E	*44.00*
12.4	15.1	13.0	11.7	13.6	13.5	15.3	15.2	14.7	14.2	14.7	14.0	15.3	16.8	16.1	21.6	12.3		Avg Ann'l P/E Ratio	*14.0*
.75	.89	.85	.78	.85	.78	.80	.87	.96	.73	.80	.80	.81	.89	.87	1.13	.73		Relative P/E Ratio	*.95*
7.5%	5.8%	6.2%	6.7%	5.6%	5.3%	4.6%	4.5%	4.4%	4.2%	3.9%	3.7%	3.3%	3.1%	3.2%	3.0%	3.3%		Avg Ann'l Div'd Yield	*3.4%*

CAPITAL STRUCTURE as of 9/30/08
Total Debt $693.4 mill. Due in 5 Yrs $175.6 mill.
LT Debt $455.1 mill. LT Interest $16.9 mill.
Incl. $8.8 mill. capitalized leases.
(LT interest earned: 4.8x; total interest coverage: 4.8x)
Pension Assets-9/08 $80.6 mill. Oblig. $102.4 mill.

Pfd Stock None

Common Stock 42,120,169 shs. as of 11/20/08
MARKET CAP: $1.6 billion (Mid Cap)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		11-13
710.3	904.3	1164.5	2048.4	1830.8	2544.4	2533.6	3148.3	3299.6	3021.8	3816.2	*3930*	Revenues ($mill) A	*4295*
43.3	44.9	47.9	52.3	56.8	65.4	71.6	74.4	78.5	65.3	113.9	*120*	Net Profit ($mill)	*130*
30.4%	36.2%	37.8%	38.0%	38.7%	39.4%	39.1%	39.1%	38.9%	38.8%	37.8%	*39.0%*	Income Tax Rate	*40.0%*
6.1%	5.0%	4.1%	2.6%	3.1%	2.6%	2.8%	2.4%	2.4%	2.2%	3.0%	*3.1%*	Net Profit Margin	*3.0%*
51.2%	48.7%	47.0%	50.1%	50.6%	38.1%	40.3%	42.0%	34.8%	37.3%	38.5%	*38.0%*	Long-Term Debt Ratio	*32.5%*
45.6%	51.2%	52.9%	49.9%	49.4%	61.9%	59.7%	58.0%	65.2%	62.7%	61.5%	*62.0%*	Common Equity Ratio	*67.5%*
638.2	590.4	620.1	706.2	732.4	676.8	783.8	755.3	954.0	1028.0	1182.1	*1325*	Total Capital ($mill)	*1680*
680.0	705.4	730.6	743.9	756.4	852.6	880.4	905.1	934.9	970.9	1017.3	*1040*	Net Plant ($mill)	*1100*
8.1%	9.0%	9.0%	8.5%	8.7%	10.7%	10.1%	11.2%	9.6%	7.7%	10.7%	*10.0%*	Return on Total Cap'l	*8.5%*
13.9%	14.8%	14.6%	14.8%	15.7%	15.6%	15.3%	17.0%	12.6%	10.1%	*15.7%*	*14.5%*	Return on Shr. Equity	*11.5%*
14.4%	14.8%	14.6%	14.9%	15.7%	15.6%	15.3%	17.0%	12.6%	10.1%	*15.7%*	*14.5%*	Return on Com Equity	*11.5%*
4.4%	5.0%	5.4%	6.1%	6.9%	7.7%	7.8%	8.5%	6.3%	3.6%	9.3%	*8.0%*	Retained to Com Eq	*6.5%*
71%	67%	63%	59%	56%	51%	49%	50%	50%	64%	41%	*44%*	All Div'ds to Net Prof	*46%*

CURRENT POSITION ($MILL.)	2006	2007	9/30/08
Cash Assets	5.0	5.1	42.6
Other	960.5	794.8	1067.1
Current Assets	965.5	799.9	1109.7
Accts Payable	46.8	64.4	61.7
Debt Due	284.4	260.8	238.3
Other	566.0	378.1	594.0
Current Liab.	897.2	703.3	894.0
Fix. Chg. Cov.	570%	461%	450%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '05-'07 to '11-'13
Revenues	18.5%	13.0%	*4.5%*
"Cash Flow"	5.5%	4.5%	*7.0%*
Earnings	6.5%	6.0%	*9.5%*
Dividends	3.5%	4.0%	*6.0%*
Book Value	7.5%	10.0%	*11.0%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2005	854.1	1065	544.3	684.9	3148.3
2006	1164	1064	536.1	535.5	3299.6
2007	737.4	1029	662.2	593.2	3021.8
2008	811.1	1178	1000	827.1	3816.2
2009	*850*	*1190*	*1050*	*840*	*3930*

Fiscal Year Ends	EARNINGS PER SHARE A B Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2005	.61	1.23	.05	d.12	1.77
2006	.82	1.43	d.09	d.29	1.87
2007	.70	.19	.60	.06	1.55
2008	.87	.30	d.18	1.86	2.70
2009	*.90*	*.40*	*--*	*1.50*	*2.80*

Cal-endar	QUARTERLY DIVIDENDS PAID C E■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.217	.217	.217	.217	.87
2005	.227	.227	.227	.227	.91
2006	.24	.24	.24	.24	.96
2007	.253	.253	.253	.253	1.01
2008	.267	.28	.28	.28	

BUSINESS: New Jersey Resources Corp. is a holding company providing retail/wholesale energy svcs. to customers in New Jersey, and in states from the Gulf Coast to New England, and Canada. New Jersey Natural Gas had about 478,000 customers at 9/30/07 in Monmouth and Ocean Counties, and other N.J. Counties. Fiscal 2007 volume: 102.8 bill. cu. ft. (58% firm, 6% interruptible industrial and electric utility, 36% off-system and capacity release). N.J. Natural Energy subsidiary provides unregulated retail/wholesale natural gas and related energy svcs. 2007 dep. rate: 2.8%. Has 808 empls. Off./dir. own about 2% of common (12/07 Proxy). Chmn., CEO, & Pres. : Laurence M. Downes. Inc.: N.J. Addr.: 1415 Wyckoff Road, Wall, NJ 07719. Tel.: 732-938-1480. Web: www.njresources.com.

New Jersey Resources posted solid results for its fiscal fourth quarter (ended September 30th) and year. This stemmed from roughly 7,175 new customers last year, as well as about 730 conversions, which boosted results at the New Jersey Natural Gas (NJNG) division. Meanwhile, record performance from NJR Energy Services also contributed nicely.

Capital projects ought to provide room for the expansion of its midstream assets. NJR has been making progress at its Steckman Ridge storage facility in western Pennsylvania. Meanwhile, the company has drilled three wells so far, and expects to have nine others completed in 2009. This facility will provide extra capacity during the peak winter and summer months to the Northeast. Also, the completion of a new 16-inch main pipeline into the Whiting section of Manchester Township, NJ is allowing for new first-time customers.

We have raised our 2009 annual estimate by 30%. This stems a recent base rate case approval for NJNG that boosts annual revenues by $32.5 million, as well as the aforementioned capital projects. New customers at the NJNG division are expected to contribute approximately $4 million annually to utility gross margins. And there is still sizable room for that segment to grow through potential customers and conversions. The NJR Energy Services unit has benefited from its dynamic portfolio of supply storage and transportation contacts. And the Steckman Ridge facility ought to complement that mix nicely. All told, the company's prospects appear bright.

Meanwhile, the balance sheet and financial position appear strong. NJR has ample cash on hand, and solid access to capital through revolving bank credit.

These timely shares have been on a bumpy ride since our September review. Still, they are currently trading up about 6% over that interim, thanks to a dividend increase and solid earnings this past year. Meanwhile, the 10.7% hike in NJR's quarterly dividend may appeal to income-oriented accounts. And conservative investors may find the high Safety rank (1) and solid Financial Strength rating (A) comforting.

Bryan Fong *December 12, 2008*

(A) Fiscal year ends Sept. 30th.
(B) Diluted earnings. Qtly egs may not sum to total due to change in shares outstanding. Next earnings report due late Jan.
(C) Dividends historically paid in early January, April, July, and October. ■ Dividend reinvestment plan available.
(D) Includes regulatory assets in 2008: $340.7 million, $8.09/share.
(E) In millions, adjusted for split.
(F) Restated.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	65
Earnings Predictability	50

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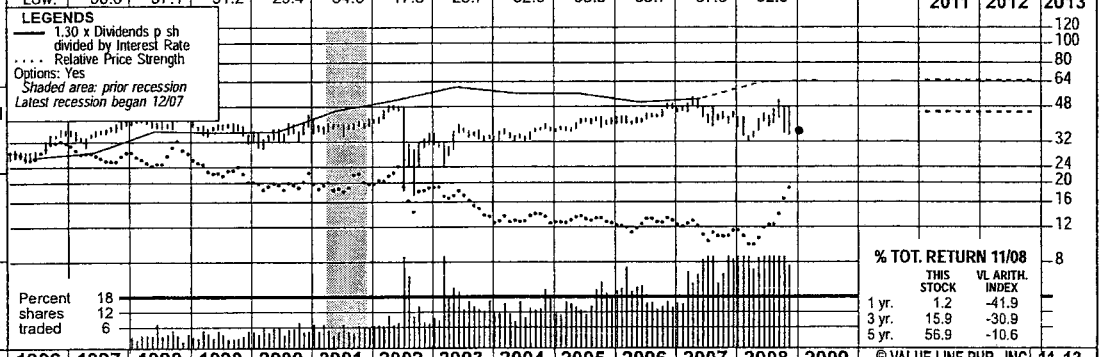
NICOR, INC. NYSE-GAS

RECENT PRICE	36.17	P/E RATIO	18.5 (Trailing: 12.9 / Median: 15.0)	RELATIVE P/E RATIO	1.81	DIV'D YLD	5.1%	VALUE LINE

TIMELINESS 3 Raised 12/7/07
SAFETY 3 Lowered 6/17/05
TECHNICAL 2 Raised 10/10/08
BETA .70 (1.00 = Market)

High:	42.9	44.4	42.9	43.9	42.4	49.0	39.3	39.7	43.0	49.9	53.7	52.0
Low:	30.0	37.1	31.2	29.4	34.0	17.3	23.7	32.0	35.5	38.7	37.8	32.3

LEGENDS
— 1.30 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
Options: Yes
Shaded area: prior recession
Latest recession began 12/07



Target Price Range
2011 | 2012 | 2013

2011-13 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	65	(+80%)	19%
Low	45	(+25%)	10%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	0	0	0	0	0	1
to Sell	0	0	0	0	0	0	0	0	1

Institutional Decisions

	1Q2008	2Q2008	3Q2008
to Buy	91	119	105
to Sell	120	90	125
Hld's(000)	31875	32273	32539

Percent shares traded 18 12 6

% TOT. RETURN 11/08

	THIS STOCK	VL ARITH. INDEX
1 yr.	1.2	-41.9
3 yr.	15.9	-30.9
5 yr.	56.9	-10.6

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	© VALUE LINE PUB., INC.	11-13
28.90	31.02	31.23	29.42	37.39	41.33	30.84	34.45	50.52	57.30	43.11	60.46	62.12	76.00	65.92	69.20	*83.35*	*86.65*	Revenues per sh	*100.00*
4.14	3.80	4.11	4.19	4.97	5.29	5.21	5.59	6.16	6.41	6.03	5.37	6.00	6.19	6.82	6.96	*6.60*	*7.15*	"Cash Flow" per sh	*8.85*
1.92	1.97	2.07	1.96	2.42	2.55	2.31	2.57	2.94	3.01	2.88	2.11	2.22	2.29	2.87	2.98	*2.25*	*2.50*	Earnings per sh A	*3.45*
1.18	1.22	1.25	1.28	1.32	1.40	1.48	1.54	1.66	1.76	1.84	1.86	1.86	1.86	1.86	1.86	*1.86*	*1.86*	Div'ds Decl'd per sh B	*1.86*
3.12	2.62	3.34	3.12	2.42	2.34	2.87	3.28	3.48	4.18	4.37	4.12	4.32	4.57	4.17	3.77	*4.20*	*4.35*	Cap'l Spending per sh	*4.80*
12.76	13.05	13.26	13.67	14.74	15.43	15.97	16.80	15.56	16.39	16.55	17.13	16.99	18.36	19.43	20.58	*20.75*	*21.35*	Book Value per sh	*25.40*
55.77	53.96	51.54	50.30	49.49	48.22	47.51	46.89	45.49	44.40	44.01	44.04	44.10	44.18	44.90	45.90	*45.00*	*45.00*	Common Shs Outst'g C	*45.00*
11.6	14.1	12.5	13.1	12.5	14.2	17.6	14.6	11.9	12.8	13.1	15.8	15.9	17.3	15.0	15.0	*Bold figures are*		Avg Ann'l P/E Ratio	*16.0*
.70	.83	.82	.88	.78	.82	.92	.83	.77	.66	.72	.90	.84	.92	.81	.80	*Value Line*		Relative P/E Ratio	*1.05*
5.3%	4.4%	4.8%	5.0%	4.4%	3.9%	3.6%	4.1%	4.7%	4.6%	4.9%	5.6%	5.3%	4.7%	4.3%	4.2%	*estimates*		Avg Ann'l Div'd Yield	*3.2%*

CAPITAL STRUCTURE as of 9/30/08
Total Debt $937.0 mill. **Due in 5 Yrs** $544.0 mill.
LT Debt $448.0 mill. **LT Interest** $30.0 mill.
(Total interest coverage: 5.9x)

Pension Assets-12/07 $478.7 mill. **Oblig.** $263.2 mill.

Pfd Stock $.6 mill. **Pfd Div'd** None

Common Stock 45,191,267 shares
as of 10/27/08
MARKET CAP: $1.6 billion (Mid Cap)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		11-13
1465.1	1615.2	2298.1	2544.1	1897.4	2662.7	2739.7	3357.8	2960.0	3176.3	*3750*	*3900*	Revenues ($mill)	*4500*
111.1	121.9	136.4	136.3	128.0	93.1	98.1	101.1	128.3	135.2	*100*	*115*	Net Profit ($mill)	*155*
34.4%	34.7%	34.8%	33.5%	31.0%	35.2%	31.8%	28.3%	26.3%	26.6%	*31.0%*	*31.5%*	Income Tax Rate	*33.0%*
7.6%	7.5%	5.9%	5.4%	6.7%	3.5%	3.6%	3.0%	4.3%	4.3%	*2.7%*	*3.0%*	Net Profit Margin	*3.5%*
42.1%	35.5%	32.7%	37.8%	35.1%	39.6%	39.8%	37.4%	36.3%	30.9%	*33.0%*	*32.0%*	Long-Term Debt Ratio	*27.0%*
57.4%	64.0%	66.7%	61.7%	64.5%	60.3%	60.1%	62.5%	63.7%	69.0%	*67.0%*	*68.0%*	Common Equity Ratio	*73.0%*
1322.6	1230.1	1061.2	1180.1	1128.9	1251.5	1246.0	1297.7	1370.7	1368.0	*1400*	*1400*	Total Capital ($mill)	*1575*
1731.8	1735.2	1729.6	1768.6	1796.8	2484.2	2549.8	2659.1	2714.1	2757.3	*2850*	*2950*	Net Plant ($mill)	*3265*
9.9%	10.9%	13.7%	12.3%	12.2%	8.3%	8.8%	9.4%	10.9%	11.2%	*8.5%*	*9.5%*	Return on Total Cap'l	*11.0%*
14.5%	15.4%	19.1%	18.6%	17.5%	12.3%	13.1%	12.5%	14.7%	14.3%	*11.0%*	*11.5%*	Return on Shr. Equity	*13.5%*
14.6%	15.4%	19.2%	18.7%	17.5%	12.3%	13.1%	12.5%	14.7%	14.3%	*11.5%*	*11.5%*	Return on Com Equity	*13.5%*
5.4%	6.2%	8.5%	7.9%	6.5%	1.5%	2.1%	2.3%	5.2%	5.4%	*2.0%*	*3.0%*	Retained to Com Eq	*6.5%*
63%	60%	56%	58%	63%	88%	84%	81%	65%	62%	*83%*	*75%*	All Div'ds to Net Prof	*54%*

CURRENT POSITION ($MILL.)	2006	2007	9/30/08
Cash Assets	67.6	91.9	74.4
Other	843.1	931.9	934.5
Current Assets	910.7	1023.8	1008.9
Accts Payable	564.5	428.2	435.4
Debt Due	350.0	444.0	489.0
Other	227.9	404.2	394.9
Current Liab.	1142.4	1276.4	1319.3
Fix. Chg. Cov.	543%	544%	94%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '05-'07 to '11-'13
Revenues	7.0%	7.0%	*6.0%*
"Cash Flow"	3.5%	1.5%	*5.0%*
Earnings	1.5%	-1.5%	*4.0%*
Dividends	3.5%	1.0%	*Nil*
Book Value	3.0%	4.0%	*4.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2005	1179.9	484.4	336.0	1357.5	3357.8
2006	1319.4	451.3	351.1	838.2	2960.0
2007	1334.7	556.9	365.2	919.5	3176.3
2008	1595.7	699.8	440.3	*1014.2*	*3750*
2009	*1650*	*715*	*435*	*1100*	*3900*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2005	.98	.35	d.06	1.02	2.29
2006	.99	.19	.39	1.30	2.87
2007	1.04	.40	.32	1.22	2.98
2008	.91	.64	.03	.67	2.25
2009	*.90*	*.35*	*.25*	*1.00*	*2.50*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.465	.465	.465	.465	1.86
2005	.465	.465	.465	.465	1.86
2006	.465	.465	.465	.465	1.86
2007	.465	.465	.465	.465	1.86
2008	.465	.465	.465	.465	

BUSINESS: Nicor Inc. is a holding company with gas distribution as its primary business. Serves over 2.2 million customers in northern and western Illinois. 2007 gas delivered: 468.3 Bcf, incl. 212.1 Bcf from transportation. 2007 gas sales (256.2 bcf): residential, 79%; commercial, 19%; industrial, 2%. Principal supplying pipelines: Natural Gas Pipeline, Horizon Pipeline, and TGPC. Current operations include Tropical Shipping subsidiary and several energy related ventures. Divested oil and gas E&P, 6/93. Has about 3,900 employees. Officers/directors own about 2.2% of common stock (3/08 proxy). Chairman and Chief Executive Officer: Russ Strobel. Incorporated: Illinois. Address: 1844 Ferry Road, Naperville, Illinois 60563. Telephone: 630-305-9500. Internet: www.nicor.com.

Nicor's performance has been unimpressive lately. Most notably, earnings of $0.03 a share fell well short of our $0.20-a-share estimate. Weakness in the gas distribution business was the primary reason for the disappointing performance. The company has faced various challenges over the course of 2008 including high gas prices, rising costs, and tough market conditions in its shipping business.

Management reiterated its outlook for the year. Despite the shortfall in the September interim, Nicor expects earnings to be between $2.20 and $2.40 a share for 2008. This view does not include the potential for volatility in natural gas markets and assumes normal weather for the remainder of the year.

We look for earnings to be on the low end of the company's guidance. Given the weak third-quarter showing, we estimate share net will be $2.25. Nicor will probably continue to face a challenging operating environment, which should pressure results in the December period.

Nicor is still focused on obtaining rate relief. The company filed a case and is awaiting a decision from the Illinois Commerce Commission (ICC). Nicor initially wanted to increase its rate base by $140.3 million in order to recoup rising costs in its market. This case reflected an 11.05% return on equity on a $1.5 billion base. In response to a direct testimony by the ICC, the company filed rebuttal testimony in late September, which revised its proposed rate to $141.6 million and increased its cost of equity to 11.15%. All told, the process is expected to continue into the middle of 2009, and the outcome should be a key factor in GAS' performance over the coming years. Thus, we recommend investors continue to keep a close eye on these proceedings over the coming months.

This stock is ranked 3 (Average) for year-ahead performance. However, risk-averse investors may find these stable shares appealing, given the volatility in the world's financial markets. Nicor's yield is above the industry average, which may interest income-oriented accounts. Still, the company will probably continue to be pressured by a tough operating environment in the foreseeable future. Therefore, most investors should look elsewhere.

Richard Gallagher *December 12, 2008*

(A) Based on primary earnings thru. '96, then diluted. Excl. nonrecurring gains/(loss): '97, 6¢; '98, 11¢; '99, 5¢; '00, ($1.96); '01, 16¢; '03, (27¢); '04, (52¢); '05, 80¢; '06, (17¢); '07 (13¢). Excl. items from discontinued ops.: '93, 4¢; '96, 30¢. Next egs. report due late February. (B) Dividends historically paid mid February, May, August, November. ■ Dividend reinvestment plan available. (C) In millions.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	35
Earnings Predictability	75

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N.W. NAT'L GAS NYSE-NWN

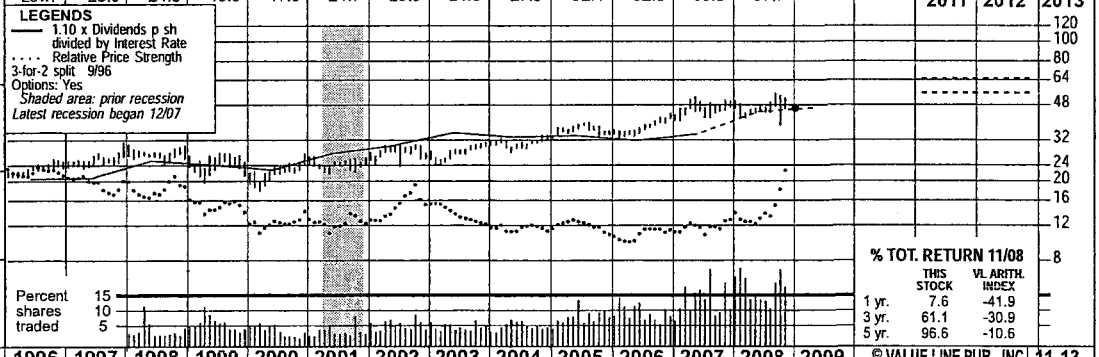
RECENT PRICE	P/E RATIO		RELATIVE P/E RATIO	DIV'D YLD	
46.38	17.4	(Trailing: 18.0 Median: 16.0)	1.71	3.4%	VALUE LINE

TIMELINESS 3 Raised 8/8/08
SAFETY 1 Raised 3/18/05
TECHNICAL 1 Raised 12/12/08
BETA .60 (1.00 = Market)

High:	31.4	30.8	27.9	27.5	26.8	30.7	31.3	34.1	39.6	43.7	52.8	55.2	
Low:	23.0	24.3	19.5	17.8	21.7	23.5	24.0	27.5	32.4	32.8	39.8	37.7	

Target Price Range 2011 | 2012 | 2013

LEGENDS
— 1.10 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
3-for-2 split 9/96
Options: Yes
Shaded area: prior recession
Latest recession began 12/07



2011-13 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	65	(+40%)	12%
Low	55	(+20%)	8%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	1	0	0	0	1	0	0	0
Options	0	0	0	0	0	1	0	1	2
to Sell	0	0	0	0	0	1	0	1	2

Institutional Decisions

	1Q2008	2Q2008	3Q2008
to Buy	77	78	65
to Sell	92	71	74
Hld's(000)	16772	16947	16310

Percent shares traded 15 10 5

% TOT. RETURN 11/08

	THIS STOCK	VL ARITH. INDEX
1 yr.	7.6	-41.9
3 yr.	61.1	-30.9
5 yr.	96.6	-10.6

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	© VALUE LINE PUB., INC.	11-13
14.10	18.15	18.30	16.02	16.86	15.82	16.77	18.17	21.09	25.78	25.07	23.57	25.69	33.01	37.20	39.13	*40.55*	*43.95*	Revenues per sh	*50.00*
3.25	3.74	3.50	3.41	3.86	3.72	3.24	3.72	3.68	3.86	3.65	3.85	3.92	4.34	4.76	5.41	*5.40*	*5.75*	"Cash Flow" per sh	*6.60*
.74	1.74	1.63	1.61	1.97	1.76	1.02	1.70	1.79	1.88	1.62	1.76	1.86	2.11	2.35	2.76	*2.55*	*2.80*	Earnings per sh A	*3.35*
1.15	1.17	1.17	1.18	1.20	1.21	1.22	1.23	1.24	1.25	1.26	1.27	1.30	1.32	1.39	1.44	1.52	*1.60*	Div'ds Decl'd per sh B■	*1.88*
3.73	3.61	4.23	3.02	3.70	5.07	4.02	4.78	3.46	3.23	3.11	4.90	5.52	3.48	3.56	4.48	*5.45*	*9.00*	Cap'l Spending per sh	*4.50*
12.41	13.08	13.63	14.55	15.37	16.02	16.59	17.12	17.93	18.56	18.88	19.52	20.64	21.28	22.01	22.52	*23.65*	*23.75*	Book Value per sh	*26.50*
19.46	19.77	20.13	22.24	22.56	22.86	24.85	25.09	25.23	25.23	25.59	25.94	27.55	27.58	27.24	26.41	*26.50*	*26.50*	Common Shs Outst'g C	*28.00*
27.0	12.9	13.0	12.9	11.7	14.4	26.7	14.5	12.4	12.9	17.2	15.8	16.7	17.0	15.9	16.7	*Bold figures are*		Avg Ann'l P/E Ratio	*18.0*
1.64	.76	.85	.86	.73	.83	1.39	.83	.81	.66	.94	.90	.88	.91	.86	.88	*Value Line*		Relative P/E Ratio	*1.20*
5.7%	5.2%	5.5%	5.7%	5.2%	4.8%	4.5%	5.0%	5.6%	5.1%	4.5%	4.6%	4.2%	3.7%	3.7%	3.1%	*estimates*		Avg Ann'l Div'd Yield	*3.1%*

CAPITAL STRUCTURE as of 9/30/08
Total Debt $686.8 mill. **Due in 5 Yrs** $259.8 mill.
LT Debt $512.0 mill. **LT Interest** $37.0 mill.

(Total interest coverage: 4.0x)

Pension Assets-12/07 $241 mill.
Oblig. $260 mill.
Pfd Stock None

Common Stock 26,470,688 shs.
as of 10/31/08
MARKET CAP $1.2 billion (Mid Cap)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		11-13
416.7	455.8	532.1	650.3	641.4	611.3	707.6	910.5	1013.2	1033.2	*1000*	*1025*	Revenues ($mill)	*1400*
27.3	44.9	47.8	50.2	43.8	46.0	50.6	58.1	65.2	74.5	*67.5*	*74.0*	Net Profit ($mill)	*94.0*
31.0%	35.4%	35.9%	35.4%	34.9%	33.7%	34.4%	36.0%	36.3%	37.2%	*37.0%*	*37.0%*	Income Tax Rate	*37.0%*
6.6%	9.9%	9.0%	7.7%	6.8%	7.5%	7.1%	6.4%	6.4%	7.2%	*6.8%*	*6.4%*	Net Profit Margin	*6.7%*
45.0%	46.0%	45.1%	43.0%	47.6%	49.7%	46.0%	47.0%	46.3%	46.3%	*47.0%*	*48.0%*	Long-Term Debt Ratio	*48.0%*
50.6%	49.9%	50.9%	53.2%	51.5%	50.3%	54.0%	53.0%	53.7%	53.7%	*53.0%*	*52.0%*	Common Equity Ratio	*52.0%*
815.6	861.5	887.8	880.5	937.3	1006.6	1052.5	1108.4	1116.5	1106.8	*1150*	*1200*	Total Capital ($mill)	*1500*
894.7	895.9	934.0	965.0	995.6	1205.9	1318.4	1373.4	1425.1	1495.9	*1550*	*1650*	Net Plant ($mill)	*2000*
5.0%	6.8%	6.7%	6.9%	5.9%	5.7%	5.9%	6.5%	7.1%	8.5%	*7.5%*	*7.7%*	Return on Total Cap'l	*7.0%*
6.1%	9.7%	9.8%	10.0%	8.9%	9.1%	8.9%	9.9%	10.9%	12.5%	*11.5%*	*11.5%*	Return on Shr. Equity	*11.0%*
6.0%	9.9%	10.0%	10.2%	8.5%	9.0%	8.9%	9.9%	10.9%	12.5%	*11.5%*	*11.5%*	Return on Com Equity	*11.0%*
NMF	2.8%	3.1%	3.5%	1.9%	2.6%	2.7%	3.7%	4.5%	6.0%	*5.0%*	*5.0%*	Retained to Com Eq	*5.0%*
118%	74%	70%	67%	79%	72%	69%	63%	59%	52%	*58%*	*57%*	All Div'ds to Net Prof	*56%*

CURRENT POSITION ($MILL.)	2006	2007	9/30/08
Cash Assets	5.8	6.1	4.1
Other	303.0	268.8	279.7
Current Assets	308.8	274.9	283.8
Accts Payable	113.6	119.7	53.5
Debt Due	129.6	148.1	174.8
Other	98.3	122.1	184.0
Current Liab.	341.5	389.9	412.3
Fx. Chg. Cov.	349%	408%	NMF

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '05-'07 to '11-'13
Revenues	8.5%	8.5%	6.5%
"Cash Flow"	3.0%	5.5%	5.0%
Earnings	3.0%	6.5%	7.0%
Dividends	1.5%	2.0%	5.5%
Book Value	3.5%	3.5%	3.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2005	308.7	153.7	106.7	341.4	910.5
2006	390.4	171.0	114.9	336.9	1013.2
2007	394.1	183.2	124.2	331.7	1033.2
2008	387.7	191.3	109.7	*311.3*	*1000*
2009	*380*	*190*	*120*	*335*	*1025*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2005	1.44	.04	d.31	.94	2.11
2006	1.48	.07	d.35	1.15	2.35
2007	1.77	.10	d.22	1.11	2.76
2008	1.63	.08	d.38	*1.22*	*2.55*
2009	*1.70*	*.13*	*d.30*	*1.27*	*2.80*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.325	.325	.325	.325	1.30
2005	.325	.325	.325	.345	1.32
2006	.345	.345	.345	.355	1.39
2007	.355	.355	.355	.375	1.44
2008	.375	.375	.375	.395	

BUSINESS: Northwest Natural Gas Co. distributes natural gas to 90 communities, 657,000 customers, in Oregon (90% of customers) and in southwest Washington state. Principal cities served: Portland and Eugene, OR; Vancouver, WA. Service area population: 2.5 mill. (77% in OR). Company buys gas supply from Canadian and U.S. producers; has transportation rights on Northwest Pipeline system. Owns local underground storage. Rev. breakdown: residential, 55%; commercial, 28%; industrial, gas transportation, and other, 17%. Employs 1,130. Barclays Global owns 6.5% of shares; off./dir., 1.3% (4/08 proxy). CEO Mark S. Dodson; CEO-elect: Gregg S. Kantor. Inc.: Oregon. Address: 220 NW 2nd Ave., Portland, OR 97209. Tel.: 503-226-4211. Internet: www.nwnatural.com.

Northwest Natural's third-quarter results reflected mostly unusual items. In the 2007 period, the company received a state tax refund, and in the 2008 quarter, it lost money from its gas cost-sharing mechanism in Oregon; the two items added up to about $0.12 a share of the higher year-to-year loss. (Gas utilities usually book losses in the summer quarter.) Meanwhile, customer growth, at 2.4% from September 30, 2007, was below the recent 3% pace, but still above the national average.

Lower costs should lead to a good fourth-quarter earnings gain. Despite the higher-than-expected third-quarter loss, Northwest reaffirmed its 2008 earnings-per-share guidance of $2.48-$2.63. In the final frame of 2007, Northwest spent about $3 million over its normal operating expenses, partly in connection with redoing some business practices. The absence of those costs, plus continued customer growth, should produce a good earnings boost.

We look for normal earnings growth in 2009, excluding the effects of gas cost-sharing. In the first nine months of 2008, Northwest lost about $0.17 a share from its gas cost-sharing in Oregon. The state has modified the cost-sharing procedure, so that the company now chooses to receive either 20% or 10% of the difference between actual gas costs and the prices built into rates, with the balance going to its customers. For the next year, starting in November 2008, Northwest has chosen to retain 20% of that difference, believing that it will earn a small profit from the cost-sharing arrangement.

Several projects should contribute considerably to earnings by the end of our 3- to 5-year horizon. Gill Ranch, a gas storage project near Fresno, CA, should receive approval from that state next year and open by 2011. The Palomar pipeline, a joint venture with TransCanada, would connect Portland to a second source of gas. Northwest's investment in the two projects would total about $525 million if both halves of Palomar are built. The two investments would add significantly to our out-year earnings forecast.

These top-quality shares, steady in recent troubled times, should appeal to conservative investors.

Sigourney b. Romaine *December 12, 2008*

(A) Diluted earnings per share. Excludes nonrecurring items: '98, $0.15; '00, $0.11; '06, ($0.06). Next earnings report due early February.

(B) Dividends historically paid in mid-February, mid-May, mid-August, and mid-November.
■ Dividend reinvestment plan available.
(C) In millions, adjusted for stock split.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	70
Earnings Predictability	80

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PIEDMONT NAT'L. GAS NYSE-PNY

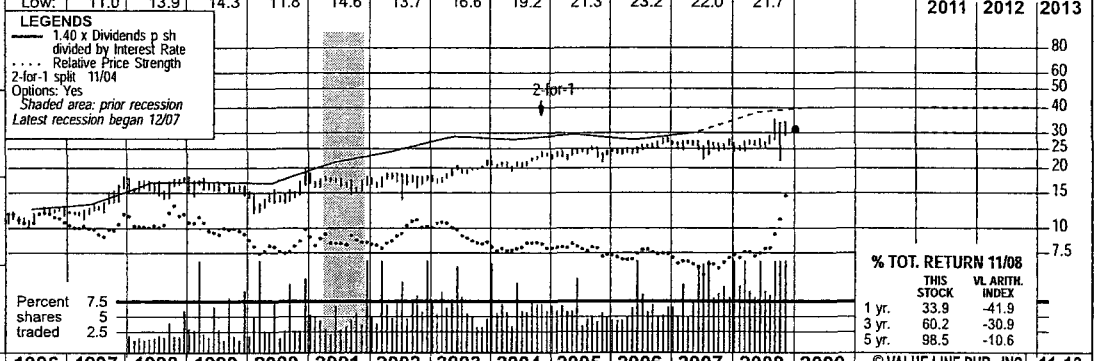
RECENT PRICE 31.23 | P/E RATIO 19.8 (Trailing: 19.9 Median: 17.0) | RELATIVE P/E RATIO 1.94 | DIV'D YLD 3.3% | VALUE LINE

TIMELINESS 3 Raised 6/15/07
SAFETY 2 New 7/27/90
TECHNICAL 1 Raised 12/5/08
BETA .70 (1.00 = Market)

High:	18.2	18.1	18.3	19.7	19.0	19.0	22.0	24.3	25.8	28.4	28.0	35.3
Low:	11.0	13.9	14.3	11.8	14.6	13.7	16.6	19.2	21.3	23.2	22.0	21.7

Target Price Range 2011 | 2012 | 2013

LEGENDS
— 1.40 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
2-for-1 split 11/04
Options: Yes
Shaded area: prior recession
Latest recession began 12/07



2011-13 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	40	(+30%)	10%
Low	30	(-5%)	3%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	0	0	0	0	0	0
to Sell	0	0	2	0	0	0	0	0	0

Institutional Decisions

	1Q2008	2Q2008	3Q2008
to Buy	78	97	82
to Sell	85	77	96
Hld's(000)	36778	36688	35228

% TOT. RETURN 11/08

	THIS STOCK	VL ARITH. INDEX
1 yr.	33.9	-41.9
3 yr.	60.2	-30.9
5 yr.	98.5	-10.6

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	© VALUE LINE PUB., INC.	11-13
8.91	10.57	10.82	8.76	11.59	12.84	12.45	10.97	13.01	17.06	12.57	18.14	19.95	22.96	25.80	23.37	*28.30*	*29.10*	Revenues per sh A	*32.05*
1.07	1.14	1.13	1.25	1.49	1.62	1.72	1.70	1.77	1.81	1.81	2.04	2.31	2.43	2.51	2.64	*2.80*	*2.85*	"Cash Flow" per sh	*3.30*
.70	.73	.68	.73	.84	.93	.98	.93	1.01	1.01	.95	1.11	1.27	1.32	1.27	1.40	*1.55*	*1.60*	Earnings per sh B	*2.05*
.46	.48	.51	.54	.57	.61	.64	.68	.72	.76	.80	.82	.85	.91	.95	.99	*1.03*	*1.07*	Div'ds Decl'd per sh C■	*1.19*
1.41	1.58	1.95	1.72	1.64	1.52	1.48	1.58	1.65	1.29	1.21	1.16	1.85	2.50	2.74	1.85	*1.95*	*3.40*	Cap'l Spending per sh	*2.25*
5.13	5.45	5.68	6.16	6.53	6.95	7.45	7.86	8.26	8.63	8.91	9.36	11.15	11.53	11.83	11.99	*12.60*	*13.15*	Book Value per sh D	*15.45*
51.59	52.30	53.15	57.67	59.10	60.39	61.48	62.59	63.83	64.93	66.18	67.31	76.67	76.70	74.61	73.23	*73.50*	*73.50*	Common Shs Outst'g E	*73.00*
12.3	15.4	15.7	13.8	13.9	13.6	16.3	17.7	14.3	16.7	18.4	16.7	16.6	17.9	19.2	18.7	*Bold figures are*		Avg Ann'l P/E Ratio	*18.0*
.75	.91	1.03	.92	.87	.78	.85	1.01	.93	.86	1.01	.95	.88	.95	1.04	.98	*Value Line*		Relative P/E Ratio	*1.50*
5.3%	4.3%	4.8%	5.4%	4.9%	4.8%	4.0%	4.1%	5.0%	4.5%	4.6%	4.4%	4.1%	3.8%	3.9%	3.8%	*estimates*		Avg Ann'l Div'd Yield	*3.1%*

CAPITAL STRUCTURE as of 7/31/08
Total Debt $994.0 mill. **Due in 5 Yrs** $150.0 mill.
LT Debt $824.5 mill. **LT Interest** $55.7 mill.
(LT interest earned: 4.0x; total interest coverage: 4.0x)

Pension Assets-10/07 $225.0 mill. **Oblig.** $188.7 mill.

Pfd Stock None

Common Stock 73,278,668 shs. as of 9/2/08
MARKET CAP: $2.3 billion (Mid Cap)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		11-13
765.3	686.5	830.4	1107.9	832.0	1220.8	1529.7	1761.1	1924.7	1711.3	*2080*	*2140*	Revenues ($mill) A	*2340*
60.3	58.2	64.0	65.5	62.2	74.4	95.2	101.3	97.2	104.4	*114*	*118*	Net Profit ($mill)	*150*
39.2%	39.7%	34.7%	34.6%	33.1%	34.8%	35.1%	33.7%	34.2%	33.0%	*35.0%*	*35.0%*	Income Tax Rate	*35.0%*
7.9%	8.5%	7.7%	5.9%	7.5%	6.1%	6.2%	5.8%	5.0%	6.1%	*5.5%*	*5.5%*	Net Profit Margin	*6.4%*
44.7%	46.2%	46.1%	47.6%	43.9%	42.2%	43.6%	41.4%	48.3%	48.4%	*47.5%*	*50.0%*	Long-Term Debt Ratio	*47.0%*
55.3%	53.8%	53.9%	52.4%	56.1%	57.8%	56.4%	58.6%	51.7%	51.6%	*52.5%*	*50.0%*	Common Equity Ratio	*53.0%*
829.3	914.7	978.4	1069.4	1051.6	1090.2	1514.9	1509.2	1707.9	1703.3	*1765*	*1930*	Total Capital ($mill)	*2125*
990.6	1047.0	1072.0	1114.7	1158.5	1812.3	1849.8	1939.1	2075.3	2141.5	*2200*	*2250*	Net Plant ($mill)	*2400*
9.2%	8.1%	8.3%	7.9%	7.8%	8.6%	7.8%	8.2%	7.2%	7.8%	*8.0%*	*7.5%*	Return on Total Cap'l	*8.5%*
13.2%	11.8%	12.1%	11.7%	10.6%	11.8%	11.1%	11.5%	11.0%	11.9%	*12.5%*	*12.5%*	Return on Shr. Equity	*13.5%*
13.2%	11.8%	12.1%	11.7%	10.6%	11.8%	11.1%	11.5%	11.0%	11.9%	*12.5%*	*12.5%*	Return on Com Equity	*13.5%*
4.7%	3.3%	3.5%	3.0%	1.7%	3.1%	3.7%	3.6%	2.8%	3.5%	*4.0%*	*4.0%*	Retained to Com Eq	*5.5%*
65%	72%	71%	75%	83%	74%	66%	68%	74%	70%	*66%*	*67%*	All Div'ds to Net Prof	*58%*

CURRENT POSITION ($MILL.)	2006	2007	7/31/08
Cash Assets	8.9	7.5	4.9
Other	467.1	427.8	429.9
Current Assets	476.0	435.3	434.8
Accts Payable	80.3	97.2	151.8
Debt Due	170.0	195.0	169.5
Other	150.1	132.3	114.2
Current Liab.	400.4	424.5	435.5
Fix. Chg. Cov.	261%	225%	220%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '05-'07 to '11-'13
Revenues	8.0%	11.0%	*5.0%*
"Cash Flow"	5.5%	7.0%	*4.5%*
Earnings	5.0%	6.0%	*7.5%*
Dividends	5.0%	4.5%	*4.0%*
Book Value	6.0%	6.5%	*4.5%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) A Jan.31	Apr.30	Jul.31	Oct.31	Full Fiscal Year
2005	680.6	508.0	232.9	339.6	1761.1
2006	921.4	483.2	237.9	282.2	1924.7
2007	677.2	531.5	224.4	278.2	1711.3
2008	788.5	634.2	354.7	*302.6*	*2080*
2009	*815*	*655*	*360*	*310*	*2140*

Fiscal Year Ends	EARNINGS PER SHARE A B F Jan.31	Apr.30	Jul.31	Oct.31	Full Fiscal Year
2005	.93	.52	d.06	d.07	1.32
2006	.94	.57	d.16	d.08	1.27
2007	.94	.69	d.12	d.11	1.40
2008	1.12	.66	d.10	*d.13*	*1.55*
2009	*1.13*	*.68*	*d.10*	*d.11*	*1.60*

Cal-endar	QUARTERLY DIVIDENDS PAID C■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.208	.215	.215	.215	.85
2005	.215	.23	.23	.23	.91
2006	.23	.24	.24	.24	.95
2007	.24	.25	.25	.25	.99
2008	.25	.26	.26	.26	

BUSINESS: Piedmont Natural Gas Company is primarily a regulated natural gas distributor, serving over 932,097 customers in North Carolina, South Carolina, and Tennessee. 2007 revenue mix: residential (54%), commercial (30%), industrial (14%), other (2%). Principal suppliers: Transco and Tennessee Pipeline. Gas costs: 69.4% of revenues. '07 deprec. rate: 3.4%. Estimated plant age: 8.7 years. Non-regulated operations: sale of gas-powered heating equipment; natural gas brokering; propane sales. Has about 1,876 employees. Officers & directors own less than 1% of common stock (1/08 proxy). Chairman, CEO, & President: Thomas E. Skains. Inc.: NC. Addr.: 4720 Piedmont Row Drive, Charlotte, NC 28210. Telephone: 704-364-3120. Internet: www.piedmontng.com.

Piedmont Natural Gas likely posted a larger share loss for the October interim. Its top-line volumes have been growing steadily due to its residential and commercial businesses. Moreover, marketing activities are beginning to bear fruit for its wholesale division. But weaker performance at the sideline Hardy Storage and Southstar Energy Service units ought to detract from other income, resulting in the aforementioned decline in share net. However, due to stronger profitability earlier this year, PNY's 2008 tally likely advanced almost 11%.

Due to the tough operating environment, the top and bottom lines may well advance only 3% in fiscal 2009 (began November 1st). Winter heating costs are expected to remain flat this year. However, some uncertainty stems from the 2008-2009 winter weather. Meanwhile, operating margins should continue to benefit from higher volumes and decreased operating expenses. Thus, profitability ought to improve marginally. Furthermore,

New rate cases and capital projects augur well for the company's prospects. Piedmont recently received approval for a rate increase in North Carolina. This allowed the company to raise its annual rates by $15.7 million, effective November 1st. Meanwhile, the Robeson liquid natural gas storage project, located in NC, is moving along nicely. This facility should allow for extra capacity and profits during peak winter months.

Hardy Storage and Southstar Energy Services contributions to PNY have moderated a bit. This stems from higher operating expenses at Hardy Storage and from the effects of warmer weather on Southstar Energy. Meanwhile, Southstar has been impacted by rising commodity prices and reduced opportunities from the management of storage and transportation assets. Still, the Hardy Storage facility only came on line in April, 2007. There is room to expand, and operations can be tightened up, providing upside. In all,

These neutrally ranked shares may offer modest conservative appeal. They have been more volatile than usual since our September review. However, presently, they are trading almost 13% higher and offer good dividend growth potential.

Bryan Fong *December 12, 2008*

(A) Fiscal year ends October 31st.
(B) Diluted earnings. Excl. extraordinary item: '00, 8¢. Excl. nonrecurring charge: '97, 2¢. Next earnings report due early Feb.
(C) Dividends historically paid mid-January, April, July, October.
■ Div'd reinvest. plan available; 5% discount.
(D) Includes deferred charges. In 2007: $23.9 million, 33¢/share.
(E) In millions, adjusted for stock split.
(F) Quarters may not add to total due to change in shares outstanding.

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	60
Earnings Predictability	85

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SOUTH JERSEY INDS. NYSE-SJI

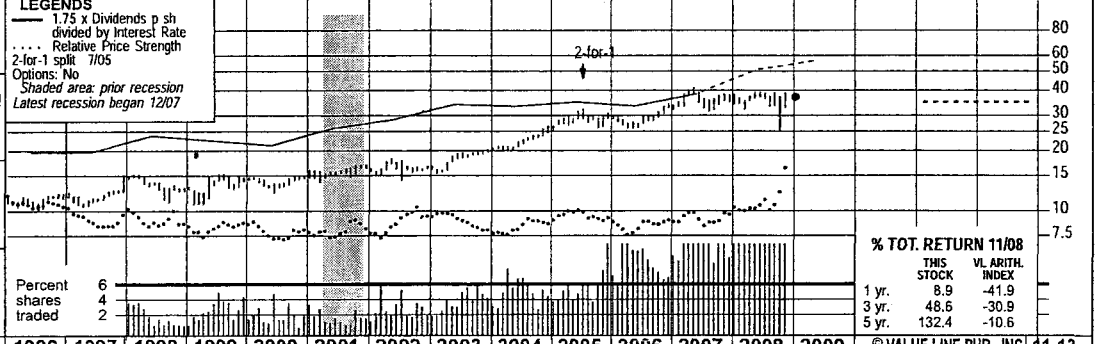
RECENT PRICE 37.07 | P/E RATIO 15.6 (Trailing: 16.5 Median: 14.0) | RELATIVE P/E RATIO 1.53 | DIV'D YLD 3.2% | VALUE LINE

TIMELINESS 3 Raised 5/23/08
SAFETY 2 Lowered 1/4/91
TECHNICAL 2 Raised 12/5/08
BETA .75 (1.00 = Market)

High:	15.3	15.4	15.4	15.1	17.0	18.3	20.3	26.5	32.4	34.3	41.3	39.4
Low:	10.5	11.0	10.8	12.3	13.8	14.1	15.3	19.7	24.9	25.6	31.2	25.2

Target Price Range 2011 | 2012 | 2013

LEGENDS
— 1.75 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
2-for-1 split 7/05
Options: No
Shaded area: prior recession
Latest recession began 12/07



2011-13 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	50	(+35%)	10%
Low	35	(-5%)	2%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	1	0	0	0	0	0
Options	0	0	0	0	0	0	0	0	0
to Sell	0	0	2	0	2	1	0	0	0

Institutional Decisions

	1Q2008	2Q2008	3Q2008
to Buy	57	85	71
to Sell	71	58	59
Hld's(000)	17182	17430	17041

% TOT. RETURN 11/08

	THIS STOCK	VL ARITH. INDEX
1 yr.	8.9	-41.9
3 yr.	48.6	-30.9
5 yr.	132.4	-10.6

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	© VALUE LINE PUB., INC.	11-13
16.67	17.03	17.45	16.50	16.52	16.18	20.89	17.60	22.43	35.30	20.69	26.34	29.51	31.78	31.76	32.30	32.00	32.25	Revenues per sh	35.95
1.56	1.54	1.35	1.65	1.54	1.60	1.44	1.84	1.95	1.90	2.12	2.24	2.44	2.51	3.51	3.20	3.30	3.60	"Cash Flow" per sh	4.20
.81	.78	.61	.83	.85	.86	.64	1.01	1.08	1.15	1.22	1.37	1.58	1.71	2.46	2.09	2.30	2.50	Earnings per sh A	3.00
.71	.72	.72	.72	.72	.72	.72	.72	.73	.74	.75	.78	.82	.86	.92	1.01	1.11	1.20	Div'ds Decl'd per sh B ■	1.30
1.69	1.87	1.93	2.08	2.01	2.30	3.06	2.19	2.21	2.82	3.47	2.36	2.67	3.21	2.51	1.88	2.00	2.25	Cap'l Spending per sh	3.15
6.95	7.17	7.23	7.34	8.03	6.43	6.23	6.74	7.25	7.81	9.67	11.26	12.41	13.50	15.11	16.25	17.35	17.75	Book Value per sh C	19.55
19.00	19.61	21.43	21.44	21.51	21.54	21.56	22.30	23.00	23.72	24.41	26.46	27.76	28.98	29.33	29.61	30.00	31.00	Common Shs Outst'g D	32.00
13.2	15.8	16.1	12.2	13.3	13.8	21.2	13.3	13.0	13.6	13.5	13.3	14.1	16.6	11.9	17.2	Bold figures are		Avg Ann'l P/E Ratio	14.0
.80	.93	1.06	.82	.83	.80	1.10	.76	.85	.70	.74	.76	.74	.88	.64	.91	Value Line		Relative P/E Ratio	.95
6.6%	5.9%	7.4%	7.2%	6.4%	6.1%	5.3%	5.4%	5.2%	4.7%	4.6%	4.3%	3.7%	3.0%	3.2%	2.8%	estimates		Avg Ann'l Div'd Yield	3.1%

CAPITAL STRUCTURE as of 9/30/08
Total Debt $517.0 mill. Due in 5 Yrs $196.8 mill.
LT Debt $357.8 mill. LT Interest $17.0 mill.
(Total interest coverage: 5.9x)

Pension Assets-12/07 $120.4 mill. Oblig. $133.0 mill.

Pfd Stock none

Common Stock 29,728,697 common shs. as of 11/3/08

MARKET CAP: $1.1 billion (Mid Cap)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		11-13
450.2	392.5	515.9	837.3	505.1	696.8	819.1	921.0	931.4	956.4	960	1000	Revenues ($mill)	1150
13.8	22.0	24.7	26.8	29.4	34.6	43.0	48.6	72.0	61.8	70.0	80.0	Net Profit ($mill)	100
46.2%	42.8%	43.1%	42.2%	41.4%	40.6%	40.9%	41.5%	41.3%	41.9%	42.0%	40.0%	Income Tax Rate	40.0%
3.1%	5.6%	4.8%	3.2%	5.8%	5.0%	5.2%	5.3%	7.7%	6.5%	7.3%	8.0%	Net Profit Margin	8.7%
57.3%	53.8%	54.1%	57.0%	53.6%	50.8%	48.7%	44.9%	44.7%	42.7%	41.0%	40.5%	Long-Term Debt Ratio	40.5%
33.5%	37.0%	37.6%	35.9%	46.1%	49.0%	51.0%	55.1%	55.3%	57.3%	59.0%	59.5%	Common Equity Ratio	59.5%
401.1	405.9	443.5	516.2	512.5	608.4	675.0	710.3	801.1	839.0	880	925	Total Capital ($mill)	1050
504.3	533.3	562.2	607.0	666.6	748.3	799.9	877.3	920.0	948.9	980	1015	Net Plant ($mill)	1200
5.3%	7.4%	7.4%	6.9%	7.6%	7.3%	7.9%	8.3%	10.1%	8.6%	9.0%	9.5%	Return on Total Cap'l	10.5%
8.1%	11.7%	12.1%	12.1%	12.4%	11.5%	12.4%	12.4%	16.3%	12.8%	13.5%	14.5%	Return on Shr. Equity	16.0%
10.3%	14.6%	14.8%	12.8%	12.5%	11.6%	12.5%	12.4%	16.3%	12.8%	13.5%	14.5%	Return on Com Equity	16.0%
NMF	4.2%	4.8%	3.5%	4.7%	5.0%	5.9%	6.2%	10.2%	6.7%	7.0%	8.0%	Retained to Com Eq	9.5%
112%	72%	67%	76%	62%	57%	52%	50%	37%	48%	48%	47%	All Div'ds to Net Prof	42%

CURRENT POSITION ($MILL.)	2006	2007	9/30/08
Cash Assets	7.9	11.7	4.2
Other	363.8	316.6	350.7
Current Assets	371.7	328.3	354.9
Accts Payable	101.6	101.2	88.1
Debt Due	197.0	118.4	159.2
Other	124.2	108.7	131.1
Current Liab.	422.8	328.3	378.4
Fix. Chg. Cov.	527%	476%	581%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '05-'07 to '11-'13
Revenues	7.0%	4.0%	2.0%
"Cash Flow"	7.0%	9.0%	5.5%
Earnings	9.5%	12.5%	6.0%
Dividends	2.5%	4.5%	5.5%
Book Value	7.5%	12.5%	4.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2005	328.6	154.0	157.0	281.4	921.0
2006	372.6	153.8	154.7	250.3	931.4
2007	368.4	171.7	156.2	260.1	956.4
2008	348.0	135.8	210.4	265.8	960
2009	365	160	200	275	1000

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2005	.96	.27	.09	.39	1.71
2006	1.06	.20	.51	.69	2.46
2007	1.30	.21	d.05	.63	2.09
2008	1.32	.26	.04	.68	2.30
2009	1.35	.30	.15	.70	2.50

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	--	.202	.202	.415	.82
2005	--	.213	.213	.438	.86
2006	--	.225	.225	.470	.92
2007	--	.245	.245	.515	1.01
2008	--	.270	.270	.568	

BUSINESS: South Jersey Industries, Inc. is a holding company. Its subsidiary, South Jersey Gas Co., distributes natural gas to 335,663 customers in New Jersey's southern counties, which covers 2,500 square miles and includes Atlantic City. Gas revenue mix '07: residential, 46%; commercial, 23%; cogeneration and electric generation, 8%; industrial, 23%. Non-utility operations include: South Jersey Energy, South Jersey Resources Group, Marina Energy, and South Jersey Energy Service Plus. Has 604 employees. Off./dir. control 1.0% of com. shares; Dimensional Fund Advisors, 6.5%; Barclays, 6.1% (3/08 proxy). Chrmn. & CEO: Edward Graham. Incorp.: NJ. Address: 1 South Jersey Plaza, Folsom, NJ 08037. Tel.: 609-561-9000. Internet: www.sjindustries.com.

Shares of South Jersey Industries have held their own in recent months, despite considerable weakness in the broader market. The company reported strong results for the third quarter. Customer growth at South Jersey Gas continued at a decent clip, considering the slowdown in the housing construction market. The utility posted a slightly greater loss in the recent period, though. Losses are common for this business in the third quarter, due to a lack of heating demand. This was more than offset by strength in other areas. Higher cooling demand and the opening of the Borgata's new Water Club tower benefited performance at the on-site energy production business, Marina Energy. The Retail Services and Asset Management & Marketing segments also posted improved results. We anticipate a healthy performance in the fourth quarter, as well. We expect a share-earnings advance of roughly 10% for full-year 2008. Bottom-line growth ought to continue in 2009.

The New Jersey Board of Public Utilities has approved a rate increase for South Jersey Gas. The subsidiary had originally requested an increase in June, citing greater natural gas costs. Its Basic Gas Supply Service rate will now increase by 9.2%, which was somewhat smaller than had been originally requested, reflecting a decline in gas prices in recent months.

The company has announced a 10% dividend hike. The board of directors raised the quarterly dividend from $0.27 to $0.2975, starting with the December payout. The company has established an encouraging track record of dividend increases in recent years. We expect this pattern to continue. In addition, South Jersey has announced a share-repurchase program. Under this program, the company can buy back up to 5% of common stock outstanding over the next four years. This ought to keep a lid on the share count, supporting share net.

This issue is neutrally ranked for year-ahead performance. Looking further out, we anticipate solid bottom-line growth at the company over the pull to 2011-2013. This good-quality stock offers subpar, but reasonably well-defined, total return potential for the coming years.

Michael Napoli, CPA *December 12, 2008*

(A) Based on GAAP EPS through 2006, economic earnings thereafter. GAAP EPS: '07, $2.10. Excl. nonrecur. gain (loss): '01, $0.13; Q2 '08, ($0.70). Excl gain (losses) from discont. ops.: '96, $1.14; '97, ($0.24); '98, ($0.26); '99, ($0.02); '00, ($0.04); '01, ($0.02); '02, ($0.04); '03, ($0.09); '05, ($0.02); '06, ($0.02); '07, $0.01. Next egs. report due late February. (B) Div'ds paid early Apr., Jul., Oct., and late Dec. ■ Div. reinvest. plan avail. (C) Incl. regulatory assets. At 9/30/08: $212.7 mill., $7.15 per shr. (D) In millions, adjusted for split.

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	95
Earnings Predictability	75

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SOUTHWEST GAS NYSE-SWX

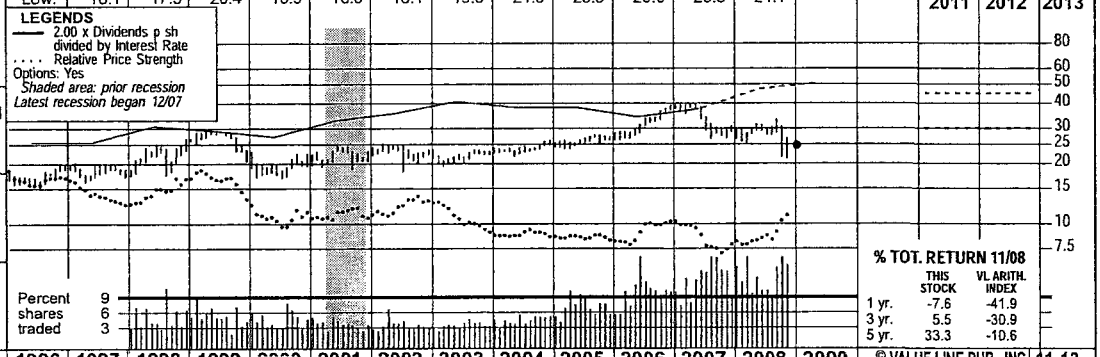
RECENT PRICE 24.79 | P/E RATIO 13.6 (Trailing: 14.1 / Median: 18.0) | RELATIVE P/E RATIO 1.33 | DIV'D YLD 3.8% | VALUE LINE

TIMELINESS 3 Raised 5/23/08
SAFETY 3 Lowered 1/4/91
TECHNICAL 2 Raised 12/12/08
BETA .75 (1.00 = Market)

High:	20.3	26.9	29.5	23.0	24.7	25.3	23.6	26.2	28.1	39.4	39.9	33.3
Low:	16.1	17.3	20.4	16.9	18.6	18.1	19.3	21.5	23.5	26.0	26.5	21.1

Target Price Range 2011 | 2012 | 2013

LEGENDS
— 2.00 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
Options: Yes
Shaded area: prior recession
Latest recession began 12/07



2011-13 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(+80%)	18%
Low	30	(+20%)	8%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	2
Options	0	0	1	0	1	0	0	0	0
to Sell	0	0	2	0	3	0	0	0	2

Institutional Decisions

	1Q2008	2Q2008	3Q2008
to Buy	80	85	69
to Sell	88	65	74
Hld's(000)	34496	34150	33669

Percent shares traded 9 6 3

% TOT. RETURN 11/08

	THIS STOCK	VL ARITH. INDEX
1 yr.	-7.6	-41.9
3 yr.	5.5	-30.9
5 yr.	33.3	-10.6

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	© VALUE LINE PUB., INC.	11-13
25.93	25.68	28.16	23.03	24.09	26.73	30.17	30.24	32.61	42.98	39.68	35.96	40.14	43.59	48.47	50.27	*48.85*	*50.00*	Revenues per sh A	*58.35*
3.34	3.24	5.09	2.65	3.00	3.85	4.48	4.45	4.57	4.79	5.07	5.11	5.57	5.20	5.97	6.21	*6.00*	*6.45*	"Cash Flow" per sh	*7.00*
.81	.63	1.22	.10	.25	.77	1.65	1.27	1.21	1.15	1.16	1.13	1.66	1.25	1.98	1.95	*1.75*	*2.00*	Earnings per sh A B	*2.50*
.70	.74	.80	.82	.82	.82	.82	.82	.82	.82	.82	.82	.82	.82	.82	.86	*.90*	*.94*	Div'ds Decl'd per sh C■	*1.06*
5.02	5.43	6.64	6.79	8.19	6.19	6.40	7.41	7.04	8.17	8.50	7.03	8.23	7.49	8.27	7.96	*6.80*	*7.50*	Cap'l Spending per sh	*9.90*
15.99	15.96	16.38	14.55	14.20	14.09	15.67	16.31	16.82	17.27	17.91	18.42	19.18	19.10	21.58	22.98	*23.30*	*24.45*	Book Value per sh	*26.55*
20.60	21.00	21.28	24.47	26.73	27.39	30.41	30.99	31.71	32.49	33.29	34.23	36.79	39.33	41.77	42.81	*44.00*	*45.00*	Common Shs Outst'g D	*48.00*
16.6	26.5	14.0	NMF	69.3	24.1	13.2	21.1	16.0	19.0	19.9	19.2	14.3	20.6	15.9	18.4	*Bold figures are*		Avg Ann'l P/E Ratio	*15.0*
1.01	1.57	.92	NMF	4.34	1.39	.69	1.20	1.04	.97	1.09	1.09	.76	1.10	.86	.98	*Value Line*		Relative P/E Ratio	*1.00*
5.2%	4.4%	4.7%	5.4%	4.7%	4.4%	3.8%	3.1%	4.2%	3.8%	3.6%	3.8%	3.5%	3.2%	2.6%	2.4%	*estimates*		Avg Ann'l Div'd Yield	*2.8%*

CAPITAL STRUCTURE as of 9/30/08

Total Debt $1325.6 mill. **Due in 5 Yrs** $615.0 mill.
LT Debt $1313.1 mill. **LT Interest** $90.0 mill.
(Total interest coverage: 2.3x)
Leases, Uncapitalized Annual rentals $7.0 mill.
Pension Assets-12/07 $441.7 mill. **Oblig.** $546.4 mill.

Pfd Stock None

Common Stock 43,914,407 shs. as of 10/31/08

MARKET CAP: $1.1 billion (Mid Cap)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		11-13
917.3	936.9	1034.1	1396.7	1320.9	1231.0	1477.1	1714.3	2024.7	2152.1	*2150*	*2250*	Revenues ($mill) A	*2800*
47.5	39.3	38.3	37.2	38.6	38.5	58.9	48.1	80.5	83.3	*75.0*	*90.0*	Net Profit ($mill)	*120*
43.4%	35.5%	26.2%	34.5%	32.8%	30.5%	34.8%	29.7%	37.3%	36.5%	*39.0%*	*36.0%*	Income Tax Rate	*35.0%*
5.2%	4.2%	3.7%	2.7%	2.9%	3.1%	4.0%	2.8%	4.0%	3.9%	*3.5%*	*4.0%*	Net Profit Margin	*4.3%*
60.2%	60.3%	60.2%	56.2%	62.5%	66.0%	64.2%	63.8%	60.6%	58.1%	*56.0%*	*54.0%*	Long-Term Debt Ratio	*50.5%*
35.3%	35.5%	35.8%	39.6%	34.1%	34.0%	35.8%	36.2%	39.4%	41.9%	*44.0%*	*46.0%*	Common Equity Ratio	*49.5%*
1349.3	1424.7	1489.9	1417.6	1748.3	1851.6	1968.6	2076.0	2287.8	2349.8	*2325*	*2380*	Total Capital ($mill)	*2575*
1459.4	1581.1	1686.1	1825.6	1979.5	2175.7	2336.0	2489.1	2668.1	2845.3	*2960*	*3100*	Net Plant ($mill)	*3600*
5.8%	4.8%	4.6%	5.1%	4.3%	4.2%	5.0%	4.3%	5.5%	5.5%	*5.0%*	*5.5%*	Return on Total Cap'l	*6.5%*
8.9%	7.0%	6.5%	6.0%	5.9%	6.1%	8.3%	6.4%	8.9%	8.5%	*7.5%*	*8.0%*	Return on Shr. Equity	*9.5%*
10.0%	7.8%	7.2%	6.6%	6.5%	6.1%	8.3%	6.4%	8.9%	8.5%	*7.5%*	*8.0%*	Return on Com Equity	*9.5%*
5.0%	2.8%	2.4%	1.9%	1.9%	1.7%	4.3%	2.2%	5.2%	4.8%	*3.5%*	*4.5%*	Retained to Com Eq	*5.5%*
50%	64%	67%	71%	70%	72%	49%	65%	42%	44%	*52%*	*47%*	All Div'ds to Net Prof	*42%*

CURRENT POSITION ($MILL.)	2006	2007	9/30/08
Cash Assets	18.8	32.0	13.2
Other	482.8	470.5	257.2
Current Assets	501.6	502.5	270.4
Accts Payable	265.7	220.7	79.7
Debt Due	27.5	47.1	12.5
Other	202.9	260.1	266.8
Current Liab.	496.1	527.9	359.0
Fix. Chg. Cov.	220%	229%	230%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '05-'07 to '11-'13
Revenues	6.0%	4.5%	*3.5%*
"Cash Flow"	4.5%	4.0%	*3.0%*
Earnings	12.0%	6.0%	*6.5%*
Dividends	--	--	*4.0%*
Book Value	3.0%	3.5%	*4.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2005	542.9	361.1	313.3	497.0	1714.3
2006	676.9	430.9	351.8	565.1	2024.7
2007	793.7	426.6	371.5	560.3	2152.1
2008	813.6	447.3	374.4	*514.7*	*2150*
2009	*800*	*475*	*415*	*560*	*2250*

Cal-endar	EARNINGS PER SHARE B Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2005	.88	d.07	d.43	.87	1.25
2006	1.11	.02	d.26	1.11	1.98
2007	1.17	d.01	d.22	1.00	1.95
2008	1.14	d.06	d.38	*1.05*	*1.75*
2009	*1.15*	*Nil*	*d.25*	*1.10*	*2.00*

Cal-endar	QUARTERLY DIVIDENDS PAID C■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.205	.205	.205	.205	.82
2005	.205	.205	.205	.205	.82
2006	.205	.205	.205	.205	.82
2007	.205	.215	.215	.215	.85
2008	.215	.225	.225	.225	

BUSINESS: Southwest Gas Corporation is a regulated gas distributor serving approximately 1.8 million customers in sections of Arizona, Nevada, and California. Comprised of two business segments: natural gas operations and construction services. 2007 margin mix: residential and small commercial, 86%; large commercial and industrial, 5%; transportation, 9%. Total throughput: 2.4 billion therms. Sold PriMerit Bank, 7/96. Has 5,073 employees. Off. & Dir. own 1.8% of common stock; T. Rowe Price Associates, Inc., 6.7%; GAMCO Investors, Inc., 5.8% (3/08 Proxy). Chairman: James J. Kropid. Chief Executive Officer: Jeffrey W. Shaw. Inc.: California. Address: 5241 Spring Mountain Road, Las Vegas, Nevada 89193. Telephone: 702-876-7237. Internet: www.swgas.com.

Southwest Gas reported an unimpressive performance for the third quarter. The top line advanced slightly in the recent interim. Operating costs increased at a faster pace, though. Moreover, the company reported a negative return on long-term investments. Overall, Southwest posted a much greater share loss for the period. Customer growth has moderated in recent periods. A slowdown in the new construction market and an increasing inventory of vacant homes in the Southwest hurt performance. Third-quarter losses are common, considering the seasonal nature of the business. Still, the company is operating in a challenging environment, which ought to continue to stymie growth in the near term. We anticipate flat revenues and lower earnings per share at Southwest Gas for full-year 2008. Share earnings may rebound in 2009, assuming success at controlling costs.

The company has two important rate case proceedings nearing conclusion. It is seeking a rate increase of $50.2 million in Arizona, and has included proposed rate design changes to address weather-related volatility. Elsewhere, Southwest is seeking a $9.1 million increase in operating revenues in California. These requests appear reasonable, although it is unclear what pressures the rate boards may face, if any. We expect decisions on these cases by yearend. The company's focus on procuring rate relief and improving rate design is important, as SWX depends upon such approved revenue increases to help it cope with higher expenses and to provide for smoother earnings.

Investors should be aware of several caveats. Warmer-than-normal temperatures during the winter months can hurt profitability at Southwest Gas. Moreover, the company will likely incur higher operating costs as it continues to expand. Furthermore, insufficient, or lagging, rate relief could also hurt profits.

Shares of Southwest Gas, once favored for their growth, are out of sorts now. Nevertheless, we anticipate higher share earnings at the company by early next decade. At the current quotation, this issue features good total return potential for a utility, considering its healthy dividend yield.

Michael Napoli, CPA *December 12, 2008*

(A) Incl. income for PriMerit Bank on the equity basis through 1994. (B) Based on avg. shares outstand. thru. '96, then diluted. Excl. nonrec. gains (losses): '93, 8¢; '97, 16¢; '02, (10¢); '05, (11¢); '06, 7¢. Incl. asset writedown: '93, 44¢. Excl. loss from disc. ops.: '95, 75¢. Totals may not sum due to rounding. Next egs. report due late February. (C) Dividends historically paid early March, June, September, December. ■ Div'd reinvest. plan avail. (D) In millions.

Company's Financial Strength	B
Stock's Price Stability	100
Price Growth Persistence	55
Earnings Predictability	65

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WGL HOLDINGS NYSE-WGL

RECENT PRICE	33.52	P/E RATIO	14.1 (Trailing: 8.3 / Median: 15.0)	RELATIVE P/E RATIO	1.38	DIV'D YLD	4.3%	VALUE LINE

TIMELINESS 3 Raised 5/25/07
SAFETY 1 Raised 4/2/93
TECHNICAL 2 Raised 12/12/08
BETA .75 (1.00 = Market)

High:	31.4	30.8	29.4	31.5	30.5	29.5	28.8	31.4	34.8	33.6	35.9	37.1
Low:	20.9	23.1	21.0	21.8	25.3	19.3	23.2	26.7	28.8	27.0	29.8	22.4

2011-13 PROJECTIONS

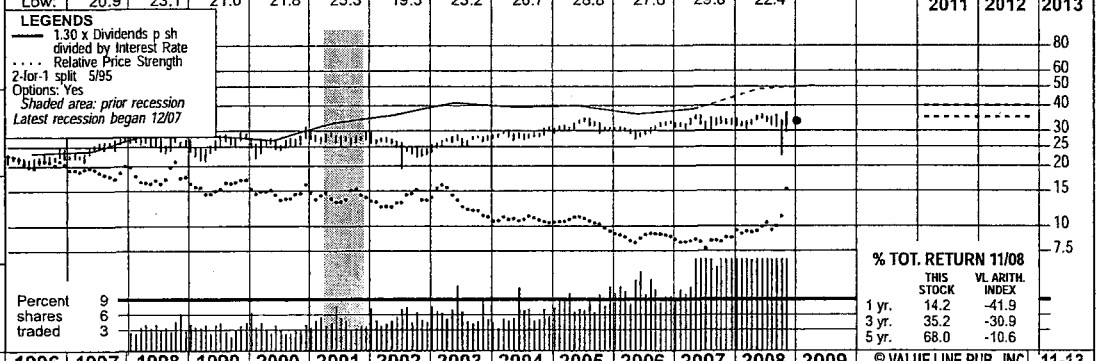
	Price	Gain	Ann'l Total Return
High	40	20%	8%
Low	35	5%	5%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	1	0	0	0	0
Options	0	0	0	0	5	1	0	0	2
to Sell	2	0	0	0	7	1	0	0	2

Institutional Decisions

	1Q2008	2Q2008	3Q2008
to Buy	106	95	83
to Sell	89	100	119
Hld's(000)	35559	34195	32939



% TOT. RETURN 11/08

	THIS STOCK	VL ARITH. INDEX
1 yr.	14.2	-41.9
3 yr.	35.2	-30.9
5 yr.	68.0	-10.6

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	© VALUE LINE PUB., INC.	11-13
18.37	21.55	21.69	19.30	22.19	24.16	23.74	20.92	22.19	29.80	32.63	42.45	42.93	44.94	53.96	53.51	52.98	53.35	Revenues per sh A	54.60
2.17	2.25	2.43	2.51	2.93	3.02	2.79	2.74	3.20	3.24	2.63	4.00	3.87	3.97	3.93	3.89	4.17	4.30	"Cash Flow" per sh	4.55
1.27	1.31	1.42	1.45	1.85	1.85	1.54	1.47	1.79	1.88	1.14	2.30	1.98	2.11	1.94	2.10	2.33	2.40	Earnings per sh B	2.55
1.07	1.09	1.11	1.12	1.14	1.17	1.20	1.22	1.24	1.26	1.27	1.28	1.30	1.32	1.34	1.37	1.42	1.44	Div'ds Decl'd per sh C■	1.56
2.17	2.43	2.84	2.63	2.85	3.20	3.62	3.42	2.67	2.68	3.34	2.65	2.33	2.32	3.27	3.33	3.33	3.00	Cap'l Spending per sh	2.50
10.66	11.04	11.51	11.95	12.79	13.48	13.86	14.72	15.31	16.24	15.78	16.25	16.95	17.80	18.28	19.83	21.06	22.00	Book Value per sh D	25.00
40.62	41.50	42.19	42.93	43.70	43.70	43.84	46.47	46.47	48.54	48.56	48.63	48.67	48.65	48.89	49.45	49.61	49.65	Common Shs Outst'g E	50.00
13.6	15.6	14.0	12.7	11.5	12.7	17.2	17.3	14.6	14.7	23.1	11.1	14.2	14.7	15.5	15.6	14.3		Avg Ann'l P/E Ratio	15.0
.82	.92	.92	.85	.72	.73	.89	.99	.95	.75	1.26	.63	.75	.78	.84	.82	.85		Relative P/E Ratio	1.00
6.2%	5.3%	5.6%	6.1%	5.4%	5.0%	4.5%	4.8%	4.8%	4.6%	4.8%	5.0%	4.6%	4.2%	4.5%	4.2%	4.3%		Avg Ann'l Div'd Yield	4.2%

CAPITAL STRUCTURE as of 9/30/08
Total Debt $950.7 mill. **Due in 5 Yrs** $399.5 mill.
LT Debt $603.7 mill. **LT Interest** $40.1 mill.
(LT interest earned: 6.7x; total interest coverage: 5.7x)
Pension Assets-9/08 $588.2 mill. **Oblig.** $590.5 mill.
Preferred Stock $28.2 mill. **Pfd. Div'd** $1.3 mill.

Common Stock 49,971,614 shs. **as of 10/31/08**

MARKET CAP: $1.7 billion (Mid Cap)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		11-13
1040.6	972.1	1031.1	1446.5	1584.8	2064.2	2089.6	2186.3	2637.9	2646.0	2628.2	2650	Revenues ($mill) A	2730
68.6	68.8	84.6	89.9	55.7	112.3	98.0	104.8	95.1	102.9	116.3	120	Net Profit ($mill)	130
35.6%	35.0%	36.1%	39.6%	34.0%	38.0%	38.2%	37.4%	39.0%	39.1%	38.0%	38.0%	Income Tax Rate	38.0%
6.6%	7.1%	8.2%	6.2%	3.5%	5.4%	4.7%	4.8%	3.6%	3.9%	4.4%	4.5%	Net Profit Margin	4.8%
40.3%	41.5%	43.1%	41.7%	45.7%	43.8%	40.9%	39.5%	38.5%	37.9%	36.0%	35.0%	Long-Term Debt Ratio	32.0%
57.1%	56.1%	54.8%	56.3%	52.4%	54.3%	57.2%	58.6%	61.5%	60.3%	62.3%	63.5%	Common Equity Ratio	66.5%
1064.8	1218.5	1299.2	1400.8	1462.5	1454.9	1443.6	1478.1	1497.8	1625.4	1677.2	1720	Total Capital ($mill)	1880
1319.5	1402.7	1460.3	1519.7	1606.8	1874.9	1915.6	1969.7	2067.9	2150.4	2208.3	2325	Net Plant ($mill)	2615
8.0%	7.1%	7.9%	7.9%	5.3%	9.1%	8.2%	8.5%	7.7%	7.6%	8.1%	8.0%	Return on Total Cap'l	8.0%
10.8%	9.7%	11.4%	11.0%	7.0%	13.7%	11.5%	11.7%	10.3%	10.2%	11.1%	11.0%	Return on Shr. Equity	10.0%
11.1%	9.9%	11.7%	11.2%	7.2%	14.0%	11.7%	12.0%	10.2%	10.4%	11.6%	11.5%	Return on Com Equity	10.5%
2.5%	1.8%	3.7%	3.8%	NMF	6.2%	4.1%	4.6%	3.1%	3.5%	4.3%	4.5%	Retained to Com Eq	4.0%
78%	82%	69%	67%	112%	56%	65%	62%	70%	66%	61%	60%	All Div'ds to Net Prof	61%

CURRENT POSITION ($MILL.)	2006	2007	9/30/08
Cash Assets	4.4	4.9	6.2
Other	556.9	568.8	736.1
Current Assets	561.3	573.7	742.3
Accts Payable	208.5	216.9	243.1
Debt Due	238.4	205.4	347.0
Other	113.9	134.8	158.4
Current Liab.	560.8	557.1	748.5
Fix. Chg. Cov.	465%	460%	460%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '05-'07 to '11-'13
Revenues	9.0%	12.5%	1.0%
"Cash Flow"	3.5%	5.0%	2.5%
Earnings	2.0%	5.0%	3.5%
Dividends	1.5%	1.5%	2.5%
Book Value	4.0%	3.5%	5.0%

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2005	623.4	929.8	349.0	284.1	2186.3
2006	902.9	1064.5	346.9	323.6	2637.9
2007	732.9	1119.9	467.5	325.7	2646.0
2008	751.6	1020.0	464.7	391.9	2628.2
2009	760	1050	480	360	2650

Fiscal Year Ends	EARNINGS PER SHARE A B Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2005	.88	1.63	d.17	d.23	2.11
2006	.93	1.17	d.01	d.15	1.94
2007	.92	1.27	.22	d.31	2.10
2008	.96	1.66	.06	d.22	2.33
2009	.97	1.50	.13	d.20	2.40

Cal-endar	QUARTERLY DIVIDENDS PAID C ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.32	.325	.325	.325	1.30
2005	.325	.333	.333	.333	1.32
2006	.333	.338	.338	.338	1.34
2007	.34	.34	.34	.34	1.36
2008	.34	.36	.36	.36	

BUSINESS: WGL Holdings, Inc. is the parent of Washington Gas Light, a natural gas distributor in Washington, D.C. and adjacent areas of VA and MD to resident'l and comm'l users (1,046,201 meters). Hampshire Gas, a federally regulated sub., operates an underground gas-storage facility in WV. Non-regulated subs.: Wash. Gas Energy Svcs. sells and delivers natural gas and provides energy related products in the D.C. metro area; Wash. Gas Energy Sys. designs/installs comm'l heating, ventilating, and air cond. systems. American Century Inv. own 8.2% of common stock; Off./dir. less than 1% (1/08 proxy). Chmn. & CEO: J.H. DeGraffenreidt. Inc.: D.C. and VA. Addr.: 1100 H St., N.W., Washington, D.C. 20080. Tel.: 202-624-6410. Internet: www.wglholdings.com.

WGL Holdings performed well in fiscal 2008 (ended September 30th). New rates, higher consumption, and customer growth contributed to the annual top-line increase of almost 18%. Meanwhile, the initiation of regulatory mechanisms like the weather normalization adjustment (WMA) minimized usage volatility. And margins widened due to the successful expansion of the "asset optimization" program. The retail energy segment did not fare as well. This reflects lower margins from electric sales, partially offset by slightly higher margins for natural gas sales. Weakness here stemmed from milder weather and the loss of certain government and large commercial accounts. However, on balance, WGL's earnings per share advanced 11%. Next up,

We look for December-period results to be little changed compared to last year. Aggregate electric and gas customer accounts declined in the most recent quarter, due to the extended run-up in natural gas and electric prices from February through June. That caused WGL to halt its mass market customer acquisition efforts. However, as the company begins fiscal 2009, lower energy prices have allowed it to resume those efforts. It may take some time for these programs to pick up steam, consequently, WGL will likely experience growth in electricity sales, but natural gas volumes will probably continue to decline, as the last of the lost government accounts roll off its books. However,

The company should still register a modest 3% earnings increase for fiscal 2009. The utility segment should benefit from an estimated 9,500 new accounts, as well as higher contributions from its expanded asset management strategy. Meanwhile, the retail energy business may get a boost from stronger gross margins on natural gas sales. Also, rate case approvals and capital projects augur well for WGL's prospects. However, a likely decline in usage compared to last year's unusually high levels could be an offset.

These neutrally ranked shares may appeal to conservative income-oriented accounts. Indeed, this is evident in their good dividend yield, strong Safety rank (1), solid financial strength (A), and top mark for Price Stability (100).

Bryan Fong *December 12, 2008*

(A) Fiscal years end Sept. 30th.
(B) Based on diluted shares. Excludes nonrecurring losses: '01, (13¢); '02, (34¢); '07, (4¢) discontinued operations: '06, (15¢). Qtly egs. may not sum to total, due to change in shares outstanding. Next earnings report due late Jan.
(C) Dividends historically paid early February, May, August, and November. ■ Dividend reinvestment plan available.
(D) Includes deferred charges and intangibles. '07: $322.2 million, $6.51/sh.
(E) In millions, adjusted for stock split.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	50
Earnings Predictability	65

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ATTACHMENT C

Proven Ratings, Research & Recommendations

Zacks.com Quotes and Research

AMERICAN STS WTR CO (NYSE)

Scottrade

AWR	31.52	▲0.74	(2.40%)	Vol. 25,600	12:06 ET

American States is a public utility company engaged principally in thepurchase, production, distribution and sale of water. The company alsodistributes electricity in some communities. In the customer service areas for both water and electric, rates and operations are subject to the jurisdiction of the California Public Utilities Commission.

General Information

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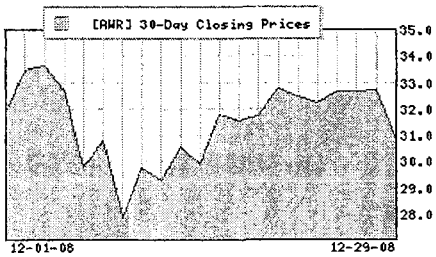
Email: investorinfo@aswater.com

Industry	UTIL-WATER SPLY
Sector:	Utilities
Fiscal Year End	December
Last Reported Quarter	09/30/08
Next EPS Date	03/05/2009

Price and Volume Information

Zacks Rank	
Yesterday's Close	30.78
52 Week High	42.00
52 Week Low	27.00
Beta	0.59
20 Day Moving Average	148,334.91
Target Price Consensus	38.67



% Price Change		% Price Change Relative to S&P 500	
4 Week	-3.45	4 Week	-9.36
12 Week	-16.97	12 Week	0.94
YTD	-18.31	YTD	46.04

Share Information		Dividend Information	
Shares Outstanding (millions)	17.29	Dividend Yield	3.25%
		Annual Dividend	$1.00
Market Capitalization (millions)	532.16	Payout Ratio	0.63
Short Ratio	4.12	Change in Payout Ratio	-0.13
Last Split Date	06/10/2002	Last Dividend Payout / Amount	11/07/2008 / $0.25

EPS Information		Consensus Recommendations	
Current Quarter EPS Consensus Estimate	0.41	Current (1=Strong Buy, 5=Strong Sell)	1.50
Current Year EPS Consensus Estimate	1.54	30 Days Ago	2.00
Estimated Long-Term EPS Growth Rate	12.00	60 Days Ago	2.00
Next EPS Report Date	03/05/2009	90 Days Ago	2.40

Fundamental Ratios

P/E		EPS Growth		Sales Growth	
Current FY Estimate:	20.05	vs. Previous Year	-11.36%	vs. Previous Year	12.42%
Trailing 12 Months:	19.48	vs. Previous Quarter	-27.78%	vs. Previous Quarter:	6.16%
PEG Ratio	1.67				

Price Ratios		ROE		ROA	
Price/Book	1.71	09/30/08	8.97	09/30/08	2.77

Price/Cash Flow	9.55	06/30/08	9.33	06/30/08	2.90
Price / Sales	1.72	03/31/08	8.81	03/31/08	2.73
Current Ratio		**Quick Ratio**		**Operating Margin**	
09/30/08	0.57	09/30/08	0.55	09/30/08	8.91
06/30/08	0.59	06/30/08	0.57	06/30/08	9.47
03/31/08	0.58	03/31/08	0.56	03/31/08	8.84
Net Margin		**Pre-Tax Margin**		**Book Value**	
09/30/08	14.27	09/30/08	14.27	09/30/08	18.02
06/30/08	16.35	06/30/08	16.35	06/30/08	17.93
03/31/08	15.56	03/31/08	15.56	03/31/08	17.60
Inventory Turnover		**Debt-to-Equity**		**Debt to Captial**	
09/30/08	59.72	09/30/08	0.86	09/30/08	46.19
06/30/08	59.45	06/30/08	0.86	06/30/08	46.35
03/31/08	58.96	03/31/08	0.88	03/31/08	46.82

Proven Ratings, Research & Recommendations

Zacks.com Quotes and Research

CALIFORNIA WTR SVC GROUP (NYSE)

Scottrade

CWT	45.73	▲2.01	(4.60%)	Vol. 141,240	12:08 ET

California Water Service Company's business, which is carried on through its operating subsidiaries, consists of the production, purchase, storage, purification, distribution and sale of water for domestic, industrial, public and irrigation uses, and for fire protection. It also provides water related services under agreements with municipalities and other private companies. The nonregulated services include full water system operation, and billing and meter reading services.

General Information

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1720 North First Street
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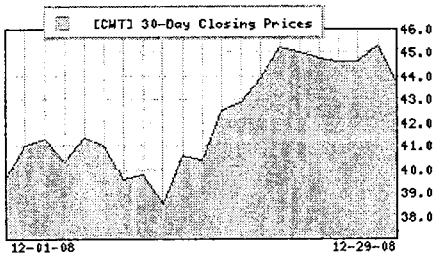
Web: www.calwatergroup.com
Email: klichtenberg@calwater.com

Industry	UTIL-WATER SPLY
Sector:	Utilities

Fiscal Year End	December
Last Reported Quarter	09/30/08
Next EPS Date	02/25/2009

Price and Volume Information

Zacks Rank	
Yesterday's Close	43.72
52 Week High	46.44
52 Week Low	27.68
Beta	0.62
20 Day Moving Average	226,865.50
Target Price Consensus	43.6



% Price Change		% Price Change Relative to S&P 500	
4 Week	10.29	4 Week	3.54
12 Week	20.18	12 Week	46.09
YTD	18.10	YTD	105.77

Share Information		Dividend Information	
Shares Outstanding (millions)	20.72	Dividend Yield	2.68%
		Annual Dividend	$1.17
Market Capitalization (millions)	905.75	Payout Ratio	0.63
Short Ratio	2.33	Change in Payout Ratio	-0.19
Last Split Date	01/26/1998	Last Dividend Payout / Amount	10/30/2008 / $0.29

EPS Information		Consensus Recommendations	
Current Quarter EPS Consensus Estimate	0.39	Current (1=Strong Buy, 5=Strong Sell)	2.29
Current Year EPS Consensus Estimate	1.92	30 Days Ago	2.00
Estimated Long-Term EPS Growth Rate	8.40	60 Days Ago	1.67
Next EPS Report Date	02/25/2009	90 Days Ago	1.67

Fundamental Ratios

P/E		EPS Growth		Sales Growth	
Current FY Estimate:	22.77	vs. Previous Year	58.21%	vs. Previous Year	15.68%
Trailing 12 Months:	23.50	vs. Previous Quarter	120.83%	vs. Previous Quarter:	24.74%
PEG Ratio	2.71				

Price Ratios		ROE		ROA	
Price/Book	2.26	09/30/08	9.99	09/30/08	3.14
Price/Cash Flow	15.88	06/30/08	7.95	06/30/08	2.53
Price / Sales	2.29	03/31/08	7.39	03/31/08	2.37
Current Ratio		**Quick Ratio**		**Operating Margin**	
09/30/08	0.57	09/30/08	0.54	09/30/08	9.81
06/30/08	0.61	06/30/08	0.57	06/30/08	8.05
03/31/08	0.65	03/31/08	0.59	03/31/08	7.62
Net Margin		**Pre-Tax Margin**		**Book Value**	
09/30/08	-	09/30/08	-	09/30/08	19.37
06/30/08	-	06/30/08	-	06/30/08	18.60
03/31/08	-	03/31/08	-	03/31/08	18.38
Inventory Turnover		**Debt-to-Equity**		**Debt to Captial**	
09/30/08	-	09/30/08	0.72	09/30/08	41.83
06/30/08	-	06/30/08	0.75	06/30/08	42.57
03/31/08	-	03/31/08	0.76	03/31/08	42.94

Proven Ratings, Research & Recommendations

Zacks.com Quotes and Research

SOUTHWEST WTR CO (NASD)

Scottrade

SWWC	3.04	▼-0.12	(-3.80%)	Vol. 216,355	12:09 ET

Southwest Water Company provides a broad range of utility and utility management services and serves people from coast to coast. Through its various subsidiaries, Southwest operates and manages water and wastewater treatment facilities along with providing utility submetering and billing and collection services.

General Information

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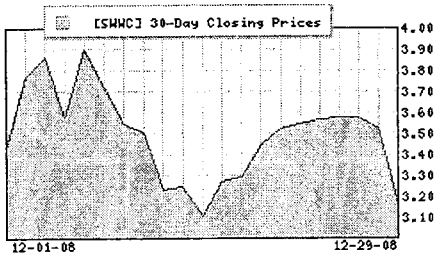
Email: swwc@swwc.com

Industry	UTIL-WATER SPLY
Sector:	Utilities
Fiscal Year End	December
Last Reported Quarter	09/30/08
Next EPS Date	11/10/2008

Price and Volume Information

Zacks Rank	
Yesterday's Close	3.16
52 Week High	13.40
52 Week Low	2.75
Beta	1.33
20 Day Moving Average	220,346.25
Target Price Consensus	6.67



% Price Change		% Price Change Relative to S&P 500	
4 Week	-7.87	4 Week	-13.51
12 Week	-69.70	12 Week	-63.17
YTD	-74.76	YTD	-52.70

Share Information		Dividend Information	
Shares Outstanding (millions)	24.59	Dividend Yield	7.59%
		Annual Dividend	$0.24
Market Capitalization (millions)	77.71	Payout Ratio	0.00
Short Ratio	5.82	Change in Payout Ratio	0.00
Last Split Date	12/28/2005	Last Dividend Payout / Amount	NA / $0.00

EPS Information		Consensus Recommendations	
Current Quarter EPS Consensus Estimate	0.10	Current (1=Strong Buy, 5=Strong Sell)	2.50
Current Year EPS Consensus Estimate	0.20	30 Days Ago	2.50
Estimated Long-Term EPS Growth Rate	6.30	60 Days Ago	3.00
Next EPS Report Date	11/10/2008	90 Days Ago	2.50

Fundamental Ratios

P/E		EPS Growth		Sales Growth	
Current FY Estimate:	15.54	vs. Previous Year	-55.56%	vs. Previous Year	3.80%
Trailing 12 Months:	14.36	vs. Previous Quarter	500.00%	vs. Previous Quarter:	12.42%
PEG Ratio	2.45				

Price Ratios	ROE	ROA

Price/Book	0.49	09/30/08	-	09/30/08	-
Price/Cash Flow	3.86	06/30/08	3.39	06/30/08	1.03
Price / Sales	-	03/31/08	4.13	03/31/08	1.30
Current Ratio		**Quick Ratio**		**Operating Margin**	
09/30/08	-	09/30/08	-	09/30/08	-
06/30/08	1.82	06/30/08	1.82	06/30/08	2.45
03/31/08	1.65	03/31/08	1.65	03/31/08	3.08
Net Margin		**Pre-Tax Margin**		**Book Value**	
09/30/08	-	09/30/08	-	09/30/08	-
06/30/08	-3.43	06/30/08	-3.43	06/30/08	6.41
03/31/08	-2.54	03/31/08	-2.54	03/31/08	6.51
Inventory Turnover		**Debt-to-Equity**		**Debt to Captial**	
09/30/08	-	09/30/08	-	09/30/08	-
06/30/08	-	06/30/08	1.22	06/30/08	54.91
03/31/08	-	03/31/08	1.15	03/31/08	53.49

Proven Ratings, Research & Recommendations

Zacks.com Quotes and Research

AQUA AMERICA INC (NYSE)

Scottrade

WTR	20.50	▲0.50	(2.50%)	Vol. 330,558	12:09 ET

Aqua America is the largest publicly-traded U.S.-based water utility serving residents in Pennsylvania, Ohio, Illinois, Texas, New Jersey, Indiana, Virginia, Florida, North Carolina, Maine, Missouri, New York, South Carolina and Kentucky. The company has been committed to the preservation and improvement of the environment throughout its history, which spans more than 100 years.

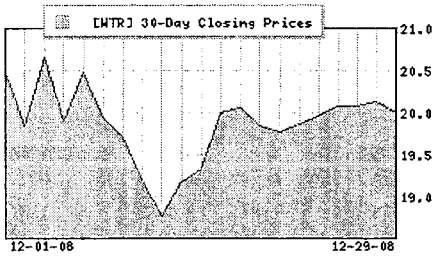
General Information

AQUA AMER INC
762 W Lancaster Avenue
Bryn Mawr, PA 19010-3489
Phone: 610 527-8000
Fax: 610-645-1061
Web: www.suburbanwater.com
Email: ir.aquaamerica.com

Industry	UTIL-WATER SPLY
Sector:	Utilities
Fiscal Year End	December
Last Reported Quarter	09/30/08
Next EPS Date	02/25/2009

Price and Volume Information

Zacks Rank	2
Yesterday's Close	N/A
52 Week High	22.00
52 Week Low	12.20
Beta	0.21
20 Day Moving Average	1,060,547.63
Target Price Consensus	21.92



% Price Change		% Price Change Relative to S&P 500	
4 Week	-2.34	4 Week	-8.32
12 Week	16.96	12 Week	42.18
YTD	-5.66	YTD	59.74

Share Information		Dividend Information	
Shares Outstanding (millions)	134.86	Dividend Yield	2.70%
		Annual Dividend	$0.54
Market Capitalization (millions)	2,697.20	Payout Ratio	0.68
Short Ratio	8.63	Change in Payout Ratio	0.05
Last Split Date	12/02/2005	Last Dividend Payout / Amount	11/13/2008 / $0.14

EPS Information		Consensus Recommendations	
Current Quarter EPS Consensus Estimate	0.20	Current (1=Strong Buy, 5=Strong Sell)	2.22
Current Year EPS Consensus Estimate	0.74	30 Days Ago	1.78
Estimated Long-Term EPS Growth Rate	8.00	60 Days Ago	1.56
Next EPS Report Date	02/25/2009	90 Days Ago	1.89

Fundamental Ratios

P/E		EPS Growth		Sales Growth	
Current FY Estimate:	27.03	vs. Previous Year	18.18%	vs. Previous Year	7.01%
Trailing 12 Months:	27.40	vs. Previous Quarter	52.94%	vs. Previous Quarter:	17.48%
PEG Ratio	3.38				

Price Ratios	ROE	ROA

Price/Book	2.62	09/30/08	9.70	09/30/08	2.96
Price/Cash Flow	14.56	06/30/08	9.26	06/30/08	2.84
Price / Sales	4.38	03/31/08	9.57	03/31/08	2.92
Current Ratio		**Quick Ratio**		**Operating Margin**	
09/30/08	0.59	09/30/08	0.54	09/30/08	15.77
06/30/08	0.73	06/30/08	0.67	06/30/08	15.10
03/31/08	0.63	03/31/08	0.57	03/31/08	15.30
Net Margin		**Pre-Tax Margin**		**Book Value**	
09/30/08	25.94	09/30/08	25.94	09/30/08	7.62
06/30/08	24.80	06/30/08	24.80	06/30/08	7.65
03/31/08	25.08	03/31/08	25.08	03/31/08	7.35
Inventory Turnover		**Debt-to-Equity**		**Debt to Captial**	
09/30/08	0.00	09/30/08	1.18	09/30/08	54.14
06/30/08	0.00	06/30/08	1.19	06/30/08	54.30
03/31/08	0.00	03/31/08	1.24	03/31/08	55.35

Proven Ratings, Research & Recommendations

Zacks.com Quotes and Research

AGL RES INC (NYSE)

Scottrade

ATG	30.05	▲0.48	(1.62%)	Vol. 174,886	12:15 ET

AGL Resources principal business is the distribution of natural gas to customers in central, northwest, northeast and southeast Georgia and the Chattanooga, Tennessee area through its natural gas distribution subsidiary. AGL's major service area is the ten county metropolitan Atlanta area.

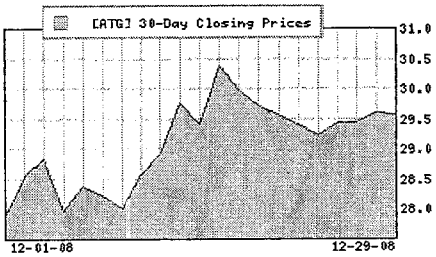
General Information

AGL RESOURCES
Ten Peachtree Place NE
Atlanta, GA 30309
Phone: 404 584-4000
Fax: 404 584-3945
Web: www.aglresources.com
Email: scave@aglresources.com

Industry	UTIL-GAS DISTR
Sector:	Utilities
Fiscal Year End	December
Last Reported Quarter	09/30/08
Next EPS Date	02/05/2009

Price and Volume Information

Zacks Rank	
Yesterday's Close	29.57
52 Week High	39.13
52 Week Low	24.02
Beta	0.32
20 Day Moving Average	497,127.19
Target Price Consensus	36.17



% Price Change		% Price Change Relative to S&P 500	
4 Week	6.06	4 Week	-0.43
12 Week	-1.47	12 Week	19.78
YTD	-21.44	YTD	32.35

Share Information		Dividend Information	
Shares Outstanding (millions)	76.78	Dividend Yield	5.68%
		Annual Dividend	$1.68
Market Capitalization (millions)	2,270.39	Payout Ratio	0.65
Short Ratio	2.79	Change in Payout Ratio	0.08
Last Split Date	12/04/1995	Last Dividend Payout / Amount	11/12/2008 / $0.42

EPS Information		Consensus Recommendations	
Current Quarter EPS Consensus Estimate	0.97	Current (1=Strong Buy, 5=Strong Sell)	2.00
Current Year EPS Consensus Estimate	2.79	30 Days Ago	2.14
Estimated Long-Term EPS Growth Rate	4.30	60 Days Ago	2.14
Next EPS Report Date	02/05/2009	90 Days Ago	2.14

Fundamental Ratios

P/E		EPS Growth		Sales Growth	
Current FY Estimate:	10.59	vs. Previous Year	64.71%	vs. Previous Year	46.07%
Trailing 12 Months:	11.37	vs. Previous Quarter	-6.67%	vs. Previous Quarter:	21.40%
PEG Ratio	2.44				

Price Ratios		ROE		ROA	
Price/Book	1.32	09/30/08	11.74	09/30/08	3.13

Price/Cash Flow	6.38	06/30/08	11.42	06/30/08	3.08
Price / Sales	0.85	03/31/08	11.86	03/31/08	3.29
Current Ratio		**Quick Ratio**		**Operating Margin**	
09/30/08	1.06	09/30/08	0.62	09/30/08	7.44
06/30/08	1.03	06/30/08	0.67	06/30/08	7.61
03/31/08	1.01	03/31/08	0.80	03/31/08	7.82
Net Margin		**Pre-Tax Margin**		**Book Value**	
09/30/08	12.43	09/30/08	12.43	09/30/08	22.49
06/30/08	9.96	06/30/08	9.96	06/30/08	22.03
03/31/08	12.52	03/31/08	12.52	03/31/08	22.52
Inventory Turnover		**Debt-to-Equity**		**Debt to Captial**	
09/30/08	2.60	09/30/08	0.97	09/30/08	49.71
06/30/08	2.60	06/30/08	0.97	06/30/08	49.78
03/31/08	2.64	03/31/08	0.88	03/31/08	47.34

Proven Ratings, Research & Recommendations

Zacks.com Quotes and Research

ATMOS ENERGY CORP (NYSE)

Scottrade

ATO	23.48	▲0.16	(0.69%)	Vol. 141,430	12:14 ET

Atmos Energy Corporation distributes and sells natural gas to residential, commercial, industrial, agricultural and other customers. Atmos operates through five divisions in cities, towns and communities in service areas located in Colorado, Georgia, Illinois, Iowa, Kansas, Kentucky, Louisiana, Missouri, South Carolina, Tennessee, Texas and Virginia. The Company has entered into an agreement to sell all of its natural gas utility operations in South Carolina. The Company also transports natural gas for others through its distribution system.

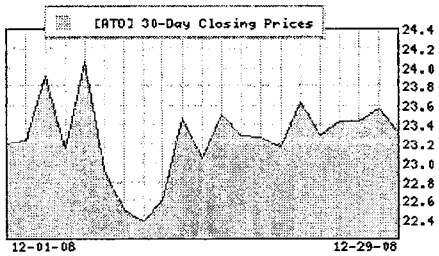
General Information

ATMOS ENERGY CP
Three Lincoln Centre 5430 Lbj Freeway
Suite 1800
Dallas, TX 75240
Phone: 972-934-9227
Fax: 972-855-3040
Web: www.atmosenergy.com
Email: InvestorRelations@atmosenergy.com

Industry	UTIL-GAS DISTR
Sector:	Utilities
Fiscal Year End	September
Last Reported Quarter	09/30/08
Next EPS Date	02/10/2009

Price and Volume Information

Zacks Rank	
Yesterday's Close	23.32
52 Week High	29.29
52 Week Low	19.68
Beta	0.51
20 Day Moving Average	584,259.38
Target Price Consensus	29.33



% Price Change		% Price Change Relative to S&P 500	
4 Week	0.52	4 Week	-5.63
12 Week	-15.14	12 Week	3.16
YTD	-16.83	YTD	41.42

Share Information		Dividend Information	
Shares Outstanding (millions)	91.56	Dividend Yield	5.66%
		Annual Dividend	$1.32
Market Capitalization (millions)	2,135.11	Payout Ratio	0.65
Short Ratio	1.12	Change in Payout Ratio	-0.01
Last Split Date	05/17/1994	Last Dividend Payout / Amount	11/21/2008 / $0.33

EPS Information		Consensus Recommendations	
Current Quarter EPS Consensus Estimate	0.80	Current (1=Strong Buy, 5=Strong Sell)	2.50
Current Year EPS Consensus Estimate	2.09	30 Days Ago	2.40
Estimated Long-Term EPS Growth Rate	5.50	60 Days Ago	2.40
Next EPS Report Date	02/10/2009	90 Days Ago	2.50

Fundamental Ratios

P/E		EPS Growth		Sales Growth	
Current FY Estimate:	11.18	vs. Previous Year	150.00%	vs. Previous Year	43.77%
Trailing 12 Months:	11.60	vs. Previous Quarter	128.57%	vs. Previous Quarter:	-12.11%
PEG Ratio	2.03				

Price Ratios		ROE		ROA	
Price/Book	1.03	09/30/08	8.67	09/30/08	2.82
Price/Cash Flow	5.55	06/30/08	8.50	06/30/08	2.79
Price / Sales	0.30	03/31/08	8.29	03/31/08	2.71
Current Ratio		**Quick Ratio**		**Operating Margin**	
09/30/08	1.06	09/30/08	0.59	09/30/08	2.50
06/30/08	1.20	06/30/08	0.71	06/30/08	2.58
03/31/08	1.22	03/31/08	0.87	03/31/08	2.64
Net Margin		**Pre-Tax Margin**		**Book Value**	
09/30/08	4.05	09/30/08	4.05	09/30/08	22.65
06/30/08	3.92	06/30/08	3.92	06/30/08	23.34
03/31/08	4.00	03/31/08	4.00	03/31/08	23.63
Inventory Turnover		**Debt-to-Equity**		**Debt to Captial**	
09/30/08	11.06	09/30/08	1.03	09/30/08	50.81
06/30/08	10.64	06/30/08	1.01	06/30/08	50.17
03/31/08	10.40	03/31/08	1.00	03/31/08	49.93

Proven Ratings, Research & Recommendations

Zacks.com Quotes and Research

LACLEDE GROUP INC (NYSE)

Scottrade

LG	45.39	▲0.54	(1.20%)	Vol. 201,481	12:17 ET

The Laclede Group, Inc. is a public utility engaged in the retail distribution and transportation of natural gas. The Company, which is subject to the jurisdiction of the Missouri Public Service Commission, serves the City of St. Louis, St. Louis County, the City of St. Charles, St. Charles County, the town of Arnold, and parts of Franklin, Jefferson, St. Francois, Ste. Genevieve, Iron, Madison and Butler Counties, all in Missouri.

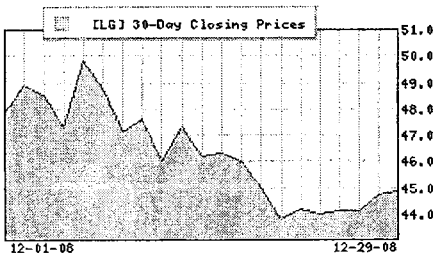
General Information

LACLEDE GRP INC
720 Olive Street
St. Louis, MO 63101
Phone: 314-342-0500
Fax: 314-421-1979
Web: www.thelacledegroup.com
Email: mkullman@lacledegas.com

Industry	UTIL-GAS DISTR
Sector:	Utilities
Fiscal Year End	September
Last Reported Quarter	09/30/08
Next EPS Date	01/22/2009

Price and Volume Information

Zacks Rank	
Yesterday's Close	44.85
52 Week High	55.81
52 Week Low	31.86
Beta	0.10
20 Day Moving Average	273,241.84
Target Price Consensus	N/A



% Price Change		% Price Change Relative to S&P 500	
4 Week	-6.31	4 Week	-12.04
12 Week	-9.65	12 Week	9.83
YTD	30.99	YTD	119.78

Share Information		Dividend Information	
Shares Outstanding (millions)	22.13	Dividend Yield	3.43%
		Annual Dividend	$1.54
Market Capitalization (millions)	992.35	Payout Ratio	0.57
Short Ratio	5.01	Change in Payout Ratio	-0.10
Last Split Date	03/08/1994	Last Dividend Payout / Amount	12/09/2008 / $0.38

EPS Information		Consensus Recommendations	
Current Quarter EPS Consensus Estimate	1.02	Current (1=Strong Buy, 5=Strong Sell)	3.67
Current Year EPS Consensus Estimate	2.42	30 Days Ago	3.67
Estimated Long-Term EPS Growth Rate	10.00	60 Days Ago	3.67
Next EPS Report Date	01/22/2009	90 Days Ago	3.67

Fundamental Ratios

P/E		EPS Growth		Sales Growth	
Current FY Estimate:	18.53	vs. Previous Year	-566.67%	vs. Previous Year	39.76%
Trailing 12 Months:	16.99	vs. Previous Quarter	-133.33%	vs. Previous Quarter:	-10.62%
PEG Ratio	1.85				

Price Ratios		ROE		ROA	
Price/Book	2.03	09/30/08	12.04	09/30/08	3.35

Price/Cash Flow	10.44	06/30/08	13.24	06/30/08	3.65
Price / Sales	0.44	03/31/08	13.64	03/31/08	3.69
Current Ratio		**Quick Ratio**		**Operating Margin**	
09/30/08	1.17	09/30/08	0.69	09/30/08	2.53
06/30/08	1.32	06/30/08	0.98	06/30/08	2.86
03/31/08	1.29	03/31/08	1.16	03/31/08	2.94
Net Margin		**Pre-Tax Margin**		**Book Value**	
09/30/08	3.79	09/30/08	3.79	09/30/08	22.14
06/30/08	4.21	06/30/08	4.21	06/30/08	22.13
03/31/08	4.41	03/31/08	4.41	03/31/08	22.06
Inventory Turnover		**Debt-to-Equity**		**Debt to Captial**	
09/30/08	5.73	09/30/08	0.80	09/30/08	44.42
06/30/08	14.15	06/30/08	0.64	06/30/08	39.01
03/31/08	14.24	03/31/08	0.74	03/31/08	42.49

Proven Ratings, Research & Recommendations

Zacks.com Quotes and Research

NEW JERSEY RES (NYSE)

Scottrade

NJR	38.41	▲1.07	(2.87%)	Vol. 126,145	12:19 ET

NJ RESOURCES is an exempt energy svcs holding company providing retail & wholesale natural gas & related energy services to customers from the Gulf Coast to New England. Subsidiaries include: (1) N J Natural Gas Co, a natural gas distribution company that provides regulated energy & appliance services to residential, commercial & industrial customers in central & northern N J. (2) NJR Energy Holdings Corp formerly NJR Energy Svcs Corp & (3) NJR Development Corp, a sub-holding company of NJR, which includes the Company's remaining unregulated operating subsidiaries.

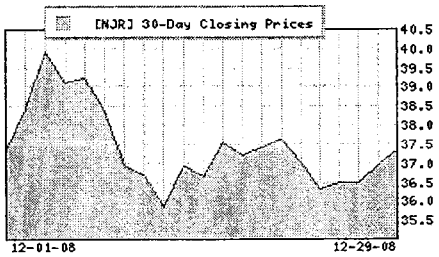
General Information

NJ RESOURCES
1415 Wyckoff Road
Wall, NJ 07719
Phone: 732-938-1489
Fax: 732 938-3154
Web: www.njresources.com
Email: investcont@njresources.com

Industry	UTIL-GAS DISTR
Sector:	Utilities
Fiscal Year End	September
Last Reported Quarter	09/30/08
Next EPS Date	02/04/2009

Price and Volume Information

Zacks Rank	
Yesterday's Close	37.34
52 Week High	41.13
52 Week Low	21.90
Beta	0.15
20 Day Moving Average	545,436.06
Target Price Consensus	38.33



% Price Change		% Price Change Relative to S&P 500	
4 Week	0.03	4 Week	-6.09
12 Week	5.69	12 Week	28.48
YTD	11.98	YTD	86.46

Share Information		Dividend Information	
Shares Outstanding (millions)	42.12	Dividend Yield	3.32%
		Annual Dividend	$1.24
Market Capitalization (millions)	1,572.80	Payout Ratio	0.50
		Change in Payout Ratio	0.00
Short Ratio	6.99	Last Dividend Payout / Amount	12/11/2008 / $0.31
Last Split Date	03/04/2008		

EPS Information		Consensus Recommendations	
Current Quarter EPS Consensus Estimate	0.82	Current (1=Strong Buy, 5=Strong Sell)	1.67
Current Year EPS Consensus Estimate	2.34	30 Days Ago	2.33
Estimated Long-Term EPS Growth Rate	8.00	60 Days Ago	2.33
Next EPS Report Date	02/04/2009	90 Days Ago	3.00

Fundamental Ratios

P/E		EPS Growth		Sales Growth	
Current FY Estimate:	15.94	vs. Previous Year	-6.36%	vs. Previous Year	38.43%
Trailing 12 Months:	16.69	vs. Previous Quarter	-290.00%	vs. Previous Quarter:	-17.33%
PEG Ratio	1.99				

Price Ratios		ROE		ROA	
Price/Book	2.16	09/30/08	13.77	09/30/08	3.74
Price/Cash Flow	11.79	06/30/08	14.36	06/30/08	3.94
Price / Sales	0.41	03/31/08	14.16	03/31/08	4.09
Current Ratio		**Quick Ratio**		**Operating Margin**	
09/30/08	1.24	09/30/08	0.70	09/30/08	2.46
06/30/08	1.15	06/30/08	0.79	06/30/08	2.65
03/31/08	1.10	03/31/08	0.81	03/31/08	2.89
Net Margin		**Pre-Tax Margin**		**Book Value**	
09/30/08	4.72	09/30/08	4.72	09/30/08	17.29
06/30/08	-0.40	06/30/08	-0.40	06/30/08	15.69
03/31/08	-0.40	03/31/08	-0.40	03/31/08	16.04
Inventory Turnover		**Debt-to-Equity**		**Debt to Captial**	
09/30/08	8.77	09/30/08	0.63	09/30/08	38.50
06/30/08	8.90	06/30/08	0.73	06/30/08	42.27
03/31/08	7.87	03/31/08	0.53	03/31/08	34.78

Proven Ratings, Research & Recommendations

Zacks.com Quotes and Research

NICOR INC (NYSE)

Scottrade

GAS	33.89	▲ 0.76	(2.29%)	Vol. 187,158	12:19 ET

Nicor Inc. is a holding company and is a member of the Standard & Poor's 500 Index. Its primary business is Nicor Gas, one of the nation's largest natural gas distribution companies. Nicor owns Tropical Shipping, a containerized shipping business serving the Caribbean region and the Bahamas. In addition, the company owns and has an equity interest in several energy-related businesses.

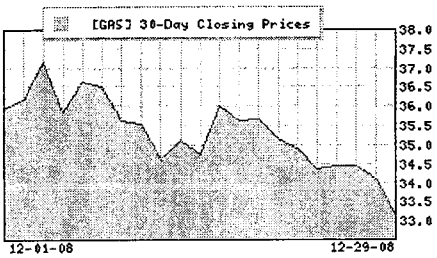
General Information

NICOR INC
1844 Ferry Road
Naperville, IL 60563-9600
Phone: 630-305-9500
Fax: 630-983-9328
Web: www.nicor.com
Email: None

Industry	UTIL-GAS DISTR
Sector:	Utilities
Fiscal Year End	December
Last Reported Quarter	09/30/08
Next EPS Date	02/13/2009

Price and Volume Information

Zacks Rank	2
Yesterday's Close	33.13
52 Week High	51.99
52 Week Low	32.35
Beta	0.40
20 Day Moving Average	661,124.31
Target Price Consensus	44



% Price Change		% Price Change Relative to S&P 500	
4 Week	-7.79	4 Week	-13.44
12 Week	-26.41	12 Week	-10.54
YTD	-21.77	YTD	35.46

Share Information		Dividend Information	
Shares Outstanding (millions)	45.19	Dividend Yield	5.61%
		Annual Dividend	$1.86
Market Capitalization (millions)	1,497.18	Payout Ratio	0.66
Short Ratio	4.27	Change in Payout Ratio	-0.09
Last Split Date	04/27/1993	Last Dividend Payout / Amount	NA / $0.00

EPS Information		Consensus Recommendations	
Current Quarter EPS Consensus Estimate	0.68	Current (1=Strong Buy, 5=Strong Sell)	3.40
Current Year EPS Consensus Estimate	2.26	30 Days Ago	3.40
Estimated Long-Term EPS Growth Rate	6.50	60 Days Ago	3.40
Next EPS Report Date	02/13/2009	90 Days Ago	3.20

Fundamental Ratios

P/E		EPS Growth		Sales Growth	
Current FY Estimate:	14.64	vs. Previous Year	-90.63%	vs. Previous Year	20.56%
Trailing 12 Months:	11.83	vs. Previous Quarter	-95.31%	vs. Previous Quarter:	-37.08%
PEG Ratio	2.25				

Price Ratios		ROE		ROA	
Price/Book	1.57	09/30/08	13.19	09/30/08	2.87

Price/Cash Flow	4.75	06/30/08	14.73	06/30/08	3.25
Price / Sales	0.41	03/31/08	13.83	03/31/08	3.11
Current Ratio		**Quick Ratio**		**Operating Margin**	
09/30/08	0.76	09/30/08	0.56	09/30/08	3.48
06/30/08	0.80	06/30/08	0.75	06/30/08	3.92
03/31/08	0.80	03/31/08	0.78	03/31/08	3.76
Net Margin		**Pre-Tax Margin**		**Book Value**	
09/30/08	4.80	09/30/08	4.80	09/30/08	21.15
06/30/08	5.27	06/30/08	5.27	06/30/08	21.81
03/31/08	5.07	03/31/08	5.07	03/31/08	21.53
Inventory Turnover		**Debt-to-Equity**		**Debt to Captial**	
09/30/08	23.38	09/30/08	0.47	09/30/08	31.92
06/30/08	24.11	06/30/08	0.38	06/30/08	27.46
03/31/08	24.66	03/31/08	0.38	03/31/08	27.71

Proven Ratings, Research & Recommendations

Zacks.com Quotes and Research

NORTHWEST NAT GAS CO (NYSE)

Scottrade

NWN	43.19	▲0.35	(0.82%)	Vol. 58,380	12:25 ET

NW Natural is principally engaged in the distribution of natural gas.The Oregon Public Utility Commission (OPUC) has allocated to NW Natural as its exclusive service area a major portion of western Oregon, including the Portland metropolitan area, most of the fertile Willamette Valley and the coastal area from Astoria to Coos Bay. NW Natural also holds certificates from the Washington Utilities and Transportation Commission (WUTC) granting it exclusive rights to serve portions of three Washington counties bordering the Columbia River.

General Information

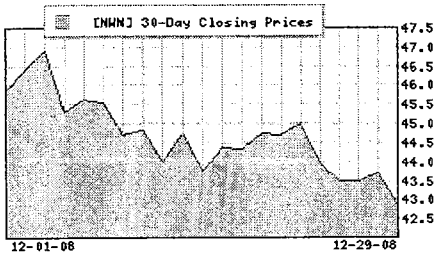
NORTHWEST NAT G
220 NW Second Avenue
Portland, OR 97209
Phone: 503 226-4211
Fax: 503 273-4824
Web: www.nwnatural.com
Email: Bob.Hess@nwnatural.com

Industry	UTIL-GAS DISTR
Sector:	Utilities

Fiscal Year End	December
Last Reported Quarter	09/30/08
Next EPS Date	02/05/2009

Price and Volume Information

Zacks Rank	#2
Yesterday's Close	42.84
52 Week High	78.55
52 Week Low	36.61
Beta	0.36
20 Day Moving Average	215,709.09
Target Price Consensus	52.25



% Price Change		% Price Change Relative to S&P 500	
4 Week	-6.59	4 Week	-12.30
12 Week	-15.82	12 Week	2.33
YTD	-11.96	YTD	51.02

Share Information		Dividend Information	
Shares Outstanding (millions)	26.43	Dividend Yield	3.69%
		Annual Dividend	$1.58
Market Capitalization (millions)	1,132.47	Payout Ratio	0.60
Short Ratio	7.22	Change in Payout Ratio	-0.02
Last Split Date	09/09/1996	Last Dividend Payout / Amount	10/29/2008 / $0.40

EPS Information		Consensus Recommendations	
Current Quarter EPS Consensus Estimate	1.21	Current (1=Strong Buy, 5=Strong Sell)	2.00
Current Year EPS Consensus Estimate	2.53	30 Days Ago	1.80
Estimated Long-Term EPS Growth Rate	7.00	60 Days Ago	1.80
Next EPS Report Date	02/05/2009	90 Days Ago	2.20

Fundamental Ratios

P/E		EPS Growth		Sales Growth	
Current FY Estimate:	16.91	vs. Previous Year	-72.73%	vs. Previous Year	-11.71%
Trailing 12 Months:	17.20	vs. Previous Quarter	-416.67%	vs. Previous Quarter:	-42.64%
PEG Ratio	2.42				

Price Ratios	ROE	ROA

Price/Book	1.87	09/30/08	10.77	09/30/08	3.29
Price/Cash Flow	7.93	06/30/08	11.55	06/30/08	3.56
Price / Sales	1.11	03/31/08	11.51	03/31/08	3.57
Current Ratio		**Quick Ratio**		**Operating Margin**	
09/30/08	0.69	09/30/08	0.44	09/30/08	6.47
06/30/08	0.65	06/30/08	0.49	06/30/08	6.79
03/31/08	0.76	03/31/08	0.65	03/31/08	6.78
Net Margin		**Pre-Tax Margin**		**Book Value**	
09/30/08	10.30	09/30/08	10.30	09/30/08	22.88
06/30/08	10.81	06/30/08	10.81	06/30/08	23.64
03/31/08	10.80	03/31/08	10.80	03/31/08	23.83
Inventory Turnover		**Debt-to-Equity**		**Debt to Captial**	
09/30/08	9.67	09/30/08	0.85	09/30/08	45.84
06/30/08	10.39	06/30/08	0.82	06/30/08	45.05
03/31/08	9.50	03/31/08	0.81	03/31/08	44.86

Proven Ratings, Research & Recommendations

Zacks.com Quotes and Research

PIEDMONT NAT GAS INC (NYSE)

Scottrade

PNY	31.21	0.63	(2.06%)	Vol. 197,053	12:19 ET

Piedmont Natural Gas Co, Inc., is an energy and services company engaged in the transportation and sale of natural gas and the sale of propane to residential, commercial and industrial customers in North Carolina, South Carolina and Tennessee. The Company is the second-largest natural gas utility in the southeast. The Company and its non-utility subsidiaries and divisions are also engaged in acquiring, marketing and arranging for the transportation and storage of natural gas for large-volume purchasers, and in the sale of propane to customers in the Company's three-state service area.

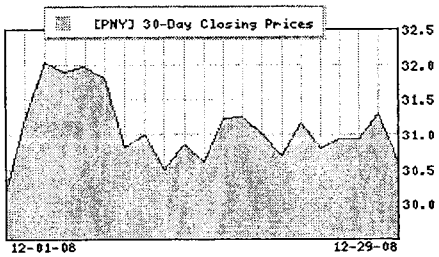
General Information

PIEDMONT NAT GA
4720 Piedmont Row Drive
Charlotte, NC 28210
Phone: 704 364-3120
Fax: 704-365-3849
Web: www.piedmontng.com
Email: margaret.griffith@piedmontng.com

Industry	UTIL-GAS DISTR
Sector:	Utilities
Fiscal Year End	October
Last Reported Quarter	10/31/08
Next EPS Date	03/10/2009

Price and Volume Information

Zacks Rank	
Yesterday's Close	30.58
52 Week High	35.29
52 Week Low	20.52
Beta	0.10
20 Day Moving Average	554,579.38
Target Price Consensus	31.67



% Price Change		% Price Change Relative to S&P 500	
4 Week	1.36	4 Week	-4.84
12 Week	0.82	12 Week	22.57
YTD	16.90	YTD	101.36

Share Information		Dividend Information	
Shares Outstanding (millions)	73.28	Dividend Yield	3.40%
		Annual Dividend	$1.04
Market Capitalization (millions)	2,240.87	Payout Ratio	0.00
Short Ratio	6.97	Change in Payout Ratio	0.00
Last Split Date	11/01/2004	Last Dividend Payout / Amount	12/23/2008 / $0.26

EPS Information		Consensus Recommendations	
Current Quarter EPS Consensus Estimate	1.12	Current (1=Strong Buy, 5=Strong Sell)	2.67
Current Year EPS Consensus Estimate	1.65	30 Days Ago	2.67
Estimated Long-Term EPS Growth Rate	7.20	60 Days Ago	2.60
Next EPS Report Date	03/10/2009	90 Days Ago	2.60

Fundamental Ratios

P/E		EPS Growth		Sales Growth	
Current FY Estimate:	18.57	vs. Previous Year	-63.64%	vs. Previous Year	12.13%
Trailing 12 Months:	19.48	vs. Previous Quarter	-80.00%	vs. Previous Quarter:	-12.11%
PEG Ratio	2.60				

Price Ratios		ROE		ROA	
Price/Book	2.43	10/31/08	-	10/31/08	-
Price/Cash Flow	11.45	07/31/08	12.52	07/31/08	3.93
Price / Sales	1.07	04/30/08	12.43	04/30/08	3.94
Current Ratio		**Quick Ratio**		**Operating Margin**	
10/31/08	-	10/31/08	-	10/31/08	-
07/31/08	1.00	07/31/08	0.60	07/31/08	5.59
04/30/08	1.19	04/30/08	0.86	04/30/08	5.89
Net Margin		**Pre-Tax Margin**		**Book Value**	
10/31/08	-	10/31/08	-	10/31/08	-
07/31/08	7.23	07/31/08	7.23	07/31/08	12.56
04/30/08	8.04	04/30/08	8.04	04/30/08	12.96
Inventory Turnover		**Debt-to-Equity**		**Debt to Captial**	
10/31/08	-	10/31/08	-	10/31/08	-
07/31/08	10.43	07/31/08	0.89	07/31/08	47.21
04/30/08	10.03	04/30/08	0.87	04/30/08	46.44

Zacks.com Quotes and Research

SOUTH JERSEY INDS INC (NYSE)

Scottrade

SJI	38.89	▲0.79	(2.07%)	Vol. 168,723	12:21 ET

South Jersey Inds Inc. is engaged in the business of operating, through subsidiaries, various business enterprises. The company's most significant subsidiary is South Jersey Gas Company (SJG). SJG is a public utility company engaged in the purchase, transmission and sale of natural gas for residential, commercial and industrial use. SJG also makes off-system sales of natural gas on a wholesale basis to various customers on the interstate pipeline system and transports natural gas.

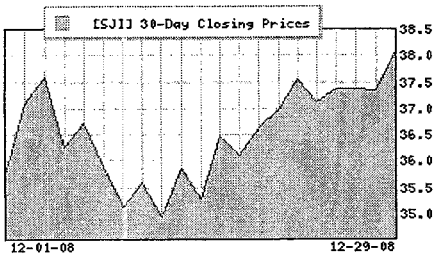
General Information

SOUTH JERSEY IN
1 South Jersey Plaza
Folsom, NJ 08037
Phone: 609 561-9000
Fax: 609 561-8225
Web: www.sjindustries.com
Email: sharehld@sjindustries.com

Industry	UTIL-GAS DISTR
Sector:	Utilities
Fiscal Year End	December
Last Reported Quarter	09/30/08
Next EPS Date	02/19/2009

Price and Volume Information

Zacks Rank	2
Yesterday's Close	38.10
52 Week High	39.81
52 Week Low	25.19
Beta	0.30
20 Day Moving Average	235,270.59
Target Price Consensus	40.33



% Price Change		% Price Change Relative to S&P 500	
4 Week	6.63	4 Week	0.11
12 Week	10.92	12 Week	34.83
YTD	5.57	YTD	73.97

Share Information		Dividend Information	
Shares Outstanding (millions)	29.73	Dividend Yield	3.12%
		Annual Dividend	$1.19
Market Capitalization (millions)	1,132.68	Payout Ratio	0.48
Short Ratio	6.41	Change in Payout Ratio	-0.05
Last Split Date	07/01/2005	Last Dividend Payout / Amount	12/08/2008 / $0.30

EPS Information		Consensus Recommendations	
Current Quarter EPS Consensus Estimate	0.65	Current (1=Strong Buy, 5=Strong Sell)	2.60
Current Year EPS Consensus Estimate	2.29	30 Days Ago	2.60
Estimated Long-Term EPS Growth Rate	7.50	60 Days Ago	2.60
Next EPS Report Date	02/19/2009	90 Days Ago	2.60

Fundamental Ratios

P/E		EPS Growth		Sales Growth	
Current FY Estimate:	16.61	vs. Previous Year	180.00%	vs. Previous Year	34.68%
Trailing 12 Months:	16.93	vs. Previous Quarter	-84.62%	vs. Previous Quarter:	54.90%
PEG Ratio	2.22				

Price Ratios	ROE	ROA

Price/Book	2.20	09/30/08	13.73	09/30/08	4.30
Price/Cash Flow	11.90	06/30/08	13.31	06/30/08	4.16
Price / Sales	1.19	03/31/08	13.08	03/31/08	4.14
Current Ratio		**Quick Ratio**		**Operating Margin**	
09/30/08	-	09/30/08	-	09/30/08	6.99
06/30/08	0.92	06/30/08	0.61	06/30/08	7.13
03/31/08	1.11	03/31/08	1.11	03/31/08	6.71
Net Margin		**Pre-Tax Margin**		**Book Value**	
09/30/08	12.52	09/30/08	12.52	09/30/08	-
06/30/08	6.62	06/30/08	6.62	06/30/08	16.13
03/31/08	10.75	03/31/08	10.75	03/31/08	16.74
Inventory Turnover		**Debt-to-Equity**		**Debt to Captial**	
09/30/08	8.54	09/30/08	-	09/30/08	-
06/30/08	7.05	06/30/08	0.69	06/30/08	41.06
03/31/08	6.80	03/31/08	0.72	03/31/08	41.95

Proven Ratings, Research & Recommendations

Zacks.com Quotes and Research

SOUTHWEST GAS CORP (NYSE)

Scottrade

SWX	24.65	▲0.35	(1.44%)	Vol. 90,390	12:22 ET

SOUTHWEST GAS CORP. is principally engaged in the business of purchasing,transporting, and distributing natural gas in portions of Arizona, Nevada,and California. The Company also engaged in financial services activities,through PriMerit Bank, Federal Savings Bank (PriMerit or the Bank), a wholly owned subsidiary.

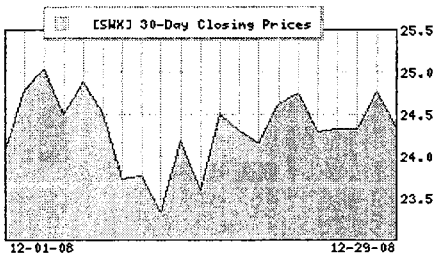
General Information

SOUTHWEST GAS
5241 Spring Mountain Road
P.O. Box 98510
Las Vegas, NV 89193-8510
Phone: 702 876-7237
Fax: 702-876-7037
Web: www.swgas.com
Email: None

Industry	UTIL-GAS DISTR
Sector:	Utilities
Fiscal Year End	December
Last Reported Quarter	09/30/08
Next EPS Date	11/21/2008

Price and Volume Information

Zacks Rank	
Yesterday's Close	24.30
52 Week High	33.29
52 Week Low	21.11
Beta	0.65
20 Day Moving Average	320,132.41
Target Price Consensus	33.88



% Price Change		% Price Change Relative to S&P 500	
4 Week	0.91	4 Week	-5.26
12 Week	-16.24	12 Week	1.83
YTD	-18.37	YTD	39.92

Share Information		Dividend Information	
Shares Outstanding (millions)	43.91	Dividend Yield	3.70%
		Annual Dividend	$0.90
Market Capitalization (millions)	1,067.11	Payout Ratio	0.53
Short Ratio	3.49	Change in Payout Ratio	0.01
Last Split Date	N/A	Last Dividend Payout / Amount	11/13/2008 / $0.22

EPS Information		Consensus Recommendations	
Current Quarter EPS Consensus Estimate	-0.25	Current (1=Strong Buy, 5=Strong Sell)	2.60
Current Year EPS Consensus Estimate	1.92	30 Days Ago	2.60
Estimated Long-Term EPS Growth Rate	8.00	60 Days Ago	2.50
Next EPS Report Date	11/21/2008	90 Days Ago	2.50

Fundamental Ratios

P/E		EPS Growth		Sales Growth	
Current FY Estimate:	12.63	vs. Previous Year	-72.73%	vs. Previous Year	0.78%
Trailing 12 Months:	14.29	vs. Previous Quarter	-533.33%	vs. Previous Quarter:	-16.29%
PEG Ratio	1.58				

Price Ratios		ROE		ROA	
Price/Book	1.05	09/30/08	7.18	09/30/08	2.04

Price/Cash Flow	3.90	06/30/08	8.05	06/30/08	2.27
Price / Sales	0.49	03/31/08	8.45	03/31/08	2.35
Current Ratio		**Quick Ratio**		**Operating Margin**	
09/30/08	0.75	09/30/08	0.75	09/30/08	3.32
06/30/08	0.70	06/30/08	0.70	06/30/08	3.66
03/31/08	0.85	03/31/08	0.85	03/31/08	3.80
Net Margin		**Pre-Tax Margin**		**Book Value**	
09/30/08	5.37	09/30/08	5.37	09/30/08	23.22
06/30/08	5.80	06/30/08	5.80	06/30/08	23.80
03/31/08	6.04	03/31/08	6.04	03/31/08	23.99
Inventory Turnover		**Debt-to-Equity**		**Debt to Captial**	
09/30/08	-	09/30/08	1.30	09/30/08	56.50
06/30/08	-	06/30/08	1.23	06/30/08	55.19
03/31/08	-	03/31/08	1.22	03/31/08	55.03

Proven Ratings, Research & Recommendations

Zacks.com Quotes and Research

WGL HLDGS INC (NYSE)

Scottrade

WGL	31.76	▲0.69	(2.22%)	Vol. 233,317	12:23 ET

WASHINGTON GAS LIGHT CO is a public utility that delivers and sells natural gas to metropolitan Washington, D.C. and adjoining areas in Maryland and Virginia. A distribution subsidiary serves portions of Virginia and West Virginia. The Company has four wholly-owned active subsidiaries that include: Shenandoah Gas Company (Shenandoah) is engaged in the delivery and sale of natural gas at retail in the Shenandoah Valley, including Winchester, Middletown, Strasburg, Stephens City and New Market, Virginia, and Martinsburg, West Virginia.

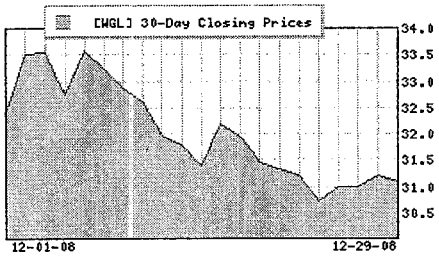
General Information

WGL HLDGS INC
101 Constitution Avenue NW
Washington, DC 20080
Phone: 703 750-2000
Fax: 703 750-4828
Web: www.wglholdings.com
Email: madams@washgas.com

Industry	UTIL-GAS DISTR
Sector:	Utilities
Fiscal Year End	September
Last Reported Quarter	09/30/08
Next EPS Date	02/09/2009

Price and Volume Information

Zacks Rank	
Yesterday's Close	31.07
52 Week High	37.08
52 Week Low	22.40
Beta	0.26
20 Day Moving Average	713,611.13
Target Price Consensus	33



% Price Change		% Price Change Relative to S&P 500	
4 Week	-4.13	4 Week	-10.00
12 Week	-1.15	12 Week	20.17
YTD	-5.16	YTD	60.22

Share Information		Dividend Information	
Shares Outstanding (millions)	49.97	Dividend Yield	4.57%
		Annual Dividend	$1.42
Market Capitalization (millions)	1,552.63	Payout Ratio	0.58
Short Ratio	6.85	Change in Payout Ratio	-0.11
Last Split Date	05/02/1995	Last Dividend Payout / Amount	10/08/2008 / $0.35

EPS Information		Consensus Recommendations	
Current Quarter EPS Consensus Estimate	0.96	Current (1=Strong Buy, 5=Strong Sell)	2.75
Current Year EPS Consensus Estimate	2.34	30 Days Ago	2.50
Estimated Long-Term EPS Growth Rate	7.50	60 Days Ago	2.25
Next EPS Report Date	02/09/2009	90 Days Ago	2.25

Fundamental Ratios

P/E		EPS Growth		Sales Growth	
Current FY Estimate:	13.30	vs. Previous Year	29.03%	vs. Previous Year	-50.38%
Trailing 12 Months:	12.63	vs. Previous Quarter	-466.67%	vs. Previous Quarter:	-65.22%
PEG Ratio	1.77				

Price Ratios	ROE	ROA

Price/Book	1.48	09/30/08	11.60	09/30/08	3.72
Price/Cash Flow	7.21	06/30/08	11.37	06/30/08	3.64
Price / Sales	0.65	03/31/08	12.32	03/31/08	4.00
Current Ratio		**Quick Ratio**		**Operating Margin**	
09/30/08	0.99	09/30/08	0.42	09/30/08	5.09
06/30/08	1.15	06/30/08	0.71	06/30/08	4.60
03/31/08	1.15	03/31/08	0.98	03/31/08	4.90
Net Margin		**Pre-Tax Margin**		**Book Value**	
09/30/08	7.08	09/30/08	7.08	09/30/08	20.99
06/30/08	7.32	06/30/08	7.32	06/30/08	21.72
03/31/08	8.23	03/31/08	8.23	03/31/08	21.80
Inventory Turnover		**Debt-to-Equity**		**Debt to Captial**	
09/30/08	7.07	09/30/08	0.58	09/30/08	35.95
06/30/08	7.63	06/30/08	0.56	06/30/08	35.26
03/31/08	8.18	03/31/08	0.55	03/31/08	35.06

ATTACHMENT D

Infrastructure costs in the Water Utility Industry will continue to rise over the long term. Larger companies will acquire smaller ones in an effort to achieve economies of scale.

Foreign companies had been buying a number of U.S. water utilities, but that trend appears to be waning.

Water utility stocks are ranked to underperform the market over the coming 12 months; however, conservative investors can find attractive risk-adjusted choices here.

The Need For Consolidation

Long-term trends in the Water Utility Industry indicate that infrastructure costs will steadily rise. Many of the facilities and pipes that now purify and transport drinking water were built about 100 years ago. Ongoing upgrading and replacement are necessary for these old systems to remain in compliance with rules laid out by the Environmental Protection Agency (EPA). The cost of fixing and upgrading these systems is significantly higher than in the past (even adjusting for inflation) because more-expensive materials need to be used for modern construction. Moreover, transportation costs are much higher and should continue to rise, as nearby sources of water are depleted and farther-away bodies of water must be used. Water is quite difficult and expensive to move because it is heavy and cannot be compressed. Also adding to industry costs is the ongoing issuance of guidelines from the EPA that typically require water utilities to comply with more-stringent water-purity standards. Industry sources estimate that about $140 billion will be needed over the next 20 years to fund necessary water-system infrastructure improvements.

Small and mid-sized water companies usually welcome large-scale suitors. Smaller utilities generally lack the funds needed for long-term structural improvements, and might risk being out of compliance with local and federal laws at some point down the road. In an effort to prevent this unpleasant scenario from happening, many of these smaller companies welcome larger utilities that have the capital resources to remain in compliance with the law. The larger company gains greater geographic diversity from its acquisitions, which helps lessen its susceptibility to weather fluctuations that might cause volatility in earnings. Acquirers also benefit from economies of scale in which costs are generally reduced. Too, the regulatory-intensive nature of the Water Utility Industry means that some specific local governments might be more uncooperative with the utilities than other comparable local officials. A larger territory lessens the impact of a particularly onerous regulatory atmosphere.

INDUSTRY TIMELINESS: 81 (of 92)

Acquisition Update

Foreign companies have purchased a large number of domestic water utilities over the past year. These global water companies are attracted to this country's relatively safe political climate and its trend towards the privatization of municipal water and wastewater systems. Currently, there is concern among investors that the large premiums paid for U.S. takeover targets, which approached three times book value, will become more infrequent. British utilities are having regulatory difficulties at home that stand to weaken their designs on the U.S. market. Consequently, there appear to be fewer bidders in the market.

SDWA Regulations

The Safe Drinking Water Act (SDWA) of 1974 (amended in 1996) authorized the EPA to work with state and local governments to test for five potential impurities in drinking water every five years. The EPA mandates what levels of a certain contaminant is acceptable per a specified amount of water. Water utilities typically spend about 15% to 50% of their annual capital outlays in efforts to comply with SDWA guidelines. These companies must also stay in compliance with the Clean Water Act, and numerous state and local laws. At present, the EPA is considering lowering the allowable level of arsenic in drinking water from 50 parts per billion (ppb) to 5 ppb. This measure would be controversial because it would be lower than the standard of the World Health Organization (10 ppb) and would potentially cost domestic water companies billions of dollars.

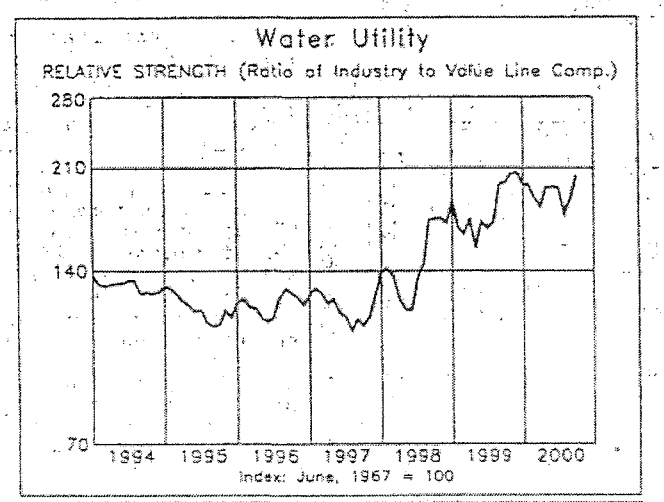
Investment Advice

Most of the water utility stocks that are covered in this review are not timely for the coming six to 12 months. Nonetheless, favorable Safety ranks among the group make some of these issues appealing for risk-averse investors seeking decent dividend yields.

Joseph Espaillat

Composite Statistics: Water Utility Industry

1996	1997	1998	1999	2000	2001		03-05
1793.9	1924.7	1994.2	2422.6	*2550*	*2750*	Revenues ($mill)	*3500*
214.4	232.2	265.6	295.3	*315*	*335*	Net Profit ($mill)	*415*
39.2%	37.8%	37.0%	38.2%	*39.0%*	*39.0%*	Income Tax Rate	*39.0%*
7.0%	6.3%	7.5%	8.7%	*6.0%*	*6.0%*	AFUDC % to Net Profit	*6.0%*
55.7%	56.6%	56.9%	56.9%	*53.0%*	*52.0%*	Long-Term Debt Ratio	*50.0%*
40.8%	39.6%	39.7%	42.0%	*45.0%*	*46.0%*	Common Equity Ratio	*48.0%*
5271.8	5703.3	6188.6	7223.7	*7300*	*7900*	Total Capital ($mill)	*9300*
6377.2	6785.5	7361.9	8961.3	*8700*	*9300*	Net Plant ($mill)	*9700*
6.0%	6.2%	6.2%	6.0%	*6.5%*	*7.0%*	Return on Total Cap'l	*7.5%*
9.2%	9.7%	10.0%	9.3%	*10.5%*	*10.5%*	Return on Shr. Equity	*11.5%*
9.7%	10.2%	10.4%	9.5%	*11.0%*	*11.0%*	Return on Com Equity	*12.0%*
3.3%	3.8%	3.9%	3.2%	*3.5%*	*3.5%*	Retained to Com Eq	*4.5%*
68%	66%	64%	67%	*70%*	*70%*	All Div'ds to Net Prof	*60%*
14.5	15.6	18.3	20.2	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*13.0*
.91	.91	.96	1.15			Relative P/E Ratio	*.85*
4.6%	4.1%	3.4%	3.3%			Avg Ann'l Div'd Yield	*5.0%*



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The events of September 11th have altered many priorities in the Water Utility Industry.

Long-term trends in the industry indicate that the cost of maintaining and upgrading water/wastewater systems will rise. The industry is consolidating, with larger companies acquiring smaller operators to achieve economies of scale.

Water Utility stocks are ranked to underperform the year-ahead market, though some of these issues offer conservative investors appealing risk-adjusted, total-return potential.

INDUSTRY TIMELINESS: 85 (of 97)

Security Issues

In response to the events of September 11th, the need to secure water systems against terrorism has become a top priority for regulators and water utilities alike, pushing many other legislative issues to the side. The FBI has stated that water companies should be on alert for potential threats in the months ahead. Many water companies are already heeding this warning, and incurring additional costs in the process that may limit near-term bottom-line growth. Also, the industry and regulators are working together to provide approximately $5 billion in federal funds for immediate infrastructure improvements as part of the pending economic stimulus legislation.

Industry Consolidation

Infrastructure costs in the Water Utility Industry will likely rise dramatically over the next 20 years. These companies have to maintain and upgrade their systems continually in order to remain in compliance with increasingly stringent rules issued by the Environmental Protection Agency (EPA) and local regulators. Many of the facilities and pipes that now treat and transport drinking water were built about a century ago. The costs of replacing those systems are significantly higher these days, even adjusting for inflation. Adding to the cost is the fact that nearby bodies of water tend to get depleted and expensive to use, so more-distant sources of water must be brought in to keep up with increasing demand for purified water. Water is difficult and costly to transport, since it is heavy and incompressible. All in all, industry sources estimate that over $140 billion will be needed to upgrade the nation's water-distribution system over the next 20 years.

The costs of staying in compliance with drinking water laws are especially onerous for smaller regional operators, since they have a limited base of customers over which to spread these costs. Small and mid-sized utilities generally welcome takeover offers from larger acquirers because of their superior capital resources. The acquiring utility attempts to achieve economies of scale through the transactions. Also, it gains greater geographic diversity, and that can reduce its susceptibility to unfavorable weather patterns and potentially burdensome local regulators.

Large-scale foreign acquirers have been very interested in purchasing domestic water utilities over the past few years, and the latest evidence is the generous takeover offer RWE AG made for *American Water Works*, the nation's largest public water company. RWE, a Germany-based firm, stands to gain cost synergies in the deal, along with geographic diversity in a politically stable country. Foreign utilities have been fascinated with the risk-adjusted earnings potential of U.S. water companies, and they are likely to continuing their buying spree over the next few years. As such, the number of investor-owned water providers with large territories is steadily dwindling. This development gives additional hope to those U.S. water utilities and investors looking for substantial buyout offers.

SDWA Regulations

The Safe Drinking Water Act (SDWA) of 1974 (amended in 1996) authorizes the EPA to work with state and local governments to test for five potential impurities in drinking water every five years. The EPA mandates what levels of a certain contaminant is acceptable per a specified amount of water. Water utilities usually spend a significant portion of their annual capital budgets on efforts to stay in compliance with SDWA guidelines. These companies must also comply with the Clean Water Act, and numerous state and local laws.

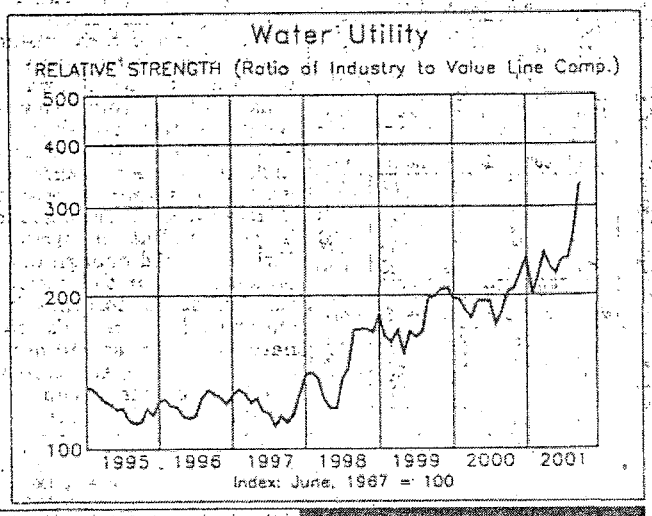
Investment Advice

The Water Utility stocks in this review are not timely for investment over the next six to 12 months. Nonetheless, a few of these issues possess favorable Safety ranks and solid dividend-growth prospects that may appeal to conservative investors.

Joseph Espaillat

Composite Statistics: Water Utility Industry

1997	1998	1999	2000	2001	2002		04-06
1439.5	1503.1	1898.0	2054.9	*2210*	*2315*	Revenues ($mill)	*2895*
183.2	192.9	232.8	254.2	*270*	*295*	Net Profit ($mill)	*410*
38.4%	39.1%	39.7%	40.1%	*40.0%*	*40.0%*	Income Tax Rate	*40.0%*
6.4%	7.9%	9.6%	5.5%	*6.5%*	*6.5%*	AFUDC % to Net Profit	*7.5%*
57.3%	58.0%	56.2%	54.9%	*54.5%*	*54.0%*	Long-Term Debt Ratio	*53.0%*
40.0%	39.7%	41.9%	44.0%	*44.5%*	*45.0%*	Common Equity Ratio	*48.0%*
4113.2	4524.6	5566.3	5564.6	*6055*	*6335*	Total Capital ($mill)	*7495*
5089.2	5544.7	7039.7	7545.4	*7975*	*8425*	Net Plant ($mill)	*9935*
6.5%	6.3%	6.2%	6.6%	*6.0%*	*6.0%*	Return on Total Cap'l	*6.5%*
10.4%	10.2%	9.6%	9.8%	*10.5%*	*11.0%*	Return on Shr. Equity	*11.5%*
10.9%	10.5%	9.8%	9.9%	*10.5%*	*11.0%*	Return on Com Equity	*11.5%*
4.7%	4.4%	4.1%	4.0%	*4.5%*	*4.5%*	Retained to Com Eq	*5.0%*
57%	59%	59%	61%	*60%*	*59%*	All Div'ds to Net Prof	*52%*
15.2	19.4	19.2	16.3	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*13.5*
.88	1.01	1.09	1.08			Relative P/E Ratio	*.90*
3.7%	3.0%	3.0%	3.7%			Avg Ann'l Div'd Yield	*3.0%*



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Infrastructure costs in the Water Utility Industry will rise considerably over the coming 20 years. Consequently, larger companies are buying smaller ones in an attempt to achieve economies of scale.

Water utility stocks are ranked to perform in the middle of the pack over the coming 12 months. Nonetheless, conservative investors can find above-average Safety ranks and attractive dividends in the group.

INDUSTRY TIMELINESS: 54 (of 98)

Industry Consolidation

Infrastructure costs in the water utility industry will likely soar over the next two decades. These companies must constantly repair and upgrade their existing water/wastewater systems in order to comply with increasingly strict rules issued by the Environmental Protection Agency (EPA) and local regulators. Many of the facilities and pipes that transport water were constructed over 100 years ago. The costs of replacing these systems is considerably higher now than it was in the past, even adjusting for inflation. Too, the ongoing depletion of nearby sources of water forces many water utilities to obtain water from more-distant, more-expensive sources. Water is difficult and costly to transport because it is heavy and incompressible. Nonetheless, utilities must continue to keep pace with rising demand for drinking water from growing residential and industrial customers. Recent estimates are that it will cost hundreds of billions of dollars to replace and upgrade failing water infrastructures over the next 20 years. This amounts to more than the entire current assets of the water industry in America. Much of these costs will likely be financed by federal spending and higher water rates. Nevertheless, water utilities are going to have to ante up much higher capital investments over the coming years.

The costs of staying in compliance with drinking water laws are especially onerous for smaller regional companies because they have fewer customers over which to spread their costs. Small and mid-sized water utilities tend to welcome takeover offers from larger, better-capitalized companies so that they can utilize the bigger firm's superior resources. For instance, the EPA's new rules on the allowable levels of arsenic in drinking water (10 parts per billion by January, 2006) is compelling some smaller utilities to merge with larger ones in an effort to remain in compliance with the new standards. By purchasing these smaller entities, large utilities seek to achieve economies of scale. Also, a bigger company gains greater geographic diversity that can reduce its susceptibility to unfavorable weather patterns and potentially burdensome local regulators. For example, the regulatory climate in California has been extra costly for utilities in the past couple of years, so companies, such as *California Water*, have been actively looking for acquisition targets outside of the state. On a positive note, the passage of a new law in California will allow water utilities to charge higher rates to customers (subject to refund) if regulators do not render decisions on rate cases within established processing periods. This ought to improve revenues for three out of four companies in this review.

Recent Challenges

The events of September 11, 2001 have introduced a whole new set of challenges for the industry. Companies have been spending a lot of time, energy, and money on making sure that their water systems are reasonably secure from potential terrorist attacks. Utilities have turned to local and federal regulators for reimbursement and additional funding, but the amount and timing of future funds is uncertain. Also, insurance costs have soared in the past year, as insurers are now more reluctant to cover companies, like water utilities, that can potentially have catastrophic losses.

SDWA Regulations

The Safe Drinking Water Act (SDWA) of 1974 (amended in 1996) authorizes the EPA to work with state and local governments to test for potential impurities in drinking water. The EPA mandates what particular level of a certain contaminant is acceptable per a specified amount of water. Water utilities routinely spend large portions of their annual capital expenditures on efforts to remain in compliance with SDWA guidelines. These companies must also comply with the 1972 Clean Water Act, and numerous other state and local laws, another costly endeavor.

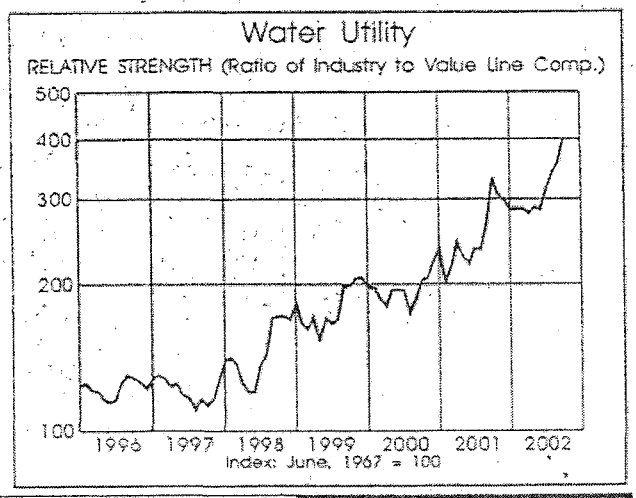
Decent Grounds For Conservative Investors

The water-utility stocks in this review are unlikely to outperform the year-ahead market. Nonetheless, they offer above-average Safety ranks, attractive dividend yields, and decent risk-adjusted total-return potential.

Joseph Espaillat

Composite Statistics: Water Utility Industry

1998	1999	2000	2001	2002	2003		05-07
1503.1	1898.0	2054.9	2190.5	*2495*	*2710*	Revenues ($mill)	*3360*
192.9	232.8	249.7	251.8	*275*	*315*	Net Profit ($mill)	*465*
39.1%	39.7%	40.1%	39.5%	*41.5%*	*40.0%*	Income Tax Rate	*40.0%*
7.9%	9.6%	5.5%	3.4%	*2.0%*	*2.0%*	AFUDC % to Net Profit	*3.0%*
58.0%	56.2%	54.9%	56.7%	*57.0%*	*56.0%*	Long-Term Debt Ratio	*52.5%*
39.6%	41.9%	44.0%	42.4%	*42.0%*	*43.0%*	Common Equity Ratio	*47.0%*
4524.6	5566.3	5854.6	6198.1	*7005*	*7085*	Total Capital ($mill)	*8780*
5544.7	7039.7	7546.4	7991.2	*9210*	*9940*	Net Plant ($mill)	*12085*
6.3%	6.2%	6.6%	6.3%	*6.0%*	*6.5%*	Return on Total Cap'l	*7.0%*
10.2%	9.8%	9.8%	9.9%	*10.0%*	*10.5%*	Return on Shr. Equity	*11.5%*
10.5%	9.8%	9.9%	9.9%	*10.0%*	*10.5%*	Return on Com Equity	*11.5%*
4.4%	4.1%	4.0%	3.9%	*3.0%*	*4.5%*	Retained to Com Eq	*6.0%*
59%	59%	60%	61%	*61%*	*58%*	All Div'ds to Net Prof	*47%*
19.4	19.2	18.3	20.9	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*13.5*
1.01	1.09	1.06	1.07			Relative P/E Ratio	*.90*
3.0%	3.0%	3.7%	2.8%			Avg Ann'l Div'd Yield	*3.0%*



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The Water Utility Industry's consolidation continues to gain momentum, as industry leaders look for opportunities to buy out smaller companies that are struggling to keep up with escalating infrastructure costs and heightened regulatory requirements.

Water Utility stocks are unlikely to outperform the broad market for the year ahead. With that said, however, some of these issues offer conservative investors attractive risk-adjusted, total-return potential.

INDUSTRY TIMELINESS: 97 (of 98)

Government Regulations

In order to keep water supplies safe, national purification standards have been established that the water industry is required to meet. Amended in 1996, the Safe Drinking Water Act (SDWA) of 1974 authorizes the Environmental Protection Agency (EPA) to work with state and local governments to periodically test for impurities in drinking water and regulate the levels of contaminants that are acceptable per a specified amount of water. These standards take into account the health effects of chemicals, measurement capabilities, and technical feasibility. One of the most significant contaminants that the industry screens for is arsenic, a naturally occurring substance. However, the EPA is in the process of lowering the tolerated amount of arsenic to 10 parts per billion from 20 parts currently. The change is expected to be in effect by January, 2006. Large chunks of water utilities' annual capital budgets are already spent on infrastructure maintenance and improvements in order to stay in compliance with the SDWA, the Clean Water Act, and numerous state and local laws. This percentage is likely to climb even higher, as fears of terrorism have prompted officials to further tighten regulation requirements.

Rising Infrastructure Costs

Along with the necessity to remain in compliance with increasingly strict water purity standards, water companies are also being pressured to continually upgrade aging facilities. Many of the water/wastewater systems that are presently in use were built over 100 years ago and are growing outdated. The costs associated with replacing these systems are dramatically higher now than when they initially were put in place. The EPA and other industry sources indicate that hundreds of billions of dollars over the next 20 years will be needed to repair the nation's entire water system. The Water Infrastructure Network believes that there will be a $12 billion annual shortfall for wastewater infrastructure over that period, and long-term help from the federal government is needed to solve the problem. Water companies will most likely foot the majority of the bill, though, as budget deficits at state and local levels will limit funds dedicated to the industry.

Industry Consolidation

With the costs of meeting safe drinking water guidelines on the rise, many smaller companies lack the funds to commit to long-term structural improvements. As such, these smaller water companies have been increasingly willing to accept takeover offers from larger suitors with significantly greater capital resources. The larger utilities benefit from economies of scale, which enables them to reduce overhead. In addition, the acquisitions usually enhance geographic diversity, reducing a company's vulnerability to weather fluctuations. Then, too, a multistate territory helps to alleviate a company's exposure to especially onerous regulatory atmospheres. Large foreign utilities have been particularly active in recent years, swallowing up domestic water companies in an effort to gain exposure to the United States' steady population growth.

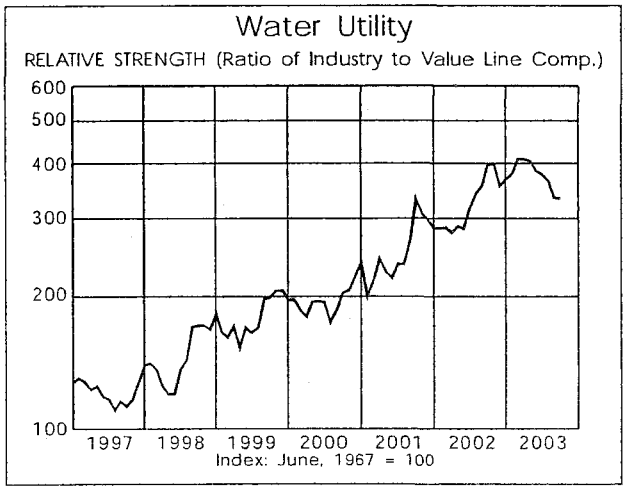
Investment Advice

None of the stocks under review are timely at this juncture, as poor weather conditions have resulted in inconsistent earnings patterns. Although *Philadelphia Suburban, California Water Services Group, and American States Water* all have below-average total-return potential out to 2006-2008, income-oriented investors might may find one of these stocks attractive, given their favorable risk profile. Income-bearing stocks have gained some additional popularity of late, because of the recent federal tax bill that reduced the top rate investors pay on dividend income to 15%. As usual, though, we recommend that potential investors careful review individual reports before making any new commitments.

Andre J. Costanza

Composite Statistics: Water Utility Industry

1999	2000	2001	2002	2003	2004		06-08
637.2	704.3	751.8	794.4	*845*	*950*	Revenues ($mill)	*1185*
72.4	90.9	95.4	106.6	*105*	*130*	Net Profit ($mill)	*190*
40.0%	41.2%	40.2%	38.8%	*39.0%*	*39.5%*	Income Tax Rate	*40.0%*
--	--	--	--	*Nil*	*.5%*	AFUDC % to Net Profit	*.5%*
51.1%	50.3%	52.4%	53.9%	*53.0%*	*51.5%*	Long-Term Debt Ratio	*51.0%*
48.3%	49.3%	47.2%	45.9%	*46.5%*	*48.5%*	Common Equity Ratio	*49.0%*
1444.7	1661.0	1840.7	1973.6	*2250*	*2425*	Total Capital ($mill)	*3050*
2100.3	2342.5	2532.3	2751.1	*3025*	*3225*	Net Plant ($mill)	*3950*
7.4%	7.0%	6.8%	7.0%	*6.5%*	*7.0%*	Return on Total Cap'l	*7.5%*
11.5%	10.7%	10.6%	11.2%	*10.0%*	*10.5%*	Return on Shr. Equity	*12.0%*
11.5%	10.8%	10.7%	11.2%	*10.0%*	*11.0%*	Return on Com Equity	*12.0%*
3.8%	3.6%	3.3%	3.9%	*3.0%*	*4.0%*	Retained to Com Eq	*5.5%*
68%	67%	69%	66%	*75%*	*65%*	All Div'ds to Net Prof	*54%*
19.5	18.6	22.6	21.5	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*13.5*
1.11	1.21	1.16	1.17			Relative P/E Ratio	*.90*
3.5%	3.6%	3.1%	3.1%			Avg Ann'l Div'd Yield	*3.0%*



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INDUSTRY TIMELINESS: 94 (of 98)

The Water Utility industry continues to rank near the bottom of the *Value Line* investment universe. Infrastructure costs will limit earnings for at least the near future, as the high expenses associated with maintaining and improving the country's water-distribution systems continue to rise.

However, it appears that relief is on the way for some companies. Favorable regulatory rate case rulings have been handed down across the country and look as though they might become the norm.

Meanwhile, consolidation remains the name of the game. Although many of the industry's smaller players lack the capital requirements to meet growing government regulations, larger companies are using the consolidation as way to boost profitability via growing its customer base.

Infrastructure Costs

Infrastructure costs continue to climb higher as water utility companies, with little help from strapped government branches, are forced to deal with maintaining and upgrading existing facilities. Costs are becoming an even greater concern as time passes because a number of the functioning systems currently in place are over 100 years old and in need of significant repair. That said, we believe that it will take hundreds of billions of dollars to renovate existing pipelines over the next few decades. To make matters worse, the costs of staying in compliance with regulatory laws are growing even more difficult, due to fears of terrorist activities against the country's drinking supplies. Although the Safe Drinking Water Act (SDWA) of 1974 remains the authority for the safety and purity of drinking water, recent amendments are making compliance even more demanding. In 1996, an amendment authorized the Environmental Protection Agency (EPA) to step up local compliance levels. And, governing law-makers now insist that the EPA work with local and state governments to test for impurities in drinking water and to regulate the levels of contaminants that are acceptable.

A Buying Opportunity

The growing regulations and costs associated with staying in compliance with government standards related to the quality and purification of drinking water is forcing many of the smaller water companies to look to larger suitors. Bigger companies with the market scale to withstand the current onslaught of costs are clearly taking advantage of this situation. Indeed, these firms are growing their businesses at relatively low costs as well as diversifying their operations into less regulated and more-rapidly developing areas of the U.S. *Aqua America* is a perfect example, making nearly 20 acquisitions since the close of last year. *Aqua* recently purchased a number of Pennsylvania-based companies in order to help drive top-line growth. We anticipate that the current consolidation theme will persist, as we expect restructuring costs to continue to rise.

Regulatory Assistance

Although water utility company's have been forced to deal with lethargic case rulings in the past couple of years, some governing bodies are picking up the pace. In California, for example, the California Public Utilities Commission (CPUC) has handed down a number of favorable rate-relief rulings in recent months, and more are expected. With the California electric crisis seemingly in the rearview mirror, the current administration seems intent on delivering more timely assessments. *American States Water Company* and *California Water Service Group* have both seen profits benefit from recent case rulings over the past quarter.

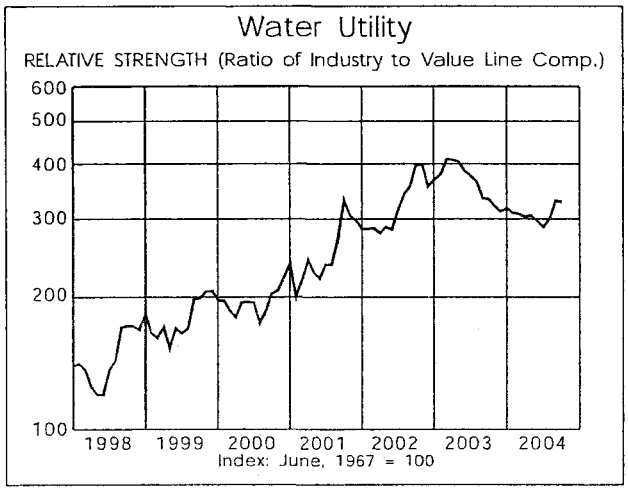
Investment Advice

Most investors will want to take a pass on the stocks covered in the next few pages, as they offer uninspiring returns out to decade's end. In addition, not one of the stocks in this edition is ranked to outperform the market in the next six to 12 months. Nonetheless, income-oriented investors may like the industry's solid dividend yields. *California Water* may have some added appeal for the risk-averse, given its above average Safety rank. Still, we advise that potential investors carefully review the individual reports in the ensuing pages before making a commitment to any of the stocks mentioned above.

Andre J. Costanza

Composite Statistics: Water Utility Industry

2000	2001	2002	2003	2004	2005		07-09
704.3	751.8	794.4	857.0	*990*	*1075*	Revenues ($mill)	*1345*
90.9	95.4	106.6	98.6	*130*	*150*	Net Profit ($mill)	*205*
41.2%	40.2%	38.8%	40.0%	*40.0%*	*40.0%*	Income Tax Rate	*40.0%*
-	--	--	--	*Nil*	*Nil*	AFUDC % to Net Profit	*Nil*
50.3%	52.4%	53.9%	51.2%	*51.0%*	*51.0%*	Long-Term Debt Ratio	*50.0%*
49.3%	47.2%	45.9%	48.6%	*49.0%*	*49.0%*	Common Equity Ratio	*50.0%*
1661.0	1840.7	1973.6	2296.4	*2615*	*2870*	Total Capital ($mill)	*3550*
2342.5	2532.2	2751.1	3186.1	*3400*	*3605*	Net Plant ($mill)	*4150*
7.0%	6.8%	7.0%	5.9%	*6.5%*	*7.0%*	Return on Total Cap'l	*7.0%*
10.7%	10.6%	11.2%	8.8%	*9.5%*	*9.5%*	Return on Shr. Equity	*10.0%*
10.8%	10.7%	11.2%	8.8%	*9.5%*	*9.5%*	Return on Com Equity	*10.0%*
3.6%	3.3%	3.8%	2.5%	*3.5%*	*4.0%*	Retained to Com Eq	*4.5%*
67%	69%	66%	72%	*62%*	*58%*	All Div'ds to Net Prof	*52%*
18.6	22.6	21.5	26.0	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*18.0*
1.21	1.16	1.17	1.49			Relative P/E Ratio	*1.20*
3.6%	3.1%	3.1%	2.8%			Avg Ann'l Div'd Yield	*3.5%*



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After showing some brief signs of a turnaround last year, the Water Utility Industry appears to have reverted back to its old ways. Feeling the effects of uncooperating weather conditions and high infrastructure costs, the stocks in this industry have had trouble meeting earnings expectations and, as a result, have sorely underperformed the broader market in recent months. In fact, none of the water utility stocks that are covered in the next few pages are ranked better than 3 (Average) for Timeliness, based on our momentum based ranking system. As a whole, the industry ranks near the bottom of the Value Line investment universe.

And the future does not look much brighter. Although a more favorable regulatory landscape and normalized weather conditions ought to provide a better landscape, we are concerned that rapidly growing infrastructure costs will continue to undermine this group's earnings out to late decade.

INDUSTRY TIMELINESS: 93 (of 98)

Easing Tensions

Although designed to keep a balance of power between consumers and providers, regulatory authorities, have long been a thorn in the side of water utility companies. Rate relief case decisions had often been unfavorable and untimely, with some rulings being pushed off for as long as two years. But, it finally looks as though things are taking a turn for the better, especially in the state of California. The California Public Utilities Commission (CPUC), which is responsible for ruling on general rate case requests in the Golden State, has been handing down more-favorable and timely decisions in recent months, thanks, in part, to the efforts of Governor Schwarzenegger. He has replaced members thought to be antagonists of rate relief with more-business-friendly members, and additional moves may be in the works. The recent changes makes for a favorable backdrop for water utility companies operating in California, such as *American States Water Co.* and *California Water Service Group.*

Costs

But, while regulators are easing their stance on rate case decisions, this does not look to be the case for infrastructure demands. Many of the current infrastructures are upwards of 100 years old and are in severe need of maintenance and, in some cases, massive renovations and rebuilding. And, given the geopolitical volatility worldwide and the heightened threat of bioterrorism on U.S. water pipelines and reservoirs, these costs are likely to continue to only rise, as companies strive to comply with EPA water purification standards. Infrastructure repair costs are expected to climb in the hundreds of millions of dollars over the next two decades, putting many smaller water companies at a distinct disadvantage. With a dearth of resources to fund these improvements, many such companies are being forced to sell. But, given the current landscape, larger companies with the flexibility and capital to deal with the higher costs are utilizing the weakness to add additional legs of growth to their businesses. *Aqua America*, the largest water utility in our survey, for example, has made more than 90 acquisitions in the past five years, doubling its revenue base during that time. The company does not seem to be slowing its aggressive spending ways and has the highest return on equity of any of the stocks that we cover here.

Investment Advice

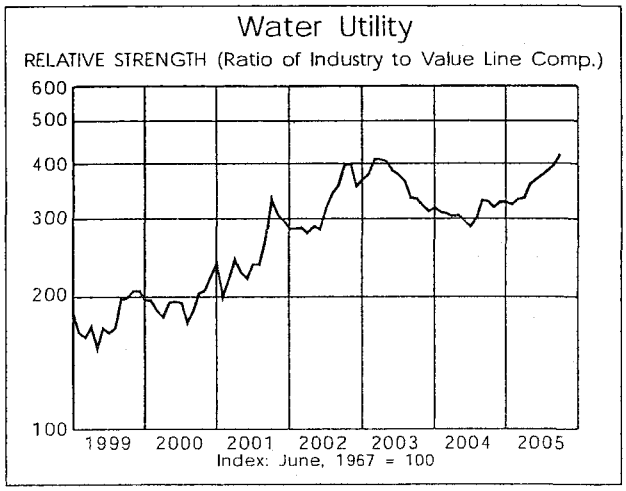
Most investors will probably want to take a pass on the stocks in this industry. Typically market laggards, not one of the issues covered in the next few pages stands out for near-term or long-term capital gains potential. The limited financial resources of most of these companies, along with the capital-intensive nature of the industry, will probably limit any substantial growth out to late decade.

Those seeking to add an income component to their portfolio may find an attractive option here, though. Each of the stocks in this industry carries an above-average dividend yield, with *American States Water* and *California Water* offering the highest percentages. *California Water* offers some additional appeal, as it has a 2 (Above Average) Safety rank. As is always the case, we recommend that all potential investors take a more in depth look at the individual reports on the following pages before considering making any future financial commitments.

Andre J. Costanza

Composite Statistics: Water Utility Industry

2001	2002	2003	2004	2005	2006		08-10
751.8	794.4	857.0	985.6	*1250*	*1350*	Revenues ($mill)	*1725*
95.4	106.6	98.6	122.4	*155*	*170*	Net Profit ($mill)	*235*
40.2%	38.8%	40.0%	39.4%	*39.5%*	*39.5%*	Income Tax Rate	*39.5%*
--	--	--	--	*Nil*	*Nil*	AFUDC % to Net Profit	*Nil*
52.4%	53.9%	51.2%	50.0%	*52.0%*	*51.0%*	Long-Term Debt Ratio	*48.0%*
47.2%	45.9%	48.6%	50.0%	*48.0%*	*49.0%*	Common Equity Ratio	*52.0%*
1840.7	1973.6	2296.4	2543.6	*3000*	*3400*	Total Capital ($mill)	*4100*
2532.2	2751.1	3186.1	3532.5	*4050*	*4250*	Net Plant ($mill)	*5000*
6.8%	7.0%	5.9%	6.7%	*7.0%*	*7.5%*	Return on Total Cap'l	*7.0%*
10.6%	11.2%	8.8%	10.7%	*11.0%*	*11.0%*	Return on Shr. Equity	*11.5%*
10.7%	11.2%	8.8%	10.7%	*11.0%*	*11.0%*	Return on Com Equity	*11.5%*
3.3%	3.8%	2.5%	4.6%	*5.0%*	*5.0%*	Retained to Com Eq	*3.0%*
69%	66%	72%	57%	*60%*	*55%*	All Div'ds to Net Prof	*45%*
22.6	21.5	26.0	25.5	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*18.0*
1.16	1.17	1.48	1.36			Relative P/E Ratio	*1.20*
3.1%	3.1%	2.8%	2.2%			Avg Ann'l Div'd Yield	*3.4%*



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INDUSTRY TIMELINESS: 96 (of 97)

Despite better regulatory backing, most of the water utility companies covered in the next few pages have continued to struggle in recent months. Unseasonably wet weather conditions and escalating infrastructure costs remain at the heart of the problem, pressuring margins and limiting bottom-line growth. As a result, these perennial market laggards continue to rank at the bottom of the *Value Line* investment universe for Timeliness. Although we suspect that more-normal weather conditions will eventually resume, the growing need for infrastructure renovations remains a major concern going forward. Higher spending poses a threat to the industry's long-term prospects, especially given the capital constraints that most companies are facing. As a result, none of the issues in this industry hold worthwhile 3- to 5-year appreciation potential at this time. Meanwhile, dividend yields have lost some appeal, as well.

Regulatory Landscape

Regulatory authorities, designed to keep a balance of power between consumers and providers, have long been a nemesis to water utility companies. Rate case decisions have been unfavorable and untimely, sometimes taking as long as two years to complete. However, the tide appears to have turned more recently, particularly in California, where a few of the utilities in this *Survey* generate a fair portion of their revenues. The California Public Utilities Commission, for example, behind the efforts of Governor Schwarzenegger, has been handing down more-favorable and timely decisions. He has replaced members thought to be adversaries of rate relief with more-lenient constituents. The changes provide a healthy backdrop for utility companies that request a step-up in rates each year.

Drowning In Expenses

Although regulators appear to be more business-friendly with case decisions, they are becoming increasingly more stringent with infrastructure demands. Many of the current infrastructures are more than 100 years old, and in need of serious upkeep and even complete renovation in some cases. Meanwhile, the Environmental Protection Agency (EPA) continues to increase its water purification standards, given the geopolitical volatility worldwide and the threat of bio-terrorist actions on U.S. water systems. In all, infrastructure repair costs are expected to climb into the hundreds of millions of dollars over the next two decades. However, these increasing costs will make it very difficult for water utility companies to maintain the earnings momentum that we the expect the improved regulatory landscape to produce this year out to late decade.

Opportunity???

With limited resources to fund rising capital expenditures, many smaller companies in this industry are being forced to shop their businesses, presenting an opportunity for larger suitors with the resources to foot the bill. No company exemplifies this better than *Aqua America*, the largest water utility in our *Survey*. It has made well over 100 acquisitions in the past five years, using the aforementioned weakness of smaller players to improve their operations and increase their presence. It has drastically increased its customer base and clearly improved its longer-term prospects, and therefore holds the best 3- to 5-year appreciation potential of all the stocks in this industry. We expect that the consolidation trend will continue as water standards continue to climb.

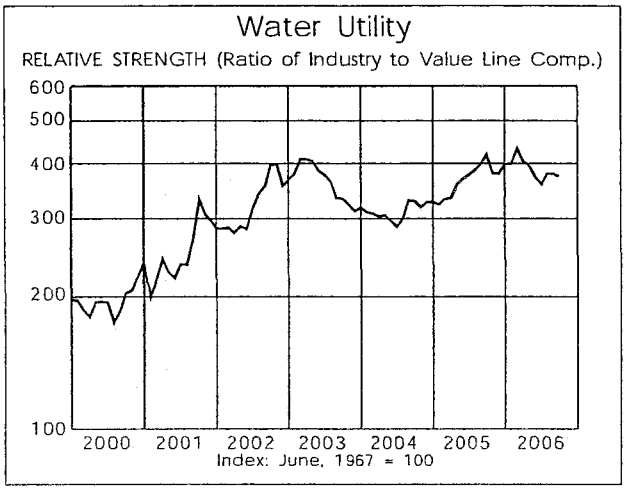
Investment Advice

This is not an industry that most investors will want to emphasize. Not one of the stocks here stand out for Timeliness or 3- to 5-year appreciation potential. Making matters worse, higher interest rates have increased the income-producing appeal of alternative investments, making the yields found in this industry modestly attractive at best. Thus, most will want to avoid this untimely industry for now. However, *California Water* is ranked 2 for Safety. This, along with its historically steady stream of income, may appeal to more-conservative investors. As always, though, we recommend that investors study the individual reports of each company in the next few pages before making any financial commitments.

Andre J. Costanza

Composite Statistics: Water Utility Industry

2002	2003	2004	2005	2006	2007		09-11
925.2	1030.0	1173.6	1256.9	*1350*	*1485*	Revenues ($mill)	*2025*
107.8	112.6	105.7	148.3	*150*	*185*	Net Profit ($mill)	*265*
38.6%	39.7%	39.1%	40.5%	*39.0%*	*39.0%*	Income Tax Rate	*39.0%*
.2%	1.9%	1.0%	1.1%	*1.0%*	*1.0%*	AFUDC % to Net Profit	*1.0%*
54.1%	51.0%	49.1%	50.4%	*50.0%*	*50.0%*	Long-Term Debt Ratio	*50.0%*
45.7%	48.8%	50.7%	49.5%	*50.0%*	*50.0%*	Common Equity Ratio	*50.0%*
2116.4	2449.1	2785.6	3057.5	*3300*	*3600*	Total Capital ($mill)	*4565*
2995.1	3405.6	3836.9	4194.7	*4475*	*4750*	Net Plant ($mill)	*5650*
6.9%	5.9%	6.0%	6.3%	*7.5%*	*8.0%*	Return on Total Cap'l	*9.0%*
11.1%	8.8%	9.0%	9.8%	*9.5%*	*10.5%*	Return on Shr. Equity	*11.5%*
11.1%	8.8%	9.0%	9.8%	*9.5%*	*10.5%*	Return on Com Equity	*11.5%*
4.0%	2.7%	3.1%	3.7%	*4.0%*	*4.5%*	Retained to Com Eq	*5.0%*
64%	70%	66%	62%	*60%*	*55%*	All Div'ds to Net Prof	*55%*
21.6	25.6	25.4	29.4	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*18.0*
1.18	1.46	1.34	1.57			Relative P/E Ratio	*1.20*
3.0%	2.7%	2.6%	2.1%			Avg Ann'l Div'd Yield	*2.5%*



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Many of the stock's in the Water Utility industry have continued to benefit from more favorable regulatory backing since our October review. Nevertheless, as usual, the industry, as a whole, ranks at the very bottom of the *Value Line* investment universe for Timeliness. Elevated well and waterway maintenance costs are responsible for most of the blame and will likely continue to dampen profits for years to come. Indeed, the growing need for infrastructure renovations poses a significant threat to the industry's long-term prospects, especially given the capital constraints that most companies are facing. As a result, many investors are going to want to steer clear of the issues in this industry.

INDUSTRY TIMELINESS: 96 (of 96)

Regulatory Winds at its Back

Regulatory authorities, designed to keep a balance of power between utility providers and consumers, have been extremely tough on utility companies in years past. However, current administrations have taken a much more business-friendly approach in recent months in handing down timely and generally favorable rulings. This has not been more glaringly evident than in California, where the California Public Utilities Commission's board has undergone a major facelift with adversaries being replaced with business supporters. Recent rulings set a good tone for utility providers doing business in the Golden State, which typically request a step-up in rates every year. This augurs particularly well for *California Water Service Group* and *American States Water*, which both derive a significant amount of business from California.

But Choppy Waters Lie Ahead

Even still, the same cannot be said for infrastructure costs. Although regulators are softening their stance on rate case decisions, infrastructure demands are growing more stringent. Many of the current infrastructures are more than 100 years old and in need of serious upkeep, or even complete replacement in some cases. Water companies are being forced to pony up significant cash in order to get their systems up to par. Making matters worse, the Environmental Protection Agency (EPA) continues to increase its water purification standards, given the geopolitical volatility worldwide and the threat of bio-terrorist actions on U.S. water systems. In all, infrastructure repair costs are expected to climb into the hundreds of millions of dollars over the next two decades. These extra costs will make it very difficult for most water utility companies to sustain the earnings momentum that we think the improved regulatory landscape will produce this year.

Many of the smaller companies in the industry do not have the resources to meet the capital expenditures that they are being saddled with. Some are deciding to merge with larger, more financially sound enterprises. As a result, some of the biggest water utility companies are growing bigger, faster than ever. *Aqua America*, for example, has made well over 100 acquisitions in the past five years (28 coming in 2006), based on the aforementioned weakness of smaller players, improved operations and increased their lines. This has drastically increased its customer base and clearly improved its long-term prospects. We expect *Aqua* to continue growing its business via acquisitions as rising water standards spark further consolidation.

Investment Advice

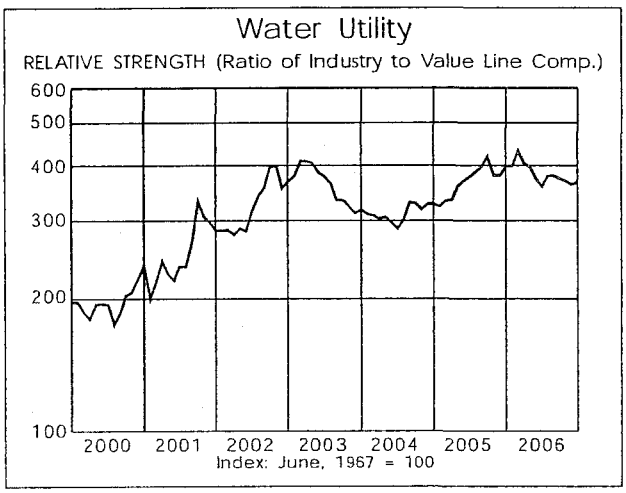
Most investors will want to steer clear of the stocks in the Water Utility Industry. Each of the issues in the coming pages hold below average appreciation potential, whether it be for the coming six to 12 months or out to 2009-2011. In fact, each is ranked either 4 or 5 for Timeliness. The growing infrastructure costs and capital constraints mentioned above are likely to continue pressuring bottom lines of water utility companies for years to come.

Meanwhile, most look to have lost their income appeal as well. Higher interest rates have increased the income-producing appeal of alternative investments, making the yields found in this industry modestly attractive at best. That said, more conservative investors looking for a steady stream of income may want to take a peek at *California Water*, which is ranked 2 (Above Average) for Safety. Its yield is still above the *Value Line* average. Nevertheless, we advise all potential investors to carefully look over the individual reports of each company in the next few pages before making any decisions.

Andre J. Costanza

Composite Statistics: Water Utility Industry

2002	2003	2004	2005	2006	2007		09-11
925.2	1030.0	1173.6	1256.9	***1350***	***1450***	Revenues ($mill)	***1825***
107.8	112.6	105.7	148.3	***155***	***180***	Net Profit ($mill)	***240***
38.6%	39.7%	39.1%	40.5%	***39.0%***	***39.0%***	Income Tax Rate	***39.0%***
.2%	1.9%	1.0%	1.1%	***1.0%***	***1.0%***	AFUDC % to Net Profit	***1.0%***
54.1%	51.0%	49.1%	50.4%	***50.0%***	***50.0%***	Long-Term Debt Ratio	***50.0%***
45.7%	48.8%	50.7%	49.5%	***50.0%***	***50.0%***	Common Equity Ratio	***50.0%***
2116.4	2449.1	2785.6	3057.5	***3360***	***3650***	Total Capital ($mill)	***4500***
2995.1	3405.6	3836.9	4194.7	***5350***	***5750***	Net Plant ($mill)	***6800***
6.9%	5.9%	6.0%	6.3%	***7.0%***	***8.0%***	Return on Total Cap'l	***9.0%***
11.1%	8.8%	9.0%	9.8%	***9.0%***	***10.0%***	Return on Shr. Equity	***10.5%***
11.1%	8.8%	9.0%	9.8%	***9.0%***	***10.0%***	Return on Com Equity	***10.5%***
4.0%	2.7%	3.1%	3.7%	***3.0%***	***3.5%***	Retained to Com Eq	***2.5%***
64%	70%	66%	62%	***68%***	***65%***	All Div'ds to Net Prof	***62%***
21.6	25.6	25.4	29.4	***Bold figures are Value Line estimates***		Avg Ann'l P/E Ratio	***18.0***
1.18	1.46	1.34	1.57			Relative P/E Ratio	***1.20***
3.0%	2.7%	2.6%	2.1%			Avg Ann'l Div'd Yield	***2.5%***



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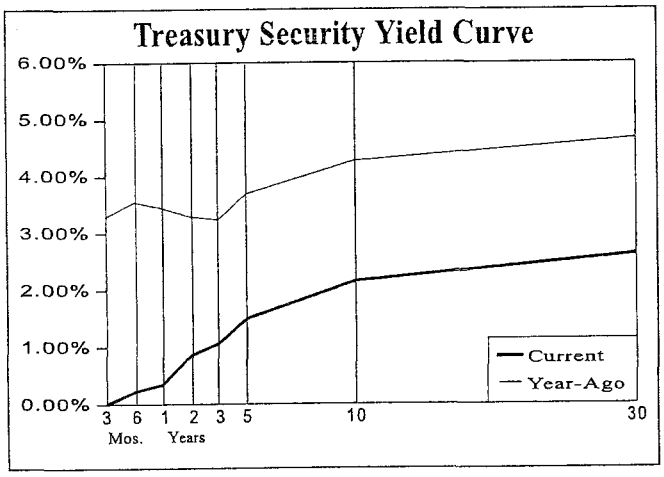
ATTACHMENT E

Selected Yields

	Recent (12/23/08)	3 Months Ago (9/24/08)	Year Ago (12/26/07)
TAXABLE			
Market Rates			
Discount Rate	0.50	2.25	4.75
Federal Funds	0.00-0.25	2.00	4.25
Prime Rate	3.25	5.00	7.25
30-day CP (A1/P1)	0.10	2.85	4.90
3-month LIBOR	1.47	3.48	4.83
Bank CDs			
6-month	1.17	1.61	2.82
1-year	1.56	2.14	3.44
5-year	2.72	3.77	3.73
U.S. Treasury Securities			
3-month	0.01	0.46	3.31
6-month	0.23	1.43	3.56
1-year	0.35	1.89	3.46
5-year	1.50	2.91	3.70
10-year	2.16	3.81	4.28
10-year (inflation-protected)	2.36	1.99	1.90
30-year	2.63	4.41	4.67
30-year Zero	2.67	4.39	4.70

	Recent (12/23/08)	3 Months Ago (9/24/08)	Year Ago (12/26/07)
Mortgage-Backed Securities			
GNMA 6.5%	4.43	5.56	5.52
FHLMC 6.5% (Gold)	4.38	5.43	5.70
FNMA 6.5%	4.16	5.34	5.52
FNMA ARM	4.23	3.86	5.47
Corporate Bonds			
Financial (10-year) A	7.08	7.14	6.27
Industrial (25/30-year) A	6.02	6.53	6.22
Utility (25/30-year) A	5.90	6.50	6.28
Utility (25/30-year) Baa/BBB	7.07	6.74	6.42
Foreign Bonds (10-Year)			
Canada	2.80	3.66	4.09
Germany	2.95	4.16	4.31
Japan	1.22	1.49	1.57
United Kingdom	3.12	4.57	4.60
Preferred Stocks			
Utility A	6.25	6.85	6.19
Financial A	11.45	8.04	8.15
Financial Adjustable A	5.47	5.47	5.47



	Recent (12/23/08)	3 Months Ago (9/24/08)	Year Ago (12/26/07)
TAX-EXEMPT			
Bond Buyer Indexes			
20-Bond Index (GOs)	5.46	5.03	4.39
25-Bond Index (Revs)	6.22	5.44	4.76
General Obligation Bonds (GOs)			
1-year Aaa	0.85	2.15	2.90
1-year A	0.95	2.25	3.00
5-year Aaa	2.57	3.10	3.22
5-year A	2.87	3.20	3.32
10-year Aaa	3.70	4.02	3.65
10-year A	4.20	4.22	3.95
25/30-year Aaa	5.17	5.13	4.35
25/30-year A	6.15	5.45	4.55
Revenue Bonds (Revs) (25/30-Year)			
Education AA	6.15	5.55	4.65
Electric AA	6.20	5.60	4.70
Housing AA	6.50	5.90	4.80
Hospital AA	6.55	5.95	4.85
Toll Road Aaa	6.25	5.65	4.70

Federal Reserve Data

BANK RESERVES

(Two-Week Period; in Millions, Not Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	12/17/08	12/3/08	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	774432	589720	184712	402723	202422	105940
Borrowed Reserves	674517	675885	-1368	607558	387830	244268
Net Free/Borrowed Reserves	99915	-86165	186080	-204836	-185409	-138328

MONEY SUPPLY

(One-Week Period; in Billions, Seasonally Adjusted)

	Recent Levels			Growth Rates Over the Last...		
	12/8/08	12/1/08	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1585.5	1538.6	46.9	64.1%	31.3%	15.7%
M2 (M1+savings+small time deposits)	8062.4	7988.5	73.9	22.2%	11.2%	9.0%

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ARIZONA-AMERICAN WATER COMPANY
DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
TABLE OF CONTENTS TO SCHEDULES WAR

SCHEDULE #	
WAR - 1	COST OF CAPITAL SUMMARY
WAR - 2	DCF COST OF EQUITY CAPITAL
WAR - 3	DIVIDEND YIELD CALCULATION
WAR - 4	DIVIDEND GROWTH RATE CALCULATION
WAR - 5	DIVIDEND GROWTH COMPONENTS
WAR - 6	GROWTH RATE COMPARISON
WAR - 7	CAPM COST OF EQUITY CAPITAL
WAR - 8	ECONOMIC INDICATORS - 1990 TO PRESENT
WAR - 9	CAPITAL STRUCTURES OF SAMPLE COMPANIES

ARIZONA-AMERICAN WATER COMPANY
TEST YEAR ENDED DECEMBER 31, 2006
COST OF CAPITAL SUMMARY

DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
SCHEDULE WAR - 1, PAGE 1 OF 3

WEIGHTED AVERAGE COST OF CAPITAL

LINE NO.	DESCRIPTION	(A) CAPITAL RATIO	(B) COST	(C) WEIGHTED COST
1	LONG-TERM DEBT	55.20%	5.46%	3.02%
3	COMMON EQUITY	44.80%	8.88%	3.98%
4	TOTAL CAPITALIZATION	100.00%		
5	**WEIGHTED AVERAGE COST OF CAPITAL**			7.00%

REFERENCES:
COLUMN (A): ACC STAFF DATA REQUEST PMC 15.1
COLUMN (B): LINE 1 - SCHEDULE WAR-1, PAGE 2; LINE 3 - TESTIMONY, WAR
COLUMN (C): COLUMN (A) x COLUMN (B)

ARIZONA-AMERICAN WATER COMPANY
TEST YEAR ENDED DECEMBER 31, 2006
COST OF CAPITAL SUMMARY

DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
SCHEDULE WAR - 1, PAGE 2 OF 3

WEIGHTED COST OF LONG-TERM DEBT

LINE NO.	(A) DESCRIPTION	(B) AMOUNT OUTSTANDING	(C) ANNUAL INTEREST	(D) INTEREST RATE	(E) BALANCE RATIOS	(F) WEIGHTED COST OF DEBT
1	SEPTEMBER 2013 PILR - MONTEREY	$ 32,726	$ 2,049	6.261%	0.02%	0.001%
2	AUGUST 2013 PILR - MONTEX/LINCOLN	19,220	1,107	5.760%	0.01%	0.001%
3	AUGUST 2015 PILR - ROSALEE	38,347	2,753	7.179%	0.02%	0.001%
4	AUGUST 2015 PILR - T.O. DEVELOPMENT	32,847	2,358	7.179%	0.02%	0.001%
5	SEPTEMBER 2028 LONG-TERM NOTE - MARICOPA	10,635,000	386,051	3.630%	5.62%	0.204%
6	DECEMBER 2013 LONG-TERM PROMISSORY NOTE	24,700,000	1,331,330	5.390%	13.05%	0.704%
7	DECEMBER 2016 LONG-TERM PROMISSORY NOTE	11,200,000	618,240	5.520%	5.92%	0.327%
8	DECEMBER 2018 LONG-TERM PROMISSORY NOTE	123,100,000	6,918,220	5.620%	65.06%	3.656%
9	OCTOBER 2037 PROMISSORY NOTE	10,000,000	650,000	6.500%	5.29%	0.344%
10	OCTOBER 2037 PROMISSORY NOTE	6,450,000	425,249	6.593%	3.41%	0.225%
11	PHOENIX AGREEMENT	3,000,000	-	0.000%	1.59%	0.000%
12	TOTALS	$ 189,208,140	$ 10,337,357		100.00%	
13	**WEIGHTED COST OF DEBT**					5.463%

REFERENCES:
COLUMN (A) LINES 1 THRU 11: COMPANY RESPONSE TO ACC STAFF DATA REQUEST PMC 15.1
COLUMN (B) LINES 1 THRU 11: COMPANY RESPONSE TO ACC STAFF DATA REQUEST PMC 15.1
COLUMN (C) LINES 1 THRU 11: COMPANY RESPONSE TO ACC STAFF DATA REQUEST PMC 15.1
COLUMN (D) LINES 1 THRU 11: COLUMN (C) ÷ COLUMN (B)
COLUMN (E): COLUMN (B) LINES 1 THRU 11 ÷ COLUMN (B) LINE 12
COLUMN (F): COLUMN (D) x COLUMN (E)

ARIZONA-AMERICAN WATER COMPANY
TEST YEAR ENDED DECEMBER 31, 2006
COST OF CAPITAL SUMMARY

DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
SCHEDULE WAR - 1, PAGE 3 OF 3

COST OF COMMON EQUITY CALCULATION

LINE NO.			
1	**DCF METHODOLOGY**		
2	DCF - WATER COMPANY SINGLE-STAGE CONSTANT GROWTH MODEL ESTIMATE	11.19%	SCHEDULE WAR-2, COLUMN (C), LINE 5
3	DCF - NATURAL GAS LDC SINGLE-STAGE CONSTANT GROWTH MODEL ESTIMATE	11.16%	SCHEDULE WAR-2, COLUMN (C), LINE 13
4	**AVERAGE OF DCF ESTIMATES**	**11.17%**	(LINE 2 + LINE 3) ÷ 2
5	**CAPM METHODOLOGY**		
6	CAPM - WATER COMPANY GEOMETRIC MEAN ESTIMATE	6.66%	SCHEDULE WAR-7 PAGE 1, COLUMN (B), LINE 5
7	CAPM - NATURAL GAS LDC GEOMETRIC MEAN ESTIMATE	5.07%	SCHEDULE WAR-7 PAGE 1, COLUMN (B), LINE 13
8	CAPM - WATER COMPANY ARITHMETIC MEAN ESTIMATE	8.39%	SCHEDULE WAR-7 PAGE 2, COLUMN (B), LINE 5
9	CAPM - NATURAL GAS LDC ARITHMETIC MEAN ESTIMATE	6.26%	SCHEDULE WAR-7 PAGE 2, COLUMN (B), LINE 13
10	**AVERAGE OF CAPM ESTIMATES**	**6.59%**	(SUM OF LINES 6 THRU 9) ÷ 4
11	**AVERAGE OF DCF AND CAPM ESTIMATES**	**8.88%**	(SUM OF LINES 4 AND 10) ÷ 2

ARIZONA-AMERICAN WATER COMPANY
TEST YEAR ENDED DECEMBER 31, 2006
DCF COST OF EQUITY CAPITAL

DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
SCHEDULE WAR - 2

LINE NO.	STOCK SYMBOL	COMPANY	(A) DIVIDEND YIELD	+	(B) GROWTH RATE (g)	=	(C) DCF COST OF EQUITY CAPITAL
1	AWR	AMERICAN STATES WATER CO.	3.10%	+	7.98%	=	11.08%
2	CWT	CALIFORNIA WATER SERVICE GROUP	2.87%	+	6.67%	=	9.54%
3	SWWC	SOUTHWEST WATER COMPANY	5.38%	+	10.18%	=	15.57%
4	WTR	AQUA AMERICA, INC.	2.75%	+	5.80%	=	8.55%
5	**WATER COMPANY AVERAGE**						**11.19%**
6	ATG	AGL RESOURCES, INC.	5.77%	+	5.39%	=	11.17%
7	ATO	ATMOS ENERGY CORP.	5.62%	+	13.98%	=	19.60%
8	LG	LACLEDE GROUP, INC.	3.14%	+	6.33%	=	9.47%
9	NJR	NEW JERSEY RESOURCES CORPORATION	3.01%	+	6.82%	=	9.83%
10	GAS	NICOR, INC.	4.89%	+	6.03%	=	10.92%
11	NWN	NORTHWEST NATURAL GAS CO.	3.37%	+	5.24%	=	8.61%
12	PNY	PIEDMONT NATURAL GAS COMPANY	3.27%	+	5.01%	=	8.28%
13	SJI	SOUTH JERSEY INDUSTIES, INC.	6.32%	+	9.94%	=	16.26%
14	SWX	SOUTHWEST GAS CORPORATION	3.66%	+	5.32%	=	8.98%
15	WGL	WGL HOLDINGS, INC.	4.43%	+	4.05%	=	8.49%
16	**NATURAL GAS LDC AVERAGE**						**11.16%**

REFERENCES:
COLUMN (A): SCHEDULE WAR - 3, COLUMN C
COLUMN (B): SCHEDULE WAR - 4, PAGE 1, COLUMN C
COLUMN (C): COLUMN (A) + COLUMN (B)

ARIZONA-AMERICAN WATER COMPANY
TEST YEAR ENDED DECEMBER 31, 2006
DIVIDEND YIELD CALCULATION

DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
SCHEDULE WAR - 3

LINE NO.	STOCK SYMBOL	COMPANY	(A) ESTIMATED DIVIDEND (PER SHARE)	÷	(B) AVERAGE STOCK PRICE (PER SHARE)	=	(C) DIVIDEND YIELD
1	AWR	AMERICAN STATES WATER CO.	$1.00	÷	$32.23	=	3.10%
2	CWT	CALIFORNIA WATER SERVICE GROUP	1.17	÷	40.77	=	2.87%
3	SWWC	SOUTHWEST WATER COMPANY	0.24	÷	4.46	=	5.38%
4	WTR	AQUA AMERICA, INC.	0.54	÷	19.65	=	2.75%
5	**WATER COMPANY AVERAGE**						**3.53%**
6	ATG	AGL RESOURCES, INC.	$1.68	÷	$29.10	=	5.77%
7	ATO	ATMOS ENERGY CORP.	1.32	÷	23.49	=	5.62%
8	LG	LACLEDE GROUP, INC.	1.54	÷	49.09	=	3.14%
9	NJR	NEW JERSEY RESOURCES CORPORATION	1.12	÷	37.24	=	3.01%
10	GAS	NICOR, INC.	1.86	÷	38.03	=	4.89%
11	NWN	NORTHWEST NATURAL GAS CO.	1.58	÷	46.88	=	3.37%
12	PNY	PIEDMONT NATURAL GAS COMPANY	1.04	÷	31.77	=	3.27%
13	SJI	SOUTH JERSEY INDUSTIES, INC.	2.27	÷	35.96	=	6.32%
14	SWX	SOUTHWEST GAS CORPORATION	0.90	÷	24.61	=	3.66%
15	WGL	WGL HOLDINGS, INC.	1.44	÷	32.48	=	4.43%
16	**NATURAL GAS LDC AVERAGE**						**4.35%**

REFERENCES:
COLUMN (A): ESTIMATED 12 MONTH DIVIDEND REPORTED IN VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 10/24/2008 (WATER COMPANIES) AND 12/12/2008 (NATURAL GAS LDC's).
COLUMN (B): EIGHT WEEK AVERAGE OF CLOSING PRICES FROM 11/03/2008 TO 12/26/2008 STOCK QUOTES OBTAINED THROUGH BIG CHARTS WEB SITE - HISTORICAL QUOTES (www.bigcharts.com).
COLUMN (C): COLUMN (A) ÷ COLUMN (B)

ARIZONA-AMERICAN WATER COMPANY
TEST YEAR ENDED DECEMBER 31, 2006
DIVIDEND GROWTH RATE CALCULATION

DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
SCHEDULE WAR - 4, PAGE 1 OF 2

LINE NO.	STOCK SYMBOL	COMPANY	(A) INTERNAL GROWTH (br)	+	(B) EXTERNAL GROWTH (sv)	=	(C) DIVIDEND GROWTH (g)
1	AWR	AMERICAN STATES WATER CO.	6.75%	+	1.23%	=	7.98%
2	CWT	CALIFORNIA WATER SERVICE GROUP	5.00%	+	1.67%	=	6.67%
3	SWWC	SOUTHWEST WATER COMPANY	3.75%	+	6.43%	=	10.18%
4	WTR	AQUA AMERICA, INC.	5.00%	+	0.80%	=	5.80%
5	**WATER COMPANY AVERAGE**						**7.66%**
6	ATG	AGL RESOURCES, INC.	5.25%	+	0.14%	=	5.39%
7	ATO	ATMOS ENERGY CORP.	4.00%	+	9.98%	=	13.98%
8	LG	LACLEDE GROUP, INC.	4.50%	+	1.83%	=	6.33%
9	NJR	NEW JERSEY RESOURCES CORPORATION	6.25%	+	0.57%	=	6.82%
10	GAS	NICOR, INC.	6.00%	+	0.03%	=	6.03%
11	NWN	NORTHWEST NATURAL GAS CO.	4.75%	+	0.49%	=	5.24%
12	PNY	PIEDMONT NATURAL GAS COMPANY	5.00%	+	0.01%	=	5.01%
13	SJI	SOUTH JERSEY INDUSTIES, INC.	9.00%	+	0.94%	=	9.94%
14	SWX	SOUTHWEST GAS CORPORATION	5.25%	+	0.07%	=	5.32%
15	WGL	WGL HOLDINGS, INC.	4.00%	+	0.05%	=	4.05%
16	**NATURAL GAS LDC AVERAGE**						**6.81%**

REFERENCES:
COLUMN (A): TESTIMONY, WAR
COLUMN (B): SCHEDULE WAR - 4, PAGE 2, COLUMN C
COLUMN (C): COLUMN (A) + COLUMN (B)

ARIZONA-AMERICAN WATER COMPANY
TEST YEAR ENDED DECEMBER 31, 2006
DIVIDEND GROWTH RATE CALCULATION

DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
SCHEDULE WAR - 4, PAGE 2 OF 2

LINE NO.	STOCK SYMBOL	COMPANY	(A) SHARE GROWTH	x	{ [((M + B) + 1) ÷ 2] - 1 }	=	(C) EXTERNAL GROWTH (sv)
1	AWR	AMERICAN STATES WATER CO.	3.25%	x	{ [((1.76) + 1) ÷ 2] - 1 }	=	1.23%
2	CWT	CALIFORNIA WATER SERVICE GROUP	3.00%	x	{ [((2.11) + 1) ÷ 2] - 1 }	=	1.67%
3	SWWC	SOUTHWEST WATER COMPANY	3.50%	x	{ [((0.68) + 1) ÷ 2] + 1 }	=	6.43%
4	WTR	AQUA AMERICA, INC.	1.00%	x	{ [((2.60) + 1) ÷ 2] - 1 }	=	0.80%
5	**WATER COMPANY AVERAGE**						**2.53%**
6	ATG	AGL RESOURCES, INC.	1.00%	x	{ [((1.29) + 1) ÷ 2] - 1 }	=	0.14%
7	ATO	ATMOS ENERGY CORP.	5.00%	x	{ [((0.99) + 1) ÷ 2] + 1 }	=	9.98%
8	LG	LACLEDE GROUP, INC.	3.00%	x	{ [((2.22) + 1) ÷ 2] - 1 }	=	1.83%
9	NJR	NEW JERSEY RESOURCES CORPORATION	1.00%	x	{ [((2.15) + 1) ÷ 2] - 1 }	=	0.57%
10	GAS	NICOR, INC.	0.07%	x	{ [((1.83) + 1) ÷ 2] - 1 }	=	0.03%
11	NWN	NORTHWEST NATURAL GAS CO.	1.00%	x	{ [((1.98) + 1) ÷ 2] - 1 }	=	0.49%
12	PNY	PIEDMONT NATURAL GAS COMPANY	0.01%	x	{ [((2.52) + 1) ÷ 2] - 1 }	=	0.01%
13	SJI	SOUTH JERSEY INDUSTIES, INC.	1.75%	x	{ [((2.07) + 1) ÷ 2] - 1 }	=	0.94%
14	SWX	SOUTHWEST GAS CORPORATION	2.50%	x	{ [((1.06) + 1) ÷ 2] - 1 }	=	0.07%
15	WGL	WGL HOLDINGS, INC.	0.20%	x	{ [((1.54) + 1) ÷ 2] - 1 }	=	0.05%
16	**NATURAL GAS LDC AVERAGE**						**1.41%**

REFERENCES:
COLUMN (A): TESTIMONY, WAR
COLUMN (B): VALUE LINE INVESTMENT SURVEY
- RATINGS & REPORTS DATED 10/24/2008 (WATER COMPANIES) AND 12/12/2008 (NATURAL GAS LDC's)
COLUMN (C): COLUMN (A) x COLUMN (B)

ARIZONA-AMERICAN WATER COMPANY
TEST YEAR ENDED DECEMBER 31, 2006
DIVIDEND GROWTH COMPONENTS

DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
SCHEDULE WAR - 5, PAGE 1 OF 4

LINE NO.	STOCK SYMBOL	WATER COMPANY NAME	OPERATING PERIOD	(A) RETENTION RATIO (b)	x	(B) RETURN ON BOOK EQUITY (r)	=	(C) DIVIDEND GROWTH (g)	(D) BOOK VALUE ($/SHARE)	(E) SHARES OUTST. (MILLIONS)	(F) SHARE GROWTH
1	AWR	AMERICAN STATES WATER CO.	2003	-0.1282		5.60%		NMF	13.97	15.21	
2			2004	0.1524		6.60%		1.01%	15.01	16.75	
3			2005	0.3182		8.50%		2.70%	15.72	16.80	
4			2006	0.3158		8.10%		2.56%	16.64	17.05	
5			2007	0.4074		9.30%		3.79%	17.53	17.23	
6			GROWTH 2003 - 2007					2.51%	4.50%		3.17%
7			2008	0.4595		10.00%		4.59%		18.00	4.47%
8			2009	0.4600		10.50%		4.83%		18.50	3.62%
9			2011-13	0.5321		13.50%		7.18%	2.50%	20.00	3.03%
10											
11	CWT	CALIFORNIA WATER SERVICE GROUP	2003	0.0744		7.90%		0.59%	14.44	16.93	
12			2004	0.2260		9.00%		2.03%	15.66	18.37	
13			2005	0.2245		9.30%		2.09%	15.79	18.39	
14			2006	0.1418		6.80%		0.96%	18.15	20.66	
15			2007	0.2267		8.10%		1.84%	18.50	20.67	
16			GROWTH 2003 - 2007					1.50%	6.00%		5.12%
17			2008	0.3118		9.00%		2.81%		21.25	2.81%
18			2009	0.3949		10.00%		3.95%		22.00	3.17%
19			2011-13	0.4468		11.50%		5.14%	4.00%	23.50	2.60%
20											
21	SWWC	SOUTHWEST WATER COMPANY	2003	0.6364		9.10%		5.79%	4.90	16.17	
22			2004	0.2174		3.60%		0.78%	6.17	20.36	
23			2005	0.4118		5.00%		2.06%	6.49	22.33	
24			2006	0.4750		5.60%		2.66%	6.98	23.80	
25			2007	0.2581		3.50%		0.90%	5.98	24.27	
26			GROWTH 2003 - 2007					2.44%	11.50%		5.12%
27			2008	0.0400		3.50%		0.14%		25.00	3.01%
28			2009	0.4000		5.00%		2.00%		26.00	3.50%
29			2011-13	0.5000		8.50%		4.25%	1.00%	29.00	3.63%
30											
31	WTR	AQUA AMERICA, INC.	2003	0.3860		10.20%		3.94%	5.34	123.45	
32			2004	0.4219		10.70%		4.51%	5.89	127.18	
33			2005	0.4366		11.20%		4.89%	6.30	128.97	
34			2006	0.3714		10.00%		3.71%	6.96	132.33	
35			2007	0.3239		9.70%		3.14%	7.32	133.40	
36			GROWTH 2003 - 2007					4.04%	10.50%		5.12%
37			2008	0.3200		10.00%		3.20%		135.00	1.20%
38			2009	0.3647		11.00%		4.01%		136.00	0.97%
39			2011-13	0.4545		11.50%		5.23%	5.50%	139.00	0.83%

REFERENCES:
COLUMNS (A) & (B): VALUE LINE INVESTMENT SURVEY
- RATINGS & REPORTS DATED 10/24/2008
COLUMN (C): COLUMN (A) x COLUMN (B)
COLUMN (C): LINES 6, 16 & 26, SIMPLE AVERAGE GROWTH, 2003 - 2007

COLUMN (D): VALUE LINE INVESTMENT SURVEY
COLUMN (D): LINES 6, 16 & 26, COMPOUND GROWTH RATE
COLUMN (E): VALUE LINE INVESTMENT SURVEY
COLUMN (F): COMPOUND GROWTH RATES OF DATES SHOWN

ARIZONA-AMERICAN WATER COMPANY
TEST YEAR ENDED DECEMBER 31, 2006
DIVIDEND GROWTH COMPONENTS

DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
SCHEDULE WAR - 5, PAGE 2 OF 4

LINE NO.	STOCK SYMBOL	NATURAL GAS LDC NAME	OPERATING PERIOD	(A) RETENTION RATIO (b)	x	(B) RETURN ON BOOK EQUITY (r)	=	(C) DIVIDEND GROWTH (g)	(D) BOOK VALUE ($/SHARE)	(E) SHARES OUTST. (MILLIONS)	(F) SHARE GROWTH
1	ATG	AGL RESOURCES, INC.	2003	0.4663		14.00%		6.53%	14.66	64.50	
2			2004	0.4956		11.00%		5.45%	18.06	76.70	
3			2005	0.4758		12.90%		6.14%	19.29	77.70	
4			2006	0.4559		13.20%		6.02%	20.71	77.70	
5			2007	0.3971		12.70%		5.04%	21.74	76.40	
6			GROWTH 2003 - 2007					5.84%	10.50%		4.32%
7			2008	0.3778		12.00%		4.53%		77.00	0.79%
8			2009	0.3857		12.50%		4.82%		78.00	1.04%
9			2011-13	0.4159		13.50%		5.61%	2.00%	80.00	0.93%
10											
11	ATO	ATMOS ENERGY CORP.	2003	0.2982		9.30%		2.77%	16.66	51.48	
12			2004	0.2278		7.60%		1.73%	18.05	62.80	
13			2005	0.2791		8.50%		2.37%	19.90	80.54	
14			2006	0.3700		9.80%		3.63%	20.16	81.74	
15			2007	0.3402		8.70%		2.96%	22.01	89.33	
16			GROWTH 2003 - 2007					2.69%	9.00%		14.77%
17			2008	0.3500		9.00%		3.15%		91.00	1.87%
18			2009	0.3714		9.00%		3.34%		92.00	1.48%
19			2011-13	0.4286		9.50%		4.07%	3.50%	115.00	5.18%
20											
21	LG	LACLEDE GROUP, INC.	2003	0.2637		11.60%		3.06%	15.65	19.11	
22			2004	0.2582		10.10%		2.61%	16.96	20.98	
23			2005	0.2789		10.90%		3.04%	17.31	21.17	
24			2006	0.4093		12.50%		5.12%	18.85	21.36	
25			2007	0.3723		11.60%		4.32%	19.79	21.65	
26			GROWTH 2003 - 2007					3.63%	4.50%		3.17%
27			2008	0.4356		12.00%		5.23%		22.00	1.62%
28			2009	0.3880		11.50%		4.46%		22.50	1.94%
29			2011-13	0.4211		11.50%		4.84%	5.50%	25.50	3.33%
30											
31	NJR	NEW JERSEY RESOURCES CORPORATION	2003	0.4780		15.60%		7.46%	10.26	40.85	
32			2004	0.4882		15.30%		7.47%	11.25	41.61	
33			2005	0.4859		17.00%		8.26%	10.60	41.32	
34			2006	0.4866		12.60%		6.13%	15.00	41.44	
35			2007	0.3484		10.10%		3.52%	15.50	41.61	
36			GROWTH 2003 - 2007					6.57%	10.00%		0.46%
37			2008	0.5889		15.70%		9.25%		41.88	0.65%
38			2009	0.5571		14.50%		8.08%		42.50	1.06%
39			2011-13	0.5467		11.50%		6.29%	11.00%	44.00	1.12%

REFERENCES:
COLUMNS (A) & (B): VALUE LINE INVESTMENT SURVEY
- RATINGS & REPORTS DATED 12/12/2008
COLUMN (C): COLUMN (A) x COLUMN (B)
COLUMN (C): LINES 6, 16 & 26, SIMPLE AVERAGE GROWTH, 2003 - 2007

COLUMN (D): VALUE LINE INVESTMENT SURVEY
COLUMN (D): LINES 6, 16 & 26, COMPOUND GROWTH RATE
COLUMN (E): VALUE LINE INVESTMENT SURVEY
COLUMN (F): COMPOUND GROWTH RATES OF DATES SHOWN

ARIZONA-AMERICAN WATER COMPANY
TEST YEAR ENDED DECEMBER 31, 2006
DIVIDEND GROWTH COMPONENTS

DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
SCHEDULE WAR - 5, PAGE 3 OF 4

LINE NO.	STOCK SYMBOL	NATURAL GAS LDC NAME	OPERATING PERIOD	(A) RETENTION RATIO (b)	x	(B) RETURN ON BOOK EQUITY (r)	=	(C) DIVIDEND GROWTH (g)	(D) BOOK VALUE ($/SHARE)	(E) SHARES OUTST. (MILLIONS)	(F) SHARE GROWTH
1	GAS	NICOR, INC.	2003	0.1185		12.30%		1.46%	17.13	44.04	
2			2004	0.1622		13.10%		2.12%	16.99	44.10	
3			2005	0.1878		12.50%		2.35%	18.36	44.18	
4			2006	0.3519		14.70%		5.17%	19.43	44.90	
5			2007	0.3758		14.30%		5.37%	20.58	45.90	
6			GROWTH 2003 - 2007					3.30%	4.00%		1.04%
7			2008	0.1733		11.50%		1.99%		45.00	-1.96%
8			2009	0.2560		11.50%		2.94%		45.00	-0.99%
9			2011-13	0.4609		13.50%		6.22%	4.50%	45.00	-0.40%
10											
11	NWN	NORTHWEST NATURAL GAS CO.	2003	0.2784		9.00%		2.51%	19.52	25.94	
12			2004	0.3011		8.90%		2.68%	20.64	27.55	
13			2005	0.3744		9.90%		3.71%	21.28	27.58	
14			2006	0.4085		10.90%		4.45%	22.01	27.24	
15			2007	0.4783		12.50%		5.98%	22.52	26.41	
16			GROWTH 2003 - 2007					3.86%	3.50%		0.45%
17			2008	0.4039		11.50%		4.65%		26.50	0.34%
18			2009	0.4286		11.50%		4.93%		26.50	0.17%
19			2011-13	0.4388		11.00%		4.83%	3.50%	28.00	1.18%
20											
21	PNY	PIEDMONT NATURAL GAS COMPANY	2003	0.2613		11.80%		3.08%	9.36	67.31	
22			2004	0.3307		11.10%		3.67%	11.15	76.67	
23			2005	0.3106		11.50%		3.57%	11.53	76.70	
24			2006	0.2520		11.00%		2.77%	11.83	74.61	
25			2007	0.2929		11.90%		3.49%	11.99	73.23	
26			GROWTH 2003 - 2007					3.32%	6.50%		2.13%
27			2008	0.3355		12.50%		4.19%		73.50	0.37%
28			2009	0.3313		12.50%		4.14%		73.50	0.18%
29			2011-13	0.4195		13.50%		5.66%	4.50%	73.00	-0.06%
30											
31	SJI	SOUTH JERSEY INDUSTIES, INC.	2003	0.4307		11.60%		5.00%	11.26	26.46	
32			2004	0.4810		12.50%		6.01%	12.41	27.76	
33			2005	0.4971		12.40%		6.16%	13.50	28.98	
34			2006	0.6260		16.30%		10.20%	15.11	29.33	
35			2007	0.5167		12.80%		6.61%	16.25	29.61	
36			GROWTH 2003 - 2007					6.80%	12.50%		2.85%
37			2008	0.5174		13.50%		6.98%		30.00	1.32%
38			2009	0.5200		14.50%		7.54%		31.00	2.32%
39			2011-13	0.5667		16.00%		9.07%	4.50%	32.00	1.56%

REFERENCES:
COLUMNS (A) & (B): VALUE LINE INVESTMENT SURVEY
- RATINGS & REPORTS DATED 12/12/2008
COLUMN (C): COLUMN (A) x COLUMN (B)
COLUMN (C): LINES 6, 16 & 26, SIMPLE AVERAGE GROWTH, 2003 - 2007

COLUMN (D): VALUE LINE INVESTMENT SURVEY
COLUMN (D): LINES 6, 16 & 26, COMPOUND GROWTH RATE
COLUMN (E): VALUE LINE INVESTMENT SURVEY
COLUMN (F): COMPOUND GROWTH RATES OF DATES SHOWN

ARIZONA-AMERICAN WATER COMPANY
TEST YEAR ENDED DECEMBER 31, 2006
DIVIDEND GROWTH COMPONENTS

DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
SCHEDULE WAR - 5, PAGE 4 OF 4

LINE NO.	STOCK SYMBOL	NATURAL GAS LDC NAME	OPERATING PERIOD	(A) RETENTION RATIO (b)	x	(B) RETURN ON BOOK EQUITY (r)	=	(C) DIVIDEND GROWTH (g)	(D) BOOK VALUE ($/SHARE)	(E) SHARES OUTST. (MILLIONS)	(F) SHARE GROWTH
1	SWX	SOUTHWEST GAS CORPORATION	2003	0.2743		6.10%		1.67%	18.42	34.23	
2			2004	0.5060		8.30%		4.20%	19.18	36.79	
3			2005	0.3440		6.40%		2.20%	19.10	39.33	
4			2006	0.5859		8.90%		5.21%	21.58	41.77	
5			2007	0.5590		8.50%		4.75%	22.98	42.81	
6			GROWTH 2003 - 2007					3.61%	3.50%		5.75%
7			2008	0.4857		7.50%		3.64%		44.00	2.78%
8			2009	0.5300		8.00%		4.24%		45.00	2.53%
9			2011-13	0.5760		9.50%		5.47%	4.00%	48.00	2.31%
10											
11	WGL	WGL HOLDINGS, INC.	2003	0.4435		14.00%		6.21%	16.25	48.63	
12			2004	0.3434		14.00%		4.81%	16.95	48.67	
13			2005	0.3744		12.00%		4.49%	17.80	48.65	
14			2006	0.3093		10.20%		3.15%	18.28	48.89	
15			2007	0.3476		10.40%		3.62%	19.83	49.45	
16			GROWTH 2003 - 2007					4.46%	3.50%		0.42%
17			2008	0.3906		11.60%		4.53%		49.61	0.32%
18			2009	0.4000		11.50%		4.60%		49.65	0.20%
19			2011-13	0.3882		10.50%		4.08%	5.00%	50.00	0.22%

REFERENCES:
COLUMNS (A) & (B): VALUE LINE INVESTMENT SURVEY
- RATINGS & REPORTS DATED 12/12/2008
COLUMN (C): COLUMN (A) x COLUMN (B)
COLUMN (C): LINES 6, 16 & 26, SIMPLE AVERAGE GROWTH, 2003 - 2007

ARIZONA-AMERICAN WATER COMPANY
TEST YEAR ENDED DECEMBER 31, 2006
GROWTH RATE COMPARISON

DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
SCHEDULE WAR - 6

WATER COMPANY SAMPLE:

LINE NO.	STOCK SYMBOL	(A) (br) + (sv)	(B) ZACKS EPS	EPS	(C) VALUE LINE PROJECTED DPS	BVPS	EPS	(D) VALUE LINE HISTORIC DPS	BVPS	(E) VALUE LINE & ZACKS AVGS.	EPS	(F) 5 - YEAR COMPOUND HISTORY DPS	BVPS
1	AWR	7.98%	12.00%	11.00%	5.00%	2.50%	1.50%	1.50%	4.50%	5.43%	20.05%	2.20%	5.84%
2	CWT	6.67%	8.40%	4.75%	2.00%	3.50%	4.50%	0.50%	6.00%	4.24%	5.52%	0.88%	6.39%
3	SWWC	10.18%	6.30%	9.50%	6.00%	1.00%	-19.50%	9.00%	11.50%	3.40%	-8.38%	9.50%	5.11%
4	WTR	5.80%	8.00%	7.50%	5.50%	5.50%	7.00%	7.50%	10.50%	7.36%	5.64%	8.22%	8.20%
5				8.19%	4.63%	3.13%	-1.63%	4.63%	8.13%		5.71%	5.20%	6.38%
6	AVERAGES	7.66%	8.68%		5.31%			3.71%		5.11%		5.76%	

NATURAL GAS LDC SAMPLE:

LINE NO.	STOCK SYMBOL	(A) (br) + (sv)	(B) ZACKS EPS	EPS	(C) VALUE LINE PROJECTED DPS	BVPS	EPS	(D) VALUE LINE HISTORIC DPS	BVPS	(E) VALUE LINE & ZACKS AVGS.	EPS	(F) 5 - YEAR COMPOUND HISTORY DPS	BVPS
1	ATG	5.39%	4.30%	3.00%	4.00%	2.00%	15.00%	4.00%	10.50%	6.11%	6.94%	10.25%	10.35%
2	ATO	13.96%	5.50%	4.50%	2.00%	3.50%	7.50%	1.50%	9.00%	4.79%	3.21%	1.63%	7.21%
3	LG	6.33%	10.00%	4.50%	2.50%	5.50%	9.50%	1.00%	4.50%	5.36%	6.14%	1.99%	6.04%
4	NJR	6.82%	8.00%	9.50%	6.00%	11.00%	6.00%	4.00%	10.00%	7.79%	-0.63%	5.03%	10.87%
5	GAS	6.03%	6.50%	4.00%	-	4.50%	-1.50%	1.00%	4.00%	3.08%	9.01%	0.00%	4.69%
6	NWN	5.24%	7.00%	7.00%	5.50%	3.50%	6.50%	2.00%	3.50%	5.00%	11.90%	3.19%	3.64%
7	PNY	5.01%	7.20%	7.50%	4.00%	4.50%	6.00%	4.50%	6.50%	5.74%	5.97%	4.82%	6.39%
8	SJI	9.94%	7.50%	6.00%	5.50%	4.50%	12.50%	4.50%	12.50%	7.57%	11.14%	6.67%	9.60%
9	SWX	5.32%	8.00%	6.50%	4.00%	4.00%	6.00%	-	3.50%	5.33%	14.61%	1.20%	5.69%
10	WGL	4.05%	7.50%	3.50%	2.50%	5.00%	5.00%	1.50%	3.50%	4.07%	-2.25%	1.71%	5.10%
11				5.60%	4.00%	4.80%	7.25%	2.67%	6.75%		6.60%	3.65%	6.96%
12	AVERAGES	6.81%	7.15%		4.80%			5.56%		5.48%		5.74%	

REFERENCES:
COLUMN (A): SCHEDULE WAR - 4, PAGE 1, COLUMN C
COLUMN (B): ZACKS INVESTMENT RESEARCH (www.zacks.com)
COLUMN (C): VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 10/24/2008 (WATER COMPANIES) AND 12/12/2008 (NATURAL GAS LDC's)
COLUMN (D): VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 10/24/2008 (WATER COMPANIES) AND 12/12/2008 (NATURAL GAS LDC's)
COLUMN (E): SIMPLE AVERAGE OF COLUMNS (B) THRU (D) LINES 1, 3, 5 AND 7
COLUMN (F): 5-YEAR ANNUAL GROWTH RATE CALCULATED WITH DATA COMPILED FROM VALUE LINE INVESTMENT SURVEY
- RATINGS & REPORTS DATED 10/24/2008 (WATER COMPANIES) AND 12/12/2008 (NATURAL GAS LDC's)

ARIZONA-AMERICAN WATER COMPANY
TEST YEAR ENDED DECEMBER 31, 2006
CAPM COST OF EQUITY CAPITAL

DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
SCHEDULE WAR - 7, PAGE 1 OF 2

BASED ON A GEOMETRIC MEAN:

LINE NO.	STOCK SYMBOL	k	=	r_f	+ [	(A) ß	x	(	r_m	-	r_f	)]	=	(B) EXPECTED RETURN
1	AWR	k	=	1.50%	+ [	0.95	x	(	10.40%	-	5.30%	)]	=	6.35%
2	CWT	k	=	1.50%	+ [	1.10	x	(	10.40%	-	5.30%	)]	=	7.11%
3	SWWC	k	=	1.50%	+ [	1.00	x	(	10.40%	-	5.30%	)]	=	6.60%
4	WTR	k	=	1.50%	+ [	1.00	x	(	10.40%	-	5.30%	)]	=	6.60%
5	**WATER COMPANY AVERAGE**					1.01								**6.66%**
6	ATG	k	=	1.50%	+ [	0.75	x	(	10.40%	-	5.30%	)]	=	5.33%
7	ATO	k	=	1.50%	+ [	0.65	x	(	10.40%	-	5.30%	)]	=	4.82%
8	LG	k	=	1.50%	+ [	0.65	x	(	10.40%	-	5.30%	)]	=	4.82%
9	NJR	k	=	1.50%	+ [	0.70	x	(	10.40%	-	5.30%	)]	=	5.07%
10	GAS	k	=	1.50%	+ [	0.70	x	(	10.40%	-	5.30%	)]	=	5.07%
11	NWN	k	=	1.50%	+ [	0.60	x	(	10.40%	-	5.30%	)]	=	4.56%
12	PNY	k	=	1.50%	+ [	0.70	x	(	10.40%	-	5.30%	)]	=	5.07%
13	SJI	k	=	1.50%	+ [	0.75	x	(	10.40%	-	5.30%	)]	=	5.33%
14	SWX	k	=	1.50%	+ [	0.75	x	(	10.40%	-	5.30%	)]	=	5.33%
15	WGL	k	=	1.50%	+ [	0.75	x	(	10.40%	-	5.30%	)]	=	5.33%
16	**NATURAL GAS LDC AVERAGE**					0.70								**5.07%**

REFERENCES:
COLUMN (A): SHARPE LITNER CAPITAL ASSET PRICING MODEL ("CAPM") FORMULA

$$k = r_f + [\, ß\, (r_m - r_f)\,]$$

WHERE: k = THE EXPECTED RETURN ON A GIVEN SECURITY
r_f = RATE OF RETURN ON A RISK FREE ASSET PROXY (a)
ß = THE BETA COEFFICIENT OF A GIVEN SECURITY
r_m = PROXY FOR THE MARKET RATE OF RETURN (b)

COLUMN (B): EXPECTED RATE OF RETURN USING THE CAPM FORMULA

NOTES

(a) THE YIELD ON A 5-YEAR TREASURY INSTRUMENT THAT APPEARED IN VALUE LINE INVESTMENT SURVEY'S "SELECTION & OPINIONS" PUBLICATION ON 01/02/2009 WAS USED AS A RISK FREE RATE OF RETURN.

(b) THE MARKET RATE PROXY USED WAS THE GEOMETRIC MEAN FOR S&P 500 RETURNS LESS THE RETURNS ON INTERMEDIATE TERM TREASURIES OVER THE 1926 - 2007 PERIOD. THE DATA WAS OBTAINED FROM MORNINGSTAR, INC.'S STOCKS, BONDS, BILLS AND INFLATION: 2008 YEARBOOK.

ARIZONA-AMERICAN WATER COMPANY
TEST YEAR ENDED DECEMBER 31, 2006
CAPM COST OF EQUITY CAPITAL

DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
SCHEDULE WAR - 7, PAGE 2 OF 2

BASED ON AN ARITHMETIC MEAN:

LINE NO.	STOCK SYMBOL	k	=	r_f	+ [	(A) ß	x	(	r_m	-	r_f	)]	=	(B) EXPECTED RETURN
1	AWR	k	=	1.50%	+ [	0.95	x	(	12.30%	-	5.50%	)]	=	7.96%
2	CWT	k	=	1.50%	+ [	1.10	x	(	12.30%	-	5.50%	)]	=	8.98%
3	SWWC	k	=	1.50%	+ [	1.00	x	(	12.30%	-	5.50%	)]	=	8.30%
4	WTR	k	=	1.50%	+ [	1.00	x	(	12.30%	-	5.50%	)]	=	8.30%
5	WATER COMPANY AVERAGE					1.01								8.39%
6	ATG	k	=	1.50%	+ [	0.75	x	(	12.30%	-	5.50%	)]	=	6.60%
7	ATO	k	=	1.50%	+ [	0.65	x	(	12.30%	-	5.50%	)]	=	5.92%
8	LG	k	=	1.50%	+ [	0.65	x	(	12.30%	-	5.50%	)]	=	5.92%
9	NJR	k	=	1.50%	+ [	0.70	x	(	12.30%	-	5.50%	)]	=	6.26%
10	GAS	k	=	1.50%	+ [	0.70	x	(	12.30%	-	5.50%	)]	=	6.26%
11	NWN	k	=	1.50%	+ [	0.60	x	(	12.30%	-	5.50%	)]	=	5.58%
12	PNY	k	=	1.50%	+ [	0.70	x	(	12.30%	-	5.50%	)]	=	6.26%
13	SJI	k	=	1.50%	+ [	0.75	x	(	12.30%	-	5.50%	)]	=	6.60%
14	SWX	k	=	1.50%	+ [	0.75	x	(	12.30%	-	5.50%	)]	=	6.60%
15	WGL	k	=	1.50%	+ [	0.75	x	(	12.30%	-	5.50%	)]	=	6.60%
16	NATURAL GAS LDC AVERAGE					0.70								6.26%

REFERENCES:
COLUMN (A): SHARPE LITNER CAPITAL ASSET PRICING MODEL ("CAPM") FORMULA

$$k = r_f + [ß (r_m - r_f)]$$

WHERE: k = THE EXPECTED RETURN ON A GIVEN SECURITY
r_f = RATE OF RETURN ON A RISK FREE ASSET PROXY (a)
ß = THE BETA COEFFICIENT OF A GIVEN SECURITY
r_m = PROXY FOR THE MARKET RATE OF RETURN (b)

COLUMN (B): EXPECTED RATE OF RETURN USING THE CAPM FORMULA

NOTES

(a) THE YIELD ON A 5-YEAR TREASURY INSTRUMENT THAT APPEARED IN VALUE LINE INVESTMENT SURVEY'S "SELECTION & OPINIONS" PUBLICATION ON 01/02/2009 WAS USED AS A RISK FREE RATE OF RETURN.

(b) THE MARKET RATE PROXY USED WAS THE ARITHMETIC MEAN FOR S&P 500 RETURNS LESS THE RETURNS ON INTERMEDIATE TERM TREASURIES OVER THE 1926 - 2007 PERIOD. THE DATA WAS OBTAINED FROM MORNINGSTAR, INC.'S STOCKS, BONDS, BILLS AND INFLATION: 2008 YEARBOOK.

ARIZONA-AMERICAN WATER COMPANY
TEST YEAR ENDED DECEMBER 31, 2006
ECONOMIC INDICATORS - 1990 TO PRESENT

DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
SCHEDULE WAR - 8

LINE NO.	YEAR	(A) CHANGE IN CPI	(B) CHANGE IN GDP (1996 $)	(C) PRIME RATE	(D) FED. DISC. RATE	(E) FED. FUNDS RATE	(F) 91-DAY T-BILLS	(G) 30-YR T-BONDS	(H) A-RATED UTIL. BOND YIELD	(I) Baa-RATED UTIL. BOND YIELD
1	1990	5.39%	1.90%	10.01%	6.98%	8.10%	7.50%	7.49%	9.86%	10.06%
2	1991	4.25%	-0.20%	8.46%	5.45%	5.69%	5.38%	5.38%	9.36%	9.55%
3	1992	3.03%	3.30%	6.25%	3.25%	3.52%	3.43%	3.43%	8.69%	8.86%
4	1993	2.96%	2.70%	6.00%	3.00%	3.02%	3.00%	3.00%	7.59%	7.91%
5	1994	2.61%	4.00%	7.14%	3.60%	4.21%	4.25%	4.25%	8.31%	8.63%
6	1995	2.81%	2.50%	8.83%	5.21%	5.83%	5.49%	5.49%	7.89%	8.29%
7	1996	2.93%	3.70%	8.27%	5.02%	5.30%	5.01%	5.01%	7.75%	8.17%
8	1997	2.34%	4.50%	8.44%	5.00%	5.46%	5.06%	5.06%	7.60%	8.12%
9	1998	1.55%	4.20%	8.35%	4.92%	5.35%	4.78%	4.78%	7.04%	7.27%
10	1999	2.19%	4.50%	7.99%	4.62%	4.97%	4.64%	4.64%	7.62%	7.88%
11	2000	3.38%	3.70%	9.23%	5.73%	6.24%	5.82%	5.82%	8.24%	8.36%
12	2001	2.83%	0.80%	6.92%	3.41%	3.88%	3.40%	5.95%	7.59%	8.02%
13	2002	1.59%	1.60%	4.67%	1.17%	1.67%	1.61%	5.38%	7.41%	7.98%
14	2003	2.27%	2.50%	4.12%	2.03%	1.13%	1.01%	4.92%	6.18%	6.64%
15	2004	2.68%	3.60%	4.34%	2.34%	1.35%	1.37%	5.03%	5.77%	6.20%
16	2005	3.39%	2.90%	6.16%	4.19%	3.22%	3.15%	4.57%	5.38%	5.78%
17	2006	3.24%	2.80%	7.97%	5.96%	4.97%	4.73%	4.91%	5.94%	6.30%
18	2007	2.85%	2.00%	8.05%	5.86%	5.02%	4.36%	4.84%	6.07%	6.24%
19	CURRENT	4.55%	-0.50%	3.25%	0.50%	0.00% - 0.25%	0.01%	2.63%	5.90%	7.07%

REFERENCES:
COLUMN (A): 1990 - CURRENT, U.S. DEPARTMENT OF LABOR, BUREAU OF LABOR STATISTICS WEB SITE
COLUMN (B): 1990 - CURRENT, U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS WEB SITE
COLUMN (C) THROUGH (G): 1990 - 2003, FEDERAL RESERVE BANK OF ST. LOUIS WEB SITE
COLUMN (C) THROUGH (D): CURRENT, THE VALUE LINE INVESTMENT SURVEY, DATED 01/02/2009
COLUMN (F) THROUGH (I): CURRENT, THE VALUE LINE INVESTMENT SURVEY, DATED 01/02/2009
COLUMN (H) THROUGH (I): 1990 - 2000, MOODY'S PUBLIC UTILITY REPORTS
COLUMN (H) THROUGH (I): 2001, MERGENT 2002 PUBLIC UTILITY MANUAL
COLUMN (H) THROUGH (I): 2003 MERGENT NEWS REPORTS

ARIZONA-AMERICAN WATER COMPANY
TEST YEAR ENDED DECEMBER 31, 2006
CAPITAL STRUCTURES OF SAMPLE COMPANIES

DOCKET NO. W-01303A-08-0227
DOCKET NO. SW-01303A-08-0227
SCHEDULE WAR - 9

AVERAGE CAPITAL STRUCTURES OF SAMPLE WATER COMPANIES

LINE NO.		AWR	PCT.	CWT	PCT.	SWWC	PCT.	WTR	PCT.	WATER COMPANY AVERAGE	PCT.
1	DEBT	$ 267.2	46.9%	$ 289.2	42.6%	$ 66.8	29.6%	$ 1,215.0	55.4%	$ 459.6	50.2%
2											
3	PREFERRED STOCK	0.0	0.0%	3.5	0.5%	0.5	0.2%	0.0	0.0%	1.0	0.1%
4											
5	COMMON EQUITY	302.1	53.1%	385.7	56.9%	158.7	70.2%	976.3	44.6%	455.7	49.7%
6											
7	TOTALS	$ 569.3	100%	$ 678.4	100%	$ 226.0	100%	$ 2,191.3	100%	$ 916.2	100%

AVERAGE CAPITAL STRUCTURES OF SAMPLE NATURAL GAS COMPANIES

LINE NO.											
1		ATG	PCT.	ATO	PCT.	LG	PCT.	NJR	PCT.	GAS	PCT.
2											
3	DEBT	$ 1,674.0	50.2%	$ 1,602.4	42.3%	$ 355.5	45.3%	$ 383.1	37.3%	$ 502.2	34.7%
4											
5	PREFERRED STOCK	0.0	0.0%	0.0	0.0%	0.6	0.1%	0.0	0.0%	0.6	0.0%
6											
7	COMMON EQUITY	1,661.0	49.8%	2,183.1	57.7%	428.4	54.6%	644.8	62.7%	945.2	65.3%
8											
9	TOTALS	$ 3,335.0	100%	$ 3,785.5	100%	$ 784.5	100%	$ 1,027.9	100%	$ 1,448.0	100%
10											
11											
12		NWN	PCT.	PNY	PCT.	SJI	PCT.	SWX	PCT.	WGL	PCT.
13											
14	DEBT	$ 517.0	46.5%	$ 1,020.4	53.7%	$ 358.0	42.7%	$ 1,275.1	54.1%	$ 637.3	38.7%
15											
16	PREFERRED STOCK	0.0	0.0%	0.0	0.0%	0.0	0.0%	100.0	4.2%	28.2	1.7%
17											
18	COMMON EQUITY	594.8	53.5%	878.4	46.3%	481.0	57.3%	983.7	41.7%	980.8	59.6%
19											
20	TOTALS	$ 1,111.8	100%	$ 1,898.8	100%	$ 839.0	100%	$ 2,358.8	100%	$1,646.3	100%
21											
22											
23		NATURAL GAS LDC				WATER & LDC					
24		AVERAGE	PCT.			AVERAGE	PCT.				
25											
26	DEBT	$ 832.5	45.7%			$ 646.0	47.2%				
27											
28	PREFERRED STOCK	12.9	0.7%			6.5	0.5%				
29											
30	COMMON EQUITY	978.1	53.6%			716.9	52.4%				
31											
32	TOTALS	$ 1,823.6	100%			$ 1,369.4	100%				

REFERENCE:
MOST RECENT SEC 10-K FILINGS OR ANNUAL REPORTS

EXHIBIT
R-2
ADMITTED

ARIZONA-AMERICAN WATER COMPANY

DOCKET NO. W-01303A-08-0227

DOCKET NO. SW-01303A-08-0227

COST OF CAPITAL

SURREBUTTAL TESTIMONY

OF

WILLIAM A. RIGSBY, CRAA

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

MARCH 3, 2009

TABLE OF CONTENTS

INTRODUCTION 1

SUMMARY OF ARIZONA-AMERICAN'S REBUTTAL TESTIMONY 2

CAPITAL STRUCTURE 3

COST OF DEBT 4

COST OF EQUITY CAPITAL 4

INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My name is William A. Rigsby. I am a Public Utilities Analyst V employed by the Residential Utility Consumer Office ("RUCO") located at 1110 W. Washington, Suite 220, Phoenix, Arizona 85007.

Q. Please state the purpose of your surrebuttal testimony.

A. The purpose of my testimony is to respond to Arizona-American Water Company Inc.'s ("Arizona-American" or "Company") rebuttal testimony on RUCO's recommended rate of return on invested capital (which includes RUCO's recommended capital structure, cost of debt and cost of common equity) for seven of the Company's water and wastewater operations in the state of Arizona.

Q. Have you filed any prior testimony in this case on behalf of RUCO?

A. Yes, on January 9, 2009, I filed direct testimony with the Arizona Corporation Commission ("ACC" or "Commission") on both the policy issues and the cost of capital issues associated with this case.

Q. How is your surrebuttal testimony on cost of capital organized?

A. My surrebuttal testimony contains five parts: the introduction that I have just presented; a summary of Arizona-American's rebuttal testimony; a

section on capital structure; a section on the cost of debt; and, a section on the cost of equity capital.

SUMMARY OF ARIZONA-AMERICAN'S REBUTTAL TESTIMONY

Q. Have you reviewed Arizona-American's rebuttal testimony?

A. Yes. I have reviewed the rebuttal testimony, filed on February 10, 2009, of Company witnesses Thomas M. Broderick and Bente Villadsen, Ph.D. Both Mr. Broderick and Dr. Villadsen address the cost of capital issues in this case.

Q. Please summarize Mr. Broderick's rebuttal testimony.

A. Mr. Broderick's rebuttal testimony argues that short-term debt should be excluded from Arizona-American's capital structure. He also presents information regarding the stated rate of interest on a recent debt issuance for a Texas-American subsidiary.

Q. Please summarize Dr. Villadsen's rebuttal testimony.

A. Dr. Villadsen's rebuttal testimony explains why my cost of equity figure should not be adopted by the Commission. Dr. Villadsen is critical of both my discounted cash flow ("DCF") method and CAPM or, as Dr. Villadsen refers to it, the "risk positioning method," analyses that I conducted in order to arrive at my recommended cost of common equity for Arizona-American in this case. Dr. Villadsen takes issue with certain assumptions

that I have incorporated into my DCF model, my reliance on a geometric mean, and the various inputs used in my CAPM model. Dr. Villadsen further believes that my cost of equity figure does not take into account the recent debt issuance for a Texas-American subsidiary noted above.

CAPITAL STRUCTURE

Q. What capital structures are the parties to the case presently recommending?

A. The parties to the case are presently recommending the following:

	Company	ACC Staff	RUCO
Short-Term Debt		10.98%	
Long-Term Debt	53.25%	47.70%	55.20%
Equity	46.75%	41.62%	44.80%

RUCO has not made any changes to its recommended blanket capital structure which was based on the Company's response to ACC Staff data request PMC 15.1 dated October 10, 2008.

COST OF DEBT

Q. Please compare the costs of debt being recommended by the parties to the case.

A. With regard to the cost of short-term debt, Mr. Parcell is recommending a cost of 5.367 percent. The parties to the case are presently recommending the following costs of long-term debt:

Arizona-American	5.468%
ACC Staff	5.463%
RUCO	5.460%

COST OF EQUITY CAPITAL

Q. What costs of equity capital are the parties to the case recommending?

A. The costs of common equity presently being recommended by the parties to the case are as follows:

Arizona-American	11.75%
ACC Staff	10.00%
RUCO	8.88%

...

Q. What are the weighted costs of capital presently recommended by the parties to the case?

A. The weighted costs of capital presently recommended by the parties to the case are as follows:

Arizona-American	8.40%
ACC Staff	7.34%
RUCO	7.00%

As can be seen above, there is presently a 140 basis point difference between the Company-proposed 8.40 percent weighted cost of capital and RUCO's recommended weighted cost of capital of 7.00 percent. RUCO and ACC Staff's recommended weighted costs of capital fall within 34 basis points of each other.

Q. Has there been any recent activity in regard to interest rates?

A. Yes. On January 28, 2009, the Federal Reserve decided not to increase or decrease the federal funds rate and kept it between zero and 0.25 percent. According to an Associated Press article[1] that appeared on MSNBC.com, the Fed's action was based on some recent weakening of the economy. According to the Fed's statement that was released after

[1] Associated Press, "Fed, citing weak economy, holds rates fast," MSNBC.com, January 28, 2009

the decision was made to sit still on rates, all but one of the members of the Federal Open Market Committee believed the deteriorating condition of the U.S. economy warranted that no change be made in the key interest rate. The Fed also stated that it intended to keep the federal funds rate low for quite "some time."

Q. Have you made any changes to the 8.88 percent cost of common equity that you recommended in your direct testimony?

A. No.

Q. Has Dr. Villadsen made any changes to her recommended 11.75 percent cost of equity capital based on this new information?

A. No. Dr. Villadsen continues to advocate the same 11.75 percent return on common equity based on market information that was available at the time of her original filing in May 2008. Her 11.75 percent estimate was derived from the same after tax weighted average cost of capital ("ATWACC") method that has been rejected by the Commission in every Arizona-American rate case proceeding that the Brattle Group has testified in.

...

Q. Please address Dr. Villadsen's argument that your recommended cost of equity is too low given the fact that Arizona-American's lending subsidiary recently issued debt for a Texas-American subsidiary with an interest rate of 10.00 percent.

A. I disagree that a single debt issuance at a particular point in time should be the sole reason for increasing my recommended cost of equity. Particularly at a time when Value Line has taken the position that water utility stocks are attractive to investors given the current economic climate. In the most recent Value Line update on the water utility industry, dated January 23, 2009, Value Line analyst Andre J. Costanza had this to say:

> "Not much has changed in the Water Utility Industry since our October report. Stocks here have held their ground for the most part, whereas the broader market continued to struggle with ongoing economic uncertainty. Although an improving regulatory environment has played a hand, the industry is really benefiting from the its perceived safety, stemming from the necessity of water itself as well as the steady stream of income that the stocks here generate. The group as a whole ranks near the top of the Value Line Investment Survey for Timeliness and should continue to do well over the next six to 12 months, as investors look for a place to ride out the economic turbulence that is likely to persist."

Mr. Costanza further stated:

> "Now more than ever we believe that initiating a position in the Water Utility industry may be prudent. Although the 3- to 5-year prospects of these stocks pale in comparison to the *Value Line* median, projections for many outside the industry are counting on an economic recovery. However, there is no turnaround in sight and a timeline for such a scenario continues to elude Wall Street. That said, water utility stocks are likely to continue to do well regardless of the economic backdrop because water is and will always be a necessity. Even still, it is important to remember that the individual reports of each stock should be carefully reviewed before making a financial commitment. On that note, however, we believe that *California Water Services* is an interesting candidate, given its Above Average (2) ranking for Timeliness. *American Water Works*

> continues to intrigue us, too, but its short trading history makes it a speculative play. Meanwhile, *Aqua America's* M&A strategy gives it the most upside in our opinion, despite adding more risk."

Despite the fact that Arizona-American's parent, American Water Works, is viewed as speculative, it is still one of several water utilities that Mr. Costanza considers to be a good choice for investor's portfolios in uncertain economic times. Based on this information, I would say that no upward adjustment to my cost of equity figure is needed considering that water utility stocks are currently in demand.

Q. Are there other reasons you can cite as to why you think that a higher return is not needed to attract investors?

A. Yes. One has to take into consideration that the investment community at large is well aware of the fact that regulated utilities, such as Arizona-American, are indeed different from non-regulated entities in terms of how they recover their costs. This information is taken into account when institutions and individual investors make their decisions on where to place their funds. The best example of this can be seen in an MSN Money/CNBC article[2] authored by Jon D. Markman, a weekly columnist for CNBC (Attachment A). In his article, Mr. Markman pitched his suggestions for investing in what some believe to be a coming global water shortage. In regard to domestic utilities, Markman had this to say:

[2] Markman, Jon D, "Invest in the Coming Global Water Shortage," MSN.com, January 12, 2005, http://moneycentral.msn.com/content/P102152.asp.

> "Virtually all of the U.S. water utility stocks are regulated by states and counties, which makes them pretty dull. Governmental entities typically give utilities a monopoly in a geographic region, then set their profit margin a smidge above costs. Just about the only distinguishing factor among them are the growth rates of their regions and their ability to efficiently manage their underground pipe and pumping infrastructure."

Q. Please address Dr. Villadsen's position that you have failed to make a 50 basis point upward adjustment to your recommended cost of equity as you have in prior cases.

A. It is true that I have not made either a direct upward adjustment to my recommended cost of common equity or recommend a hypothetical capital structure to provide the Company with a higher weighted average cost of common equity. In prior Arizona-American cases before the Commission I have stated that I believed that a good argument could be made not to make such adjustments since regulated utilities have the ability to file for rate increases as opposed to competitive firms that have no such option. It is also no secret that the Commission has recently signaled that the use of methods such as hypothetical capital structures should not be prolonged if utilities make no progress toward improving their levels of equity. Quite frankly, I believe that, given the fact that water utilities are actually attractive in the current economic climate, ratepayers should not have to subsidize utilities through equity risk adjustments or hypothetical capital structures. In short, if Arizona-American wants higher

rates of return, it should start trying to improve the level of equity in its capital structure by issuing less debt.

Q. Do you accept the modifications that Dr. Villadsen has made to the DCF results that you presented in your direct testimony?

A. No.

Q. Please respond to Dr. Villadsen's criticism that your DCF estimates of external growth are also biased downward.

A. Dr. Villadsen has taken issue with my calculation of "v" for the external growth rate estimate portion of the DCF's growth component. This calculation takes into consideration the fact that, while in theory a utility's stock price should move toward a market to book ratio of 1.0 if regulators authorize a rate of return that is equal to a utility's cost of capital, in reality a utility will continue to issue shares of stock that are priced above book value.

As I explained on page 16 of my direct testimony, this same assumption was incorporated into the DCF analysis performed by Mr. Stephen Hill, ACC Staff's cost of cost of capital witness, in a prior Southwest Gas rate case proceeding. Mr. Hill used the same methods that I have used in arriving at the inputs for his DCF model. His final recommendation for Southwest Gas Corporation, which was adopted by the Commission, was largely based on the results of his DCF analysis, which incorporated the

same valid market-to-book ratio assumption that I have used consistently in cases before the Commission.

Q. Please discuss Dr. Villadsen's criticism of your testimony, which asserts that one of the desired effects of regulation is to achieve a market-to-book ratio of 1.0 on the common stock of an investor-owned utility.

A. My direct testimony sets forth the premise that the market value of a utility's stock will tend to move toward book value, or a market-to-book ratio of 1.0, if regulators allow a rate of return that is equal to the cost of capital of firms with similar risk. This premise is recognized among practitioners who have testified in cost of capital proceedings[3].

Despite Dr. Villadsen's arguments presented on pages 31 through 34 of her rebuttal testimony, I believe that a utility's market price should equal its book price over the long run if regulators allow a rate of return that is equal to the utility's cost of capital. That is assuming that the utility's rate of return ("ROR") is comparable to the rates of return of other firms in the same risk class. I believe that a better explanation of this concept is one that I have used in the past and assumes that if a hypothetical utility's book price is $20.00 per share and regulators adopt a rate of return that is equal to the utility's cost of capital of 10.00 percent, the utility will earn $2.00 per share ("EPS"). With earnings of $2.00 per share, and a market required rate of return on equity of 10.00 percent, for firms in the utility's

[3] Carleton, Willard T. and Morin, Roger A.

risk class, the market price of the utility's stock will set at $20.00 per share ($2.00 EPS ÷ 10.00% ROR = $20.00 per share price). If the utility records earnings that are higher than the earnings of other firms with similar risk, the market value of the utility's shares will increase accordingly ($2.50 EPS ÷ 10.00% ROR = $25.00 per share). On the other hand, if the utility posts lower earnings, the stock's market price will fall below book value ($1.50 EPS ÷ 10.00% ROR = $15.00 per share).

Because of economic forces beyond the control of regulators, it is not reasonable to assume that the utility will have earnings that match those of firms of similar risk in every year of operation. In some years, earnings may drop causing the market-to-book ratio to fall below 1.0, while in other years the utility may have earnings that exceed those of other firms in its risk classification. However, over the long run the utility's earnings should average out to the earnings that are expected based on its level of risk. These average earnings over time will result in a market-to-book ratio of 1.0. A 1.0 ratio may never be achieved in practice and many investors may not even care what the market-to-book ratio is as long as they receive their required rate of return.

Q. Are there any other reasons why your market-to-book ratio calculation is valid?

A. Yes. SWWC, and for that matter each of the other utilities included in my sample, are engaged in unregulated activities to some degree. Because it

is difficult to obtain a sample comprised only of "pure play" utilities, the calculation that I have employed in my DCF model helps to eliminate the impact that those unregulated operating segments would have on the market-to-book ratio of the utilities included in my sample.

Q. Do you accept the modifications that Dr. Villadsen has made to the CAPM results that you presented in your direct testimony?

A. No.

Q. Please explain why Dr. Villadsen's criticism regarding the use of a geometric mean in your CAPM analysis is unfounded.

A. As I stated in my direct testimony there is an on-going debate as to which is the better average to rely on. However, it is important to recognize that the information on both means, published by Morningstar, is widely available to the investment community. For this reason alone I believe that the use of both means in a CAPM analysis is appropriate.

The best argument in favor of the geometric mean is that it provides a truer picture of the effects of compounding on the value of an investment when return variability exists. This is particularly relevant in the case of the return on the stock market, which has had its share of ups and downs over the 1926 to 2007 observation period used in my CAPM analysis.

Q. Can you provide an example to illustrate the differences between the two averages?

A. Yes. The following example may help. Suppose you invest $100 and realize a 20.0 percent return over the course of a year. So at the end of year 1, your original $100 investment is now worth $120. Now let's say that over the course of a second year you are not as fortunate and the value of your investment falls by 20.0 percent. As a result of this, the $120 value of your original $100 investment falls to $96. An arithmetic mean of the return on your investment over the two-year period is zero percent calculated as follows:

(year 1 return + year 2 return) ÷ number of periods =

(20.0% + -20.0%) ÷ 2 =

(0.0%) ÷ 2 = <u>0.0%</u>

The arithmetic mean calculated above would lead you to believe that you didn't gain or lose anything over the two-year investment period and that your original $100 investment is still worth $100. But in reality, your original $100 investment is only worth $96. A geometric mean on the other hand calculates a compound return of negative 2.02 percent as follows:

$$(\text{year 2 value} \div \text{original value})^{1/\text{number of periods}} - 1 =$$

$$(\$96 \div \$100)^{1/2} - 1 =$$

$$(0.96)^{1/2} - 1 =$$

$$(0.9798) - 1 =$$

$$-0.0202 = \underline{\underline{-2.02\%}}$$

The geometric mean calculation illustrated above provides a truer picture of what happened to your original $100 over the two-year investment period.

As can be seen in the preceding example, in a situation where return variability exists, a geometric mean will always be lower than an arithmetic mean, which probably explains why utility consultants typically put up a strenuous argument against the use of a geometric mean.

Q. Can you cite any other evidence that supports your use of both a geometric and an arithmetic mean?

A. Yes. In the third edition of their book, Valuation: Measuring and Managing the Value of Companies, authors Tom Copeland, Tim Koller and Jack Murrin ("CKM") make the point that, while the arithmetic mean has been regarded as being more forward-looking in determining market risk premiums, a true market risk premium may lie somewhere between the arithmetic and geometric averages published in Morningstar's SBBI yearbook.

Q. Please explain.

A. In order to believe that the results produced by the arithmetic mean are appropriate, you have to believe that each return possibility included in the calculation is an independent draw. However, research conducted by CKM demonstrates that year-to-year returns are not independent and are actually auto correlated (i.e. a relationship that exists between two or more returns, such that when one return changes, the other, or others, also change), meaning that the arithmetic mean has less credence. CKM also explains two other factors that would make the Morningstar arithmetic mean too high. The first factor deals with the holding period. The arithmetic mean depends on the length of the holding period and there is no "law" that says that holding periods of one year are the "correct" measure. When longer periods (e.g. 2 years, 3 years etc.) are observed, the arithmetic mean drops about 100 basis points. The second factor deals with a situation known as survivor bias. According to CKM, this is a well-documented problem with the Morningstar historical return series in that it only measures the returns of successful firms. That is, those firms that are listed on stock exchanges. The Morningstar historical return series does not measure the failures, of which there are many. Therefore, the return expectations in the future are likely to be lower than the Morningstar historical averages. After conducting their analysis, CKM conclude that 4.0 percent to 5.5 percent is a reasonable forward-looking market risk premium. Adding the current yield of a 5-year Treasury

instrument (Attachment B) of 1.80 percent to these two estimates indicate a cost of equity of 5.80 percent to 7.30 percent which is 308 to 158 basis points less than my recommended cost of equity of 8.88 percent. Given the fact that utilities generally exhibit less risk than industrials, a return in the low end of this range could be considered reasonable.

Q. Can you name any other sources that support CKM's conclusion that 4.0 percent to 5.5 percent is a reasonable market risk premium on a forward-looking basis?

A. Yes. During the 39th annual Financial Forum of the Society of Utility and Regulatory Financial Analysts, which was held at Georgetown University in Washington D.C. on April 19 and 20, 2007, I had the opportunity to hear the views of Aswarth Damodaran, Ph. D. and Felicia C. Marston, Ph. D., professors of finance from New York University and the University of Virginia respectively, who have conducted empirical research on this subject. Dr. Damodaran and Dr. Marston supported CKM's 4.0 to 5.5 percent estimates during a panel discussion that provided both professors with the opportunity to explain their research on the equity risk premium and to answer questions from other financial analysts in attendance. Each of the panelists[4] stated that they believed that a reasonable market risk

[4] Other analysts taking part in the panel discussion included Stephen G. Hill, CRRA, Principal, Hill Associates and moderator Farris M. Maddox, Principal Financial Analyst, Virginia State Corporation Commission.

premium fell between 4.0 percent and 5.0 percent when asked to provide estimates based on their research.

Q. If market risk premiums of 4.0 percent to 5.0 percent were used in your CAPM model what would the results be?

A. Using market risk premiums (r_m - r_f) of 4.0 percent to 5.0 percent in my CAPM model, using a proxy of water companies, produces the following expected returns (k):

<u>Water Company Sample using 4.0 percent</u>

$$k = r_f + [\, ß\, (r_m - r_f)\,]$$

$$k = 1.50\% + [\, 1.01\, (4.0\%)\,]$$

$$k = 5.54\%$$

<u>Water Company Sample using 5.0 percent</u>

$$k = r_f + [\, ß\, (r_m - r_f)\,]$$

$$k = 1.50\% + [\, 1.01\, (5.0\%)\,]$$

$$k = 6.55\%$$

As can be seen above, my CAPM model, using a water company sample average beta (ß) of 1.01 and the yield on a 5-year Treasury instrument of 1.50 percent for the risk free rate of return (r_f), produces an expected return (k) of 5.54 percent to 6.55 percent. My LDC sample, using an

average beta of 0.70, produces expected returns of 4.30 percent to 5.00 percent. All of which makes my revised recommended 8.88 percent cost of common equity appear to be generous.

Q. Are you revising your cost of equity figure based on the higher yield on the 5-year Treasury yield that you noted above?

A. No. Despite the 30 basis point difference in the 5-year Treasury yield, the risk premiums of 5.10 percent to 6.80 percent that I am using in my CAPM exceed the 4.0 percent to 5.50 percent risk premiums that are supported by the empirical research described above. For this reason I am not making any changes to my recommended 8.88 percent cost of equity capital.

Q. Has any of the rebuttal testimony presented by Mr. Broderick, Dr. Villadsen or any of the other witnesses for Arizona-American convinced you to make adjustments to your recommended cost of common equity?

A. No.

Q. Does your silence on any of the issues or positions addressed in the rebuttal testimony of the Company's witnesses constitute acceptance?

A. No, it does not.

Q. Does this conclude your surrebuttal testimony on Arizona-American?

A. Yes, it does.

ATTACHMENT A

Jon Markman

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Posted 1/12/2005

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Invest in the coming global water shortage

Fresh water's getting scarce, and it has no substitutes. For investors in companies that can supply our increasingly thirsty planet, that spells opportunity.

By Jon D. Markman

Ten years ago next Monday, a massive earthquake rolled under the Japanese city of Kobe at dawn, toppling 140,000 buildings, causing 300 major fires, killing more than 5,000 people and leaving 300,000 homeless.

To help cover the story for the L.A. Times, I left my wife to care for our 10-day-old daughter and 2-year-old son and flew into the city with a small team of Los Angeles-based trauma doctors and nurses. We found a surreal, smoking ruin of a city with roads twisted like coils of rope, high-rises tilted at Dr. Seuss angles and thousands of middle-class families jammed into dingy, ice-cold rooms in the few public buildings left standing.

Just as in the tsunami zone of South Asia this month, the immediate health danger, besides a possible outbreak of disease, was a lack of fresh water. More than 75% of the city's water supply was destroyed when underground pipes fractured. As much as they desired pallets of drugs, food, blankets and tents sent from throughout Japan and abroad, the Kobe survivors coveted -- and needed -- clean, bottled water for cooking, drinking and bathing.

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Both incidents are a stark reminder that water is our most precious resource. Because it is seemingly ubiquitous in the United States, it is taken for granted. Massive snowstorms in California this month have loaded up the snowpack that provides water there, and rains in the Southeast are filling reservoirs in that part of the country.

The rest of the world, however, is not so fortunate.

Not making any more water

There is no more fresh water on Earth today than there was a million years ago. Yet today, 6 billion people share it. Since 1950, the world population has doubled, but water use has tripled, notes John Dickerson, an analyst and fund manager based in San Diego. Unlike petroleum, he adds, no technological innovation can ever replace water.

China, which is undergoing a vast rural-to-urban population migration, is emblematic of the places where water has become scarce. It has about as much

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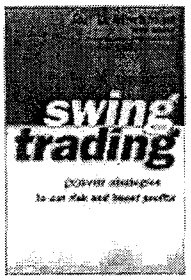

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water as Canada but 100 times more people. Per-capita water reserves are only about a fourth the global average, according to experts. Of its 669 cities, 440 regularly suffer moderate to critical water shortages.

Although not widely appreciated, water has been recognized by conservative investors as an investment opportunity -- and it has rewarded them. Over the past 10 years, the Media General water utilities index is up 133%, double the return of the **Dow Jones Utilities Index** ($UTIL). Over the past five years, water utilities are up 32% -- clobbering the flat returns of both the Dow Jones Utilities and the **Dow Industrials** ($INDU). One of water's key long-term value drivers as an investment, according to Dickerson: Demand is not affected by inflation, recession, interest rates or changing tastes.

Virtually all of the U.S. water utility stocks are regulated by states and counties, which makes them pretty dull. Governmental entities typically give utilities a monopoly in a geographic region, then set their profit margin a smidge above costs. Just about the only distinguishing factor among them are the growth rates of their regions and their ability to efficiently manage their underground pipe and pumping infrastructure. Among the best are **Aqua America** (WTR, news, msgs) of Philadelphia, **Southwest Water** (SWWC, news, msgs) of Los Angeles; **California Water Service Group** (CWT, news, msgs), based in San Jose, Calif.; and **American States Water** (AWR, news, msgs) of San Dimas, Calif.

In a moment, I'll offer a couple of potentially more impactful ways to invest in water, but first let's look a little more broadly at world demand.

Aquifers in India are being sucked dry

The tsunami has focused attention on water demand in South Asia -- and it's a good thing, as it was already reaching critical status in rural areas. Several decades ago, farmers in the Indian state of Gujarat used oxen to haul water in buckets from a few feet below the surface. Now they pump it from 1,000 feet below the surface. That may sound good, but they have been drawing water from the earth to feed a mushrooming population at such a terrific rate that ancient aquifers have been sucked dry -- turning once-fertile fields slowly into sand.

According to New Scientist magazine, farmers using crude oilfield technology in India have drilled 21 million "tube wells" into the strata beneath the fields, and every year millions more wells throughout the region -- all the way to Vietnam -- are being dug to service water-needy crops like rice and sugar cane. The magazine quoted research from the annual Stockholm Water Symposium that the pumps that transformed Indian farming are drawing 200 cubic kilometers of water to the surface each year, while only a fraction is replaced by monsoon

rains. At this rate, the research suggested, groundwater supplies in some areas will be exhausted in five to 10 years, and millions of Indians will see their farmland turned to desert.

In China, the magazine reported, 30 cubic kilometers more water is being pumped to the surface each year than is replaced by rain -- one of the reasons that the country has become dependent on grain imports from the West. This is not just an issue for agriculture. Earlier this year, the Indian state of Kerala ordered the **PepsiCo** (PEP, news, msgs) and **Coca-Cola** (KO, news, msgs) bottling plants closed due to water shortages, costing the companies millions of dollars.

In this country, shareholder activists already are lobbying companies to share water-dependency concerns worldwide with their stakeholders in their financial statements.

Water, water everywhere, but . . .

The central problem is that less than 2% of the world's ample store of water is fresh. And that amount is bombarded by industrial pollution, disease and cyclical shifts in rain patterns. Its increasing scarcity has impelled private companies and countries to attempt to lock up rights to key sources. In an article last month, the Christian Science Monitor suggested that the next decade may see a cartel of water-exporting countries rivaling the Organization of Petroleum Exporting Countries for dominance in the world economy.

"Water is blue gold; it's terribly precious," Maude Barlow, chair of the Council of Canadians, told the Monitor. "Not too far in the future, we're going to see a move to surround and commodify the world's fresh water. Just as they've divvied up the world's oil, in the coming century, there's going to be a grab."

Besides the domestic water utilities listed above -- and similarly plodding foreign utilities such as **United Utilities** (UU, news, msgs) of the United Kingdom, which sports a 6.9% dividend yield, and **Suez** (SZE, news, msgs) of France -- investors interested in the sector can consider a number of variant plays. None are extremely exciting, but my guess is that, over the next few years, some more interesting purification technologies will emerge, along with, perhaps, a vibrant attempt at worldwide industry consolidation.

One current idea is Tennessee-based copper pipe and valve maker **Mueller Industries** (MLI, news, msgs), a $1 billion business with a trailing price/earnings multiple of 15 that is still not expensive despite a 47% run-up in the past year. Its leading outside investor is **Berkshire Hathaway** (BRK.A, news, msgs), the

investment vehicle of legendary investor Warren Buffett.

Another is flow-control products maker **Watts Water Technologies** (WTS, news, msgs), which is a little richer at a $975 million market cap and a trailing P/E multiple of 19, but is still owned by several leading value managers, including Mario Gabelli.

And possibly the most interesting is **Consolidated Water** (CWCO, news, msgs), a $160 million company based in the Cayman Islands that specializes in developing and operating ocean-water desalinization plants and water-distribution systems in areas where natural supplies of drinking water are scarce, such as the Caribbean and South America. It currently supplies water to Belize, Barbados, the British Virgin Islands and the Bahamas, and it has expansion plans. It is the most expensive, but it may also have the greatest growth prospects. Of all of these, it is up the most over the past five years, a relatively steady 355%.

Of course, there is one other benefit to water investing: When these companies say they're going to do a dilutive deal, it's not something to worry about.

Fine Print

Dickerson runs a hedge fund in San Diego strictly focused on water investing, the Summit Water Equity Fund. . . To learn more about Southwest Water, click here. . . . To learn more about California Water Service Group, which runs systems in New Mexico, Hawaii and Washington State, as well as California, click here. . . . To learn more about American States Water, click here. . . To learn more about Mueller, click here, and, for Consolidated Water, click here. . . . Seems like talk is cheap. Since mid-December, the value of the company radio personality Howard Stern is leaving, **Viacom** (VIA.B, news, msgs), has risen 9% while the value of the company he's headed to, **Sirius Satellite Radio** (SIRI, news, msgs), is down 13.5%. . . . For background on the Kobe earthquake, approaching its 10th anniversary, click here and here.

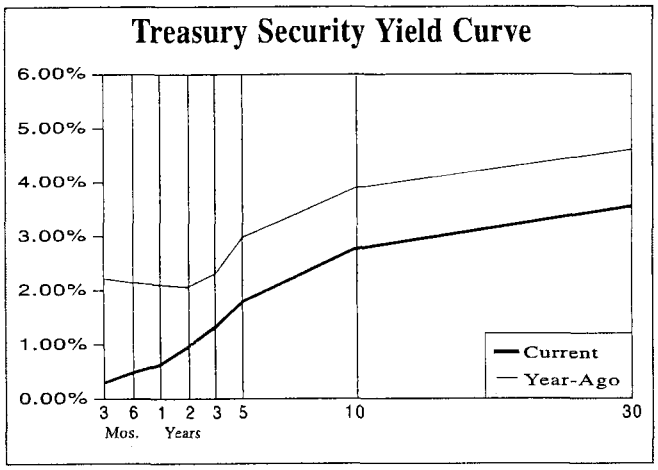
Jon D. Markman is publisher of StockTactics Advisor, an independent weekly investment newsletter, as well as senior strategist and portfolio manager at Pinnacle Investment Advisors. While he cannot provide personalized investment advice or recommendations, he welcomes column critiques and comments at jon.markman@gmail.com; put COMMENT in the subject line. At the time of publication he held positions in the following stocks mentioned in this column: Coca-Cola.

ATTACHMENT B

Selected Yields

	Recent (2/18/09)	3 Months Ago (11/19/08)	Year Ago (2/20/08)
TAXABLE			
Market Rates			
Discount Rate	0.50	1.25	3.50
Federal Funds	0.00-0.25	1.00	3.00
Prime Rate	3.25	4.00	6.00
30-day CP (A1/P1)	0.52	2.60	3.05
3-month LIBOR	1.25	2.17	3.08
Bank CDs			
6-month	0.87	1.59	2.20
1-year	1.20	1.95	2.19
5-year	2.14	3.32	2.82
U.S. Treasury Securities			
3-month	0.30	0.06	2.22
6-month	0.48	0.65	2.15
1-year	0.63	0.97	2.11
5-year	1.80	2.02	2.98
10-year	2.76	3.32	3.89
10-year (inflation-protected)	1.61	3.51	1.41
30-year	3.55	3.91	4.61
30-year Zero	3.43	3.92	4.76

	Recent (2/18/09)	3 Months Ago (11/19/08)	Year Ago (2/20/08)
Mortgage-Backed Securities			
GNMA 6.5%	4.05	5.82	5.10
FHLMC 6.5% (Gold)	3.92	5.73	5.31
FNMA 6.5%	3.78	5.67	5.09
FNMA ARM	3.90	3.90	5.19
Corporate Bonds			
Financial (10-year) A	8.33	8.73	5.82
Industrial (25/30-year) A	6.14	7.23	6.29
Utility (25/30-year) A	5.74	7.34	6.15
Utility (25/30-year) Baa/BBB	7.07	8.20	6.33
Foreign Bonds (10-Year)			
Canada	2.86	3.51	3.93
Germany	2.99	3.54	4.03
Japan	1.26	1.48	1.43
United Kingdom	3.39	4.04	4.69
Preferred Stocks			
Utility A	6.03	7.10	6.08
Financial A	13.57	7.94	7.00
Financial Adjustable A	5.52	5.52	5.52



	Recent (2/18/09)	3 Months Ago (11/19/08)	Year Ago (2/20/08)
TAX-EXEMPT			
Bond Buyer Indexes			
20-Bond Index (GOs)	4.89	5.14	4.47
25-Bond Index (Revs)	5.67	5.98	4.82
General Obligation Bonds (GOs)			
1-year Aaa	0.55	1.10	1.70
1-year A	0.65	1.20	1.80
5-year Aaa	1.85	2.84	2.80
5-year A	2.15	2.94	3.10
10-year Aaa	2.90	3.83	3.55
10-year A	3.40	4.03	3.84
25/30-year Aaa	4.72	5.20	4.64
25/30-year A	5.72	5.60	4.77
Revenue Bonds (Revs) (25/30-Year)			
Education AA	5.80	5.85	4.80
Electric AA	5.90	5.90	4.80
Housing AA	6.15	6.00	5.10
Hospital AA	6.10	6.10	5.15
Toll Road Aaa	5.95	5.95	4.80

Federal Reserve Data

BANK RESERVES
(Two-Week Period; in Millions, Not Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	2/11/09	1/28/09	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	611390	793044	-181654	716470	419399	218520
Borrowed Reserves	561332	565099	-3767	627457	505338	324816
Net Free/Borrowed Reserves	50058	227945	-177887	89012	-85939	-106296

MONEY SUPPLY
(One-Week Period; in Billions, Seasonally Adjusted)

	Recent Levels			Growth Rates Over the Last...		
	2/2/09	1/26/09	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1568.0	1548.2	19.8	11.6%	23.3%	13.6%
M2 (M1+savings+small time deposits)	8249.6	8277.4	-27.8	17.6%	14.8%	9.6%

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EXHIBIT
R-3
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

Arizona Corporation Commission
DOCKETED
JUN 30 2004
DOCKETED BY nr

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 SUN CITY WEST WATER AND WASTEWATER DISTRICTS.	DOCKET NO. WS-01303A-02-0867
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 SUN CITY WATER AND WASTEWATER DISTRICTS.	DOCKET NO. WS-01303A-02-0868
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 MOHAVE WATER DISTRICT AND ITS HAVASU WATER DISTRICT.	DOCKET NO. W-01303A-02-0869
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 ANTHEM WATER DISTRICT, ITS AGUA FRIA WATER DISTRICT, AND ITS ANTHEM/AGUA FRIA WASTEWATER DISTRICT.	DOCKET NO. WS-01303A-02-0870 DECISION NO. 67093 **OPINION AND ORDER**

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 TUBAC WATER DISTRICT.

DOCKET NO. W-01303A-02-0908

DATE OF HEARING:	November 5, 12, 13 and 18 (Public Comment); December 1 (Pre-Hearing), 4, 5, 8, 9, 10, 11, 12, 22 and 23, 2003.
PLACE OF HEARING:	Anthem, Surprise, Sun City, Bullhead City, Lake Havasu City and Tubac, Arizona (Public Comment); Phoenix, Arizona.
ADMINISTRATIVE LAW JUDGE:	Teena Wolfe
IN ATTENDANCE:	Chairman Marc Spitzer Commissioner William A. Mundell Commissioner Jeff Hatch-Miller Commissioner Mike Gleason Commissioner Kristin K. Mayes
APPEARANCES:	Mr. Jay L. Shapiro and Mr. Norman D. James, FENNEMORE CRAIG, P.C., on behalf of Arizona-American Water Company, Inc.; Mr. Walter W. Meek, President, Arizona Utility Investors Association; Mr. Frank J. Grimmelmann, in propria persona; Mr. Raymond E. Dare, President, Sun City Taxpayers Association; Mr. Paul R. Michaud, Mr. Larry K. Udall and Mr. William P. Sullivan, MARTINEZ & CURTIS, P.C., on behalf of the Town of Youngtown; Mr. Robert Taylor and Mr. Kenneth C. Sundlof, Jr., JENNINGS, STROUSS & SALMON, P.L.C., on behalf of Sun Health Corporation; Mr. Daniel Pozefsky on behalf of the Residential Utility Consumer Office; and Mr. Timothy J. Sabo, Mr. Gary H. Horton, Mr. Jason Gellman, Staff Attorneys, Legal Division, and Ms. Janice Alward, Assistant Chief Counsel, Legal Division, on behalf of the Utilities Division of the Arizona Corporation Commission.

accounting purposes (Exh. A-65 at 20; Exh. A-74 at 9-10, 14). In this proceeding, the Company has not attempted to prove the net benefits as required by Decision No. 63584; is not requesting recovery of its recorded acquisition adjustment; and states that it has not included an acquisition adjustment in its RCND rate base computation (Exh. A-74 at 10-11). Staff testified that if in the future Arizona-American requests recognition of an acquisition adjustment, the effect of lost accumulated deferred income credits of $4.6 million and investment tax credits of $1.9 million must be accounted for in the calculation of "net benefits" as required by Decision No. 63584, because the effect of the elimination of these items in the transfer of assets from Arizona-American to Citizens was an increase to rate base (Exh. S-47 at 20-21).

The Company requests authority at this time to deviate from the standard straight-line amortization accounting treatment of the recorded acquisition adjustment balance, and instead use a mortgage-style amortization method over 40 years (Exh. A-65 at 20). Arizona-American argues on brief that this would be beneficial because (1) the amount available for recovery in a future rate case, if requested, would be smaller; and (2) extinguishment of the acquisition adjustment from the Company's books would reduce controversy as to whether the adjustment constitutes an "original cost" if the utility were sold again in the future.

Staff's witness testified that until the acquisition adjustment is recognized, there is no asset to amortize (Tr. at 1492). We agree, and find that it is premature to consider the Company's amortization request in this proceeding.

II. RATE BASE

A. Plant in Service

1. Accumulated Depreciation on Unidentified and Not Used and Useful Plant

In aggregate for the ten Districts, Staff proposed an adjustment removing $2,270,531 from plant the Company recorded at the end of the test year. The adjustment included removal of a total of $1,737,746 of not-used-and-useful plant, with a corresponding $543,880 reduction to Accumulated Depreciation; and a total of $272,649 of unidentified plant, with a corresponding $109,792 reduction to Accumulated Depreciation. Arizona-American accepted Staff's plant-in-service adjustments, with its own adjustments to comport with its method of common plant allocations for each District based

on year-end customer counts. The Company did not, however, accept all of Staff's adjustments to Accumulated Depreciation related to the not-used-and-useful and unidentified plant amounts. The Company states that Staff correctly removed the accumulated depreciation through December 31, 2001 on unidentified plant that was never afforded rate base treatment. The Company asserts, however, that not-used-and-useful plant that was never previously given rate base treatment should now be treated as abandoned. Treating such plant as abandoned would require that accumulated depreciation on that plant through December 31, 2001 also be removed from Accumulated Depreciation. The Company further asserts that unidentified plant and not-used-and-useful plant that was previously given rate base treatment should now be treated as retired, which would require Accumulated Depreciation to be reduced by the full original cost of that plant. The Company believes that a total additional $438,000 should be removed from Accumulated Depreciation.

Arizona-American argues that it only recently took ownership and simply could not have assessed the "usefulness" of every plant item before filing these consolidated applications; that it was Citizens' inaction that caused the plant to be improperly recorded as plant-in-service; and that if plant cannot be identified, the Company cannot attempt to place it back in service (Exh. A-24 at 5). Staff asserts that Arizona-American became fully responsible for the Citizens' assets, and any related records, upon closing of the sale; that it presumably conducted a due diligence investigation of the assets before buying them; and that Arizona-American should be held responsible for any inadequate Citizens records. Staff contends that in order to retire an asset, the asset's salvage value must be calculated, and that a retired asset must be shown as retired on a company's books.

We agree with Staff that Arizona-American became fully responsible for the Citizens assets, and any related records, upon closing of the sale. The Company did not demonstrate that the plant items in question were retirements. It did not calculate the salvage value of the assets for which the Company seeks retirement treatment (Tr. at 163), and did not know whether the assets in question were shown as retired on Arizona-American's books (Tr. at 220). Staff's accumulated depreciation treatment on the not-used-and-useful and unidentified plant was logical and appropriate. We will therefore accept Staff's adjustments to Plant in Service and corresponding adjustments to Accumulated Depreciation.

2. Half-Year Convention

The Company believes that RUCO's proposed use of the half-year convention would understate the Company's plant balances and rate base. Arizona-American already employs a half-month convention, whereby a plant item is treated as being placed in service on the 15th of the month it becomes operational (Exh. A-21 at 7). The Company agrees with RUCO that the half-year convention should be utilized absent a reason to depart from the usual methodology, but asserts that its use would be improper here. The Company contends that there is no reason to be less accurate than the Company's system allows for, and notes that like the Company, Staff did not utilize the half-year convention in this case. We agree with the Company, and will not adopt RUCO's proposed adjustment.

3. Mohave AIAC and CIAC Balances

RUCO proposed an adjustment correcting a discrepancy between the balances in Citizens' general ledger and the Mohave District application for advances in aid of construction ("AIAC"), and making a corresponding correction to the Mohave District's contribution in aid of construction ("CIAC") balance (Exh. R-1 at 10-11, Sched. TJC-3). These adjustments are appropriate and we will adopt them.

4. Allocation of Computer Equipment

Staff proposed an adjustment removing certain computer equipment from Arizona-American's rate base as not used-and-useful in a total amount of $592,003 with a corresponding decrease to Accumulated Depreciation of $40,759 (Exh. S-48 at 14-16). Staff recommends that its version of the allocation (using the Company's allocation basis) be adopted. The Company agreed that this adjustment was made in accordance with the Company's allocation methodology (Exh. A-24 at 4), and we will adopt it.

B. <u>Property Tax Calculation</u>

In calculating its proposed level of property tax expense, RUCO used the years 1999, 2000 and 2001 to calculate revenues (Exh. R-2 at 2). RUCO states that this method complies with the methodology set forth in the January 3, 2001 memo from the Arizona Department of Revenue property tax division ("ADOR") to "Arizona Water and Sewer Utility Companies" regarding

EXHIBIT
R-4
ADMITTED

ARIZONA-AMERICAN WATER COMPANY

DOCKET NO. W-01303A-08-0227

DOCKET NO. SW-01303A-08-0227

DIRECT RATE DESIGN TESTIMONY

OF

RODNEY L. MOORE

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

JANUARY 20, 2009

TABLE OF CONTENTS

INTRODUCTION 1

RATE DESIGN 2

PROOF OF RECOMMENDED REVENUE 3

TYPICAL BILL ANALYSIS 3

PARADISE VALLEY PUBLIC SAFETY SURCHARGE 4

RATE CONSOLIDATION 4

EXHIBIT A – PARADISE VALLEY PUBLIC SAFETY SURCHARGE

EXHIBIT B - RATE CONSOLIDATION

INTRODUCTION

Q. Please state your name, position, employer and address.

A. Rodney L. Moore, Public Utilities Analyst V
Residential Utility Consumer Office ("RUCO")
1110 West Washington Street, Suite 220
Phoenix, Arizona 85007.

Q. Have you previously filed testimony regarding this docket?

A. Yes, I have. I filed direct testimony in this docket on January 9, 2009.

Q. What is the purpose of your additional direct testimony?

A. My additional direct testimony will address RUCO's rate design and prove that this rate design will produce RUCO's recommended revenue. Also an analysis of a typical residential bill has been included.

To support RUCO's position in this additional direct testimony Schedules numbered RLM-RD1 and RLM-RD2 have been prepared.

RATE DESIGN

Q. Please explain elements of the rate design.

A. Schedule RLM-RD1 illustrates the elements of RUCO's rate design which mirror the guidelines outlined by the Company, which are:

1. Maintain the same basic conservation-oriented rate structure effective under rates which includes a customer charge and inclining block rates for each classification and meter size;
2. Increase customer charges and block rates so that revenue under proposed rates are more aligned with the cost of providing service;
3. Increase private fire service rates to recover a greater share of the cost of service; and
4. Rates for Mohave Wastewater that are primarily flat charges per month (except for two commercial customers that have metered usage) were increased to recover the proposed cost of service.

PROOF OF RECOMMENDED REVENUE

Q. Has RUCO prepared a Schedule presenting proof of your recommended revenue?

A. Yes. Proof that RUCO's recommended rate design will produce the recommended required revenue as illustrated, is presented on Schedule RLM-RD1.

TYPICAL BILL ANALYSIS

Q. Has RUCO prepared a Schedule representing the financial impact of RUCO's recommended rate design on the typical residential customer?

A. Yes. A typical bill analysis for residential customers with various levels of usage is presented on Schedule RLM-RD2.

PARADISE VALLEY PUBLIC SAFETY SURCHARGE

Q. Has RUCO prepared a Schedule representing the financial impact of RUCO's recommended rate design on the typical Paradise Valley customer for the implementation of the Public Safety Surcharge?

A. Yes. An impact analysis for all Paradise Valley customers is presented on Exhibit A attached to my testimony.

Q. Please provide a brief explanation of RUCO's methodology used to calculate the Public Safety Surcharge.

A. The design of the surcharge is based on the Paradise Valley Arsenic Cost Recovery Mechanism. The estimated total annual cost of the project to be recovered was determined by amortizing over 33.3 years: the estimated cost of the project, interest expense and the income tax impact.

Please refer to Exhibit A for a complete depiction of the calculation and the impact on the typical residential bill.

RATE CONSOLIDATION

Q. In response to a request from Chairman Mayes did you analyze the potential to consolidate the rates and charges for the water districts participating in this filing?

A. Yes, I reviewed the present rate structures and developed consolidated rates as displayed in Exhibit B attached to my testimony.

Q. Did you also receive the Company's response to Chairman Mayes' request?

A. Yes, the Company will provide its calculation of consolidated rates to all parties on February 6, 2009. I will provide additional analysis and appropriate modification to my Exhibit A in surrebuttal testimony after I review the Company's calculation of consolidated rates.

Q. Please explain the action taken to comply with Chairman Mayes' request.

A. I reviewed the present rate structures and the Company's proposed changes. In that review, it became evident that the uniqueness of the proposed Paradise Valley Water District's rate structure, with five break-over points precluded it from consideration in a consolidated rate design.

My analysis of the remaining five water districts included adjusting the present bill determinants of each district to conform to a common set of tiers with similar break-over points. Then using a weighted average calculation I determined single consolidated rates and charges for each customer class, meter size and commodity usage tier. This consolidated rate design generated the same aggregate revenue as the combined recorded test-year revenues from each of the five water districts with their distinctive rate designs.

Further refinement of this single consolidated rate design was required to more accurately reflect the present revenue generation patterns. Therefore, I recalculated my consolidated rate design to not only generate the same aggregate test-year revenue but to accurately proportion that revenue generation between the residential and commercial ratepayers to reflect recorded test year values.

To avoid revenue subsidization between customer classes, RUCO's consolidated rate design creates different basic monthly rates between the residential and commercial ratepayers using the same meter size and different commodity charges for the same consumption.

A comparison of RUCO's consolidated rates and charges to the five districts' present rates is displayed on Exhibit B attached.

Q. Does this conclude your direct testimony?

A. Yes, it does.

EXHIBIT A

PARADISE VALLEY PUBLIC SAFETY SURCHARGE

PARADISE VALLEY PUBLIC SAFETY SURCHARGE

Line No.	Growth	[A] Customers	[B] Total Gallons Sold	[C] Gallons Sold Per Cust.	[D]	[E]	[F]	[G]	[H]
1	Dec. 2006 (Year 1)	4,726	3,077,899	651.27					
2	Dec. 2007 (Year 2)	4,750	3,065,644	645.40					
3	Year 2 minus Year 1	24	(12,255)	(6)					
4	Percentage Change	0.51%	-0.40%	-0.90%					
5	Avg Gallons (Col B Ln 1 + Col B Ln 2 ÷ 2)		3,071,772						
6									
7									
8								Fixed Increment	
9		Average Customers at	Estimated Customers at	Estimated Average	Proposed Monthly				
10	Meter Size	31-Dec-07	31-Dec-08	Customers	Minimum	Minimum Multiples	Equivalent Meters	Monthly Base	Base Total
11	5/8-inch	2,390	2,402	2,396	$ 28.00	1.0	2,396	$ 5.31	$ 152,704
12	3/4-inch	32	32	32	28.97	1.0	33	5.49	2,115
13	1-Inch	2,019	2,029	2,024	46.71	1.7	3,377	8.86	215,200
14	1.5-Inch	75	75	75	94.31	3.4	253	17.89	16,140
15	2-Inch	267	268	268	150.30	5.4	1,437	28.51	91,573
16	3-Inch	23	23	23	278.49	9.9	229	52.82	14,616
17	4-Inch	1	1	1	463.43	16.6	17	87.90	1,057
18	6-Inch	5	5	5	928.31	33.2	166	176.08	10,592
19	Total	4,812	4,836	4,824			7,908		$ 503,998
20									
21				Minimum	Commodity				
22	Calculation of Surcharge			Surcharge	Surcharge				
23	ESTIMATED COST OF PROJECT		$ 20,610,051						
24	Interest Expense - Unavailable At Time Of Filing		-						
25	ESTIMATED TOTAL COST OF PROJECT		$ 20,610,051						
26	Gross Revenue Conversion Factor		1.6286						
27	Gross-Up Cost of Project		$ 33,566,246						
28	Amortization Period		33.3						
29	TOTAL ANNUAL COST OF PROJECT TO BE RECOVERED		**$ 1,007,995**						
30									
31	Minimum Revenue (Col B Ln 29 ÷ 2)			$ 503,998					
32	Commodity Revenue (Col B Ln 29 ÷ 2)				$ 503,998				
33									
34	Monthly Increment Per Equivalent Meter								
35	Equivalent Meters (Col F Ln 19 × 12 Months)			94,898					
36									
37	Minimum Surcharge (Col C Ln 31 ÷ Ln 35)			**$ 5.31**					
38									
39	Average Gallons (Col B Ln 5)				3,071,772				
40									
41	Commodity Surcharge (Col D Ln 32 ÷ Ln 39)				**$ 0.1641**				
42									
43		RUCO PROPOSED		RUCO PROPOSED		TOTAL			
44		RATES		PUBLIC SURCHARGE		PROPOSED			
45	Basic Monthly Minimum Service Charge								
46	5/8" Meter	$ 26.68		$ 5.31		$ 31.99			
47									
48	Commodity Rates Per 1,000 Gallons								
49	First Tier - First 4,000 Gals.	$ 1.2276		$ 0.1641		$ 1.39			
50	Second Tier -Next 16,000 Gals.	$ 2.1280		$ 0.1641		$ 2.29			
51	Third Tier - Next 45,000 Gals.	$ 2.6643		$ 0.1641		$ 2.83			
52	Fourth Tier - Next 60,000 Gals.	$ 3.2005		$ 0.1641		$ 3.36			
53	Fifth Tier - Over 125,000 Gals.	$ 3.6958		$ 0.1641		$ 3.86			

PARADISE VALLEY PUBLIC SAFETY SURCHARGE
TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	DESCRIPTION	(A) PRESENT	(B) PRESENT	(C) COMPANY PROPOSED	(D) COMPANY PROPOSED	(E) RUCO PROPOSED	(F) RUCO PROPOSED
	REVENUE ALLOCATION						
1	RESIDENTIAL	$ 6,138,486	77.75%	$ 8,672,282	78.74%	$ 8,263,651	78.74%
2	OTHER	$ 1,756,288	22.25%	$ 2,341,517	21.26%	2,231,188	21.26%
3	TOTAL	$ 7,894,774	100.00%	$ 11,013,799	100.00%	$ 10,494,839	100.00%
	ALLOCATION RATIOS						
4	FIX REVENUE	2,016,921	44.63%	$ 2,720,360	24.70%	$ 2,592,179	24.70%
5	VARIABLE REVENUE	2,502,680	55.37%	$ 8,293,438	75.30%	7,902,659	75.30%
6	TOTAL	4,519,601	100.00%	$ 11,013,799	100.00%	$ 10,494,839	100.00%

	RESIDENTIAL (5/8" X 3/4") RATE DESIGN		PRESENT	COMPANY PROPOSED	RUCO PROPOSED
7	BASIC MONTHLY CHARGE		$ 24.34	$ 28.00	$ 5.31
	COMMODITY CHARGE				
	PRESENT	PROPOSED			
8	First Tier - First 25,000 Gals.	First Tier - First 4,000 Gals.	$ 1.2134	$ 1.2883	$ 0.1641
9	Second Tier - Next 55,000 Gals.	Second Tier -Next 16,000 Gals.	$ 2.1034	$ 2.2332	$ 0.1641
10	Third Tier - Over 80,000 Gals.	Third Tier - Next 45,000 Gals.	$ 2.6334	$ 2.7960	$ 0.1641
11		Fourth Tier - Next 60,000 Gals.		$ 3.3588	$ 0.1641
12		Fifth Tier - Over 125,000 Gals.		$ 3.8786	$ 0.1641

	RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL	AVERAGE MONTHLY CONSUMPTION	PRESENT MONTHLY WATER COST	RUCO PROP'D MONTHLY WATER COST	RUCO PROP'D SURCHARGE WATER COST	RUCO PROP'D TOTAL INCREASE	RUCO PROP'D MONTHLY % INCREASE
13							
14							
15		20,493	$ 64.15	$ 66.95	$ 8.67	$ 11.48	17.90%
16							
17							

EXHIBIT B

RATE CONSOLIDATION

Arizona-Amercian Water Company
Docket Nos. SW & W-01303A-08-0227
Test Year Ended December 31, 2007

Consolidated Districts
Exhibit A

CONSOLIDATED RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
COMPARISON OF CONSOLIDATED RATES AND CHARGES TO PRESENT RATE DESIGNS

LINE NO.	DESCRIPTION	(A) CONSOLID'D CHARGES & USAGE FEES	(B) AGUA FRIA DETERMIN'TS	(C) SUN CITY WEST DETERMIN'TS	(D) TUBAC DETERMIN'TS	(E) HAVASU DETERMIN'TS	(F) MOHAVE WATER DETERMIN'TS
	RESIDENTIAL CUSTOMERS						
1	_1M1A - 5/8" & 3/4"	$ 9.59	$ 10.45	$ 9.57	$ 19.68	17.40	8.75
	Commodity Usage						
2	First Tier - First 4,000 Gals.	$ 1.2443	1.5398	1.3092	1.8900	1.6802	0.8500
3	Second Tier - Next 10,000 Gals.	$ 2.0757	2.2198	1.7442	2.8500	2.1852	1.3000
4	Third Tier - Over 14,000 Gals.	$ 2.3270	2.6468	2.0102	3.4100	2.5000	1.5000
5	_1M1B - 1"	$ 25.31	26.74	24.40	29.63	29.94	21.25
	Commodity Usage						
6	First Tier - First 35,000 Gals.	$ 2.0757	2.2198	1.7442	2.8500	2.1852	1.3000
7	Second Tier - Over 35,000 Gals.	$ 2.3270	2.6468	2.0102	3.4100	2.5000	1.5000
8	_1M1C - 1-1/2"	$ 50.31	55.90	52.28	-	-	-
	Commodity Usage						
9	First Tier - First 100,000 Gals.	$ 2.0757	2.2198	1.7442	-	-	-
10	Second Tier - Over 100,000 Gals.	$ 2.3270	2.6468	2.0102	-	-	-
11	_1M1D - 2"	$ 75.78	83.84	76.68	97.49	58.91	68.00
	Commodity Usage						
12	First Tier - First 150,000 Gals.	$ 2.0757	2.2198	1.7442	2.8500	2.1852	1.3000
13	Second Tier - Over 150,000 Gals.	$ 2.3270	2.6468	2.0102	3.4100	2.5000	1.5000
14	_1M1E - 3"	$ 154.96	164.02	132.43	115.65	-	-
	Commodity Usage						
15	First Tier - First 300,000 Gals.	$ 2.0757	2.2198	1.7442	2.8500	-	-
16	Second Tier - Over 300,000 Gals.	$ 2.3270	2.6468	2.0102	3.4100	-	-
17	_1M1F - 4"	$ 124.05	-	196.90	-	101.39	-
	Commodity Usage						
18	First Tier - First 400,000 Gals.	$ 2.0757	-	1.7442	-	2.1852	-
19	Second Tier - Over 400,000 Gals.	$ 2.3270	-	2.0102	-	2.5000	-
20	_____ - Apt 5/8" X 3/4"	$ 8.32	-	-	-	-	8.75
	Commodity Usage						
21	First Tier - First 14,000 Gals.	$ 2.0757	-	-	-	-	1.3000
22	Second Tier - Over 14,000 Gals.	$ 2.3270	-	-	-	-	1.5000
23	_____ - Apt 1"	$ 11.86	-	-	-	8.70	21.25
	Commodity Usage						
24	First Tier - First 35,000 Gals.	$ 2.0757	-	-	-	2.1852	1.3000
25	Second Tier - Over 35,000 Gals.	$ 2.3270	-	-	-	2.5000	1.5000
26	_____ - Apt 1-1/2"	$ 40.42	-	-	-	-	42.50
	Commodity Usage						
27	First Tier - First 100,000 Gals.	$ 2.0757	-	-	-	-	1.3000
28	Second Tier - Over 100,000 Gals.	$ 2.3270	-	-	-	-	1.5000
29	_____ - Apt 2"	$ 64.63	-	-	-	8.70	68.00
	Commodity Usage						
30	First Tier - First 150,000 Gals.	$ 2.0757	-	-	-	2.1852	1.3000
31	Second Tier - Over 150,000 Gals.	$ 2.3270	-	-	-	2.5000	1.5000
32	_____ - Apt 4"	$ 9.73	-	-	-	8.70	215.00
	Commodity Usage						
33	First Tier - First 400,000 Gals.	$ 2.0757	-	-	-	2.1852	1.3000
34	Second Tier - Over 400,000 Gals.	$ 2.3270	-	-	-	2.5000	1.5000
35	_____ - Apt 6"	$ 15.31	-	-	-	8.70	425.00
	Commodity Usage						
36	First Tier - First 800,000 Gals.	$ 2.0757	-	-	-	2.1852	1.3000
37	Second Tier - Over 800,000 Gals.	$ 2.3270	-	-	-	2.5000	1.5000
38	Total Residential Customers	66,901	33,393	15,009	489	2,654	15,456
39	Total Residential Usage	7,659,204	3,933,650	1,705,021	72,474	227,603	1,703,924
40	TOTAL RESIDENTIAL REVENUE	$ 23,662,091	$ 13,647,301	$ 4,884,840	$ 321,006	$ 917,232	$ 3,891,713

Arizona-Amercian Water Company
Docket Nos. SW & W-01303A-08-0227
Test Year Ended December 31, 2007

Consolidated Districts
Exhibit A

CONSOLIDATED RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
COMPARISON OF CONSOLIDATED RATES AND CHARGES TO PRESENT RATE DESIGNS

LINE NO.	DESCRIPTION	(A) CONSOLID'D CHARGES & USAGE FEES	(B) AGUA FRIA DETERMIN'TS	(C) SUN CITY WEST DETERMIN'TS	(D) TUBAC DETERMIN'TS	(E) HAVASU DETERMIN'TS	(F) MOHAVE WATER DETERMIN'TS
	COMMERCIAL CUSTOMERS						
41	_2M1A - 5/8" & 3/4"	$ 11.86	10.45	9.57	19.68	17.40	8.75
	Commodity Usage						
42	First Tier - First 14,000 Gals.	$ 2.5658	2.2198	1.7442	2.8500	2.1852	1.3000
43	Second Tier - Over 14,000 Gals.	$ 2.8765	2.6468	2.0102	3.4100	2.5000	1.5000
44	_2M1B - 1"	$ 31.29	26.74	24.40	29.63	29.94	21.25
	Commodity Usage						
45	First Tier - First 35,000 Gals.	$ 2.5658	2.2198	1.7442	2.8500	2.1852	1.3000
46	Second Tier - Over 35,000 Gals.	$ 2.8765	2.6468	2.0102	3.4100	2.5000	1.5000
47	_2M1C - 1-1/2"	$ 62.19	55.90	52.28	59.26	-	42.50
	Commodity Usage						
48	First Tier - First 100,000 Gals.	$ 2.5658	2.2198	1.7442	2.8500	-	1.3000
49	Second Tier - Over 100,000 Gals.	$ 2.8765	2.6468	2.0102	3.4100	-	1.5000
50	_2M1D - 2"	$ 93.67	83.84	76.68	97.49	58.91	68.00
	Commodity Usage						
51	First Tier - First 150,000 Gals.	$ 2.5658	2.2198	1.7442	2.8500	2.1852	1.3000
52	Second Tier - Over 150,000 Gals.	$ 2.8765	2.6468	2.0102	3.4100	2.5000	1.5000
53	_2M1E - 3"	$ 191.56	164.02	132.43	115.62	80.15	136.00
	Commodity Usage						
54	First Tier - First 300,000 Gals.	$ 2.5658	2.2198	1.7442	2.8500	2.1852	1.3000
55	Second Tier - Over 300,000 Gals.	$ 2.8765	2.6468	2.0102	3.4100	2.5000	1.5000
56	_2M1F - 4"	$ 153.35	220.63	196.90	-	-	215.00
	Commodity Usage						
57	First Tier - First 400,000 Gals.	$ 2.5658	2.2198	1.7442	-	-	1.3000
58	Second Tier - Over 400,000 Gals.	$ 2.8765	2.6468	2.0102	-	-	1.5000
59	_2M1G - 6"	$ 465.97	425.22	270.08	-	-	425.00
	Commodity Usage						
60	First Tier - First 800,000 Gals.	$ 2.5658	2.2198	1.7442	-	-	1.3000
61	Second Tier - Over 800,000 Gals.	$ 2.8765	2.6468	2.0102	-	-	1.5000
62	_2M3 - Arizona Water Contract	$ -	-	-	-	-	-
	Commodity Usage						
63	First Tier - First 8,000 Gals.	$ 1.7800	1.780	-	-	-	-
64	Second Tier - Over 8,000 Gals.	$ 2.2400	2.240	-	-	-	-
65	Total Commercial Customers	2,132	766	387	78	75	824
66	Total Commercial Usage	2,008,516	1,240,264	279,612	22,175	37,200	1,703,924
67	TOTAL COMMERCIAL REVENUE	$ 5,604,530	$ 3,708,876	$ 748,224	$ 102,237	$ 119,942	$ 925,250

Arizona-Amercian Water Company
Docket Nos. SW & W-01303A-08-0227
Test Year Ended December 31, 2007

Consolidated Districts
Exhibit A

CONSOLIDATED RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
COMPARISON OF CONSOLIDATED RATES AND CHARGES TO PRESENT RATE DESIGNS

LINE NO.	DESCRIPTION	(A) CONSOLID'D CHARGES & USAGE FEES	(B) AGUA FRIA DETERMIN'TS	(C) SUN CITY WEST DETERMIN'TS	(D) TUBAC DETERMIN'TS	(E) HAVASU DETERMIN'TS	(F) MOHAVE WATER DETERMIN'TS
	OPA						
68	G4M1 - Bullhead OPA - 5/8" X 3/4"	$ 8.75	-	-	-	-	8.75
69	All Commodity Usage	$ 1.3550	-	-	-	-	1.3550
70	G4M1 - Bullhead OPA - 1"	$ 21.25	-	-	-	-	21.25
71	All Commodity Usage	$ 1.3550	-	-	-	-	1.3550
72	G4M1 - Bullhead OPA - 1-1/2"	$ 42.50	-	-	-	-	42.50
73	All Commodity Usage	$ 1.3550	-	-	-	-	1.3550
74	G4M1 - Bullhead OPA - 2"	$ 68.00	-	-	-	-	68.00
75	All Commodity Usage	$ 1.3550	-	-	-	-	1.3550
76	G4M1 - Bullhead OPA - 3"	$ 136.00	-	-	-	-	136.00
77	All Commodity Usage	$ 1.3550	-	-	-	-	1.3550
78	G4M1 - Bullhead OPA - 4"	$ 215.00	-	-	-	-	215.00
79	All Commodity Usage	$ 1.3550	-	-	-	-	1.3550
80	G4M1 - Bullhead OPA - 6"	$ 425.00	-	-	-	-	425.00
81	All Commodity Usage	$ 1.3550	-	-	-	-	1.3550
82	C4M2 - OPA - Prison	$ 191.75	191.75	-	-	-	-
83	All Commodity Usage	$ 1.9300	1.9300	-	-	-	-
84	Total OPA Customers	84	1	-	-	-	83
85	Total OPA Usage	105,148	14,430	-	-	-	86,204
86	TOTAL OPA CUSTOMER REVENUE	$ 205,876	$ 31,032	$ -	$ -	$ -	$ 174,708
	SALE FOR RESALE						
87	C5M1 - OWU PI	$ -	-	-	-	-	-
88	All Commodity Usage	$ 1.0000	1.0000	-	-	-	-
89	Total Sale For Resale Customers	4	4	-	-	-	-
90	Total Sale For Resale Usage	123,440	123,440	-	-	-	-
91	TOTAL SALE FOR RESALE REVENUE	$ 123,440	$ 123,440	$ -	$ -	$ -	$ -
	PRIVATE FIRE PROTECTION CUSTOMERS						
92	_6M02 - 2"	$ 3.23	-	-	-	-	3.23
93	_6M04 - 4"	$ 23.88	27.25	35.22	-	-	6.45
94	_6MO6 - 6"	$ 40.17	40.86	52.84	-	-	9.68
95	_6MO8 - 8"	$ 53.56	54.48	70.45	-	-	12.91
96	G6M10 - 10"	$ 16.13	-	-	-	-	16.13
97	B6M12 - 12"	$ 163.44	163.44	-	-	-	-
98	B6M06 6"	$ 126.60	126.60	-	-	-	-
99	G8M4 - Hydrant	$ 8.22	-	-	-	-	8.22
100	Total Private Fire Customers	576	232	70	-	-	274
101	TOTAL PRIVATE FIRE REVENUE	$ 184,000	$ 108,228	$ 42,768	$ -	$ -	$ 25,088
	MISC IRRIGATION SALES						
102	C7M2 - Irrigation - Raw	$ -	-	-	-	-	-
103	All Commodity Usage	$ 0.50	0.5000	-	-	-	-
104	C8M2 - Non-Potable	$ -	-	-	-	-	-
105	All Commodity Usage	$ 0.62	0.6200	-	-	-	-
106	TOTAL MISC IRRIGATION REVENUE	$ 96,981	$ 96,981	$ -	$ -	$ -	$ -
107	**TOTAL RUCO TEST YEAR REVENUE PER BILL COUNT**			$ 29,876,918			
108	Unreconciled Difference vs. Billed Revenues			610,627			
109	**REVENUE PER BILL COUNT**			$ 30,487,545			
110	Other Revenue			4,862,503			
111	ACRM Revenue			(3,709,013)			
112	**TOTAL REVENUE**			$ 31,641,035			
113	**BOOKED TEST-YEAR REVENUE PER FILING**			$ 31,641,035			
114	Difference			$ -			

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR DETERMIN'TS	(B) ANN'ZED ADJUSTM'TS	(C) TEST YEAR ADJUSTED DETERMIN'TS	(D) PROPOSED CHARGES & USAGE FEES	(E) RUCO PROPOSED REVENUES	(F) TOTAL REVENUES
	RESIDENTIAL CUSTOMERS						
1	P1M1A - 5/8"	2,258	-5	2,253	$ 26.68	$ 721,310	
2	P1M1A - 3/4"	32	-0.08	32	$ 27.60	10,611	
3	P1M1A - 1"	1,926	-4	1,921	$ 44.51	1,026,240	
4	P1M1A - 1-1/2"	64	0	64	$ 89.87	68,721	
5	P1M1A - 2"	138	0	138	$ 143.22	237,331	
6	P1M1B - MMWC 5/8"	2	0	2	$ 26.68	640	
7	P1M1B - MMWC 1"	43	0	43	$ 44.51	23,047	
8	P1M1B - MMWC 1-1/2"	20	0	20	$ 89.87	21,607	
9	P1M1B - MMWC 2"	11	0	11	$ 143.22	18,919	
10	Total Customers	4,494	-9	4,484			$ 2,128,425
	Commodity Usage						
11	First Tier - First 4,000 Gals.	892,767	-780,121	112,646	$ 1.2276	$ 138,284	
12	Second Tier -Next 16,000 Gals.	796,125	-327,932	468,193	$ 2.1280	996,302	
13	Third Tier - Next 45,000 Gals.	548,980	290,525	839,505	$ 2.6643	2,236,655	
14	Fourth Tier - Next 60,000 Gals.		486,326	486,326	$ 3.2005	1,556,504	
15	Fifth Tier - Over 125,000 Gals.		326,713	326,713	$ 3.6958	1,207,481	
16	Total Usage	2,237,872	-4,489	2,233,383			$ 6,135,226
17	TOTAL RESIDENTIAL CUSTOMERS REVENUE						$ 8,263,651
	COMMERCIAL CUSTOMERS						
18	P2M1A - 5/8"	67	-0.42	67	$ 26.68	$ 21,396	
19	P2M1A - 3/4"	1	0	1	$ 27.60	331	
20	P2M1A - 1"	51	-0.33	51	$ 44.51	27,154	
21	P2M1A - 1-1/2"	25	-0.17	24	$ 89.87	26,271	
22	P2M1A - 2"	123	-1	123	$ 143.22	210,649	
23	P2M1A - 3"	25	0	25	$ 265.37	78,169	
24	P2M1A - 4"	1	0	1	$ 441.59	5,299	
25	P2M1A - 6"	4	0	4	$ 884.57	42,459	
26	Sub-Total Customers	297	-2	295			$ 411,729
	Commodity Usage						
27	First Tier	397,389	-2,917	394,472	$ 2.1280	$ 839,426	
28	Second Tier	173,333	0	173,333	$ 2.8394	492,161	
29	Sub-Total Usage	570,722	-2,917	567,805			$ 1,331,587
30	P2M1T - TURF 3"	1	0	1	$ 265.37	2,157	
31	P2M1T - TURF 4"	0.33	0	0.33	$ 441.59	1,766	
32	P2PVC - CC 6"	1	0	1	$ 751.89	9,557	
33	Sub-Total Customers	2		2			$ 13,480
	Commodity Usage						
34	P2M1T - TURF 3" & 4"	39,969	0	39,969	$ 1.7946	$ 71,727	
35	P2PVC - CC 6"	185,447	0	185,447	$ 1.7422	323,095	
36	Sub-Total Usage	225,416	0	225,416			$ 394,821
	Total Customers						
37	Total Usage	299					
38	First Tier	622,805					
39	Second Tier	173,333					
40		796,138					
41	TOTAL COMMERCIAL CUSTOMERS REVENUE						$ 2,151,617

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR DETERMIN'TS	(B) ANN'ZED ADJUSTM'TS	(C) TEST YEAR ADJUSTED DETERMIN'TS	(D) PROPOSED CHARGES & USAGE FEES	(E) RUCO PROPOSED REVENUES	(F) TOTAL REVENUES
	OPA CUSTOMERS						
42	P4MIT - 3	1	0	1	$ 265.37	$3,184	
	Commodity Usage						
43	All Usage	11,050	0	11,050	$ 1.7946	$ 19,830	
44	Total Usage	11,050	0	11,050			$ 23,014
45	TOTAL OPA CUSTOMERS REVENUE						$ 23,014
	SALE FOR RESALE CUSTOMERS						
46	P5M1A - OWU/OPA 5/8"	5	0	5	$ 26.68	$ 1,601	
47	P5M1A - OWU/OPA 1"	10	0	10	$ 44.51	5,411	
48	P5M1A - OWU/OPA 2"	5	0	5	$ 143.22	8,593	
49	Total Customers	20		20			$ 15,605
	Commodity Usage						
50	All Usage	7,855	0	7,855	$ 2.6984	$ 21,196	
51	Total Usage	7,855	0	7,855			$ 21,196
52	TOTAL SALE FOR RESALE CUSTOMERS REVENUE						$ 36,801
	PRIVATE FIRE PROTECTION CUSTOMERS						
53	P6M1A	69	0	69	$ 23.82	$ 19,755.60	
54	Commodity Usage	-	0	-	No Charge		
55	TOTAL PRIVATE FIRE PROTECTION CUSTOMERS REVENUE						$ 19,756
56	**TOTAL RUCO PROPOSED REVENUE PER BILL COUNT**						$ 10,494,839
57	Unreconciled Difference vs. Billed Revenues						(80,137)
58	**REVENUE PER BILL COUNT**						10,414,702
59	Other Water Revenues						16,619
60	**TOTAL REVENUE**						10,431,321
61	**PROPOSED REVENUE**						$ 9,484,920
62	Difference						$ 946,401

TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	DESCRIPTION	(A) PRESENT	(B) PRESENT	(C) COMPANY PROPOSED	(D) COMPANY PROPOSED	(E) RUCO PROPOSED	(F) RUCO PROPOSED
	REVENUE ALLOCATION						
1	RESIDENTIAL	$ 6,138,486	77.75%	$ 8,672,282	78.74%	$ 8,263,651	78.74%
2	OTHER	$ 1,756,288	22.25%	$ 2,341,517	21.26%	$ 2,231,188	21.26%
3	TOTAL	$ 7,894,774	100.00%	$ 11,013,799	100.00%	$ 10,494,839	100.00%
	ALLOCATION RATIOS						
4	FIX REVENUE	2,016,921	44.63%	$ 2,720,360	24.70%	$ 2,592,179	24.70%
5	VARIABLE REVENUE	2,502,680	55.37%	$ 8,293,438	75.30%	$ 7,902,659	75.30%
6	TOTAL	4,519,601	100.00%	$ 11,013,799	100.00%	$ 10,494,839	100.00%

	RESIDENTIAL (5/8" X 3/4") RATE DESIGN		PRESENT	COMPANY PROPOSED	RUCO PROPOSED
7	BASIC MONTHLY CHARGE		$ 24.34	$ 28.00	$ 26.68
	COMMODITY CHARGE				
	PRESENT	PROPOSED			
8	First Tier - First 25,000 Gals.	First Tier - First 4,000 Gals.	$ 1.2134	$ 1.2883	$ 1.2276
9	Second Tier - Next 55,000 Gals.	Second Tier -Next 16,000 Gals.	$ 2.1034	$ 2.2332	$ 2.1280
10	Third Tier - Over 80,000 Gals.	Third Tier - Next 45,000 Gals.	$ 2.6334	$ 2.7960	$ 2.6643
11		Fourth Tier - Next 60,000 Gals.		$ 3.3588	$ 3.2005
12		Fifth Tier - Over 125,000 Gals.		$ 3.8786	$ 3.6958

	RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL	MONTHLY CONSUMPTION	% OF AVERAGE MONTH USAGE OF 20,493 Gal.	PRESENT MONTHLY WATER COST	RUCO PROP'D MONTHLY WATER COST	RUCO PROP'D MONTHLY INCREASE	RUCO PROP'D MONTHLY % INCREASE
13		5,123	25.00%	$ 30.56	$ 33.98	$ 3.42	11.21%
14		10,247	50.00%	$ 36.77	$ 44.88	$ 8.11	22.06%
15		20,493	100.00%	$ 64.15	$ 66.95	$ 2.81	4.37%
16		30,740	150.00%	$ 66.75	$ 94.25	$ 27.50	41.21%
17		40,986	200.00%	$ 88.30	$ 121.55	$ 33.25	37.66%

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR DETERMIN'TS	(B) ANN'ZED ADJUSTM'TS	(C) TEST YEAR ADJUSTED DETERMIN'TS	(D) PROPOSED CHARGES & USAGE FEES	(E) RUCO PROPOSED REVENUES	(F) TOTAL REVENUES
	RESIDENTIAL CUSTOMERS						
1	B1M1A - 5/8" & 3/4"	14,230	1	14,231	$ 13.81	$ 2,358,895	$ 2,358,895
	Commodity Usage						
2	First Tier - First 4,000 Gals.	598,474	28	598,502	$ 2.6523	$ 1,587,413	
3	Second Tier - Next 11,000 Gals.	477,061	19	477,080	$ 2.9201	$ 1,393,122	
4	Third Tier - Over 15,000 Gals.	69,293		69,293	$ 3.1432	$ 217,804	
							$ 3,198,339
5	B1M1B - 1"	163	1	165	$ 35.21	$ 69,529	$ 69,529
	Commodity Usage						
6	First Tier - First 40,000 Gals.	20,768	209	20,977	$ 2.9201	$ 61,255	
7	Second Tier - Over 40,000 Gals.	3,242	-	3,242	$ 3.1432	$ 10,190	
							$ 71,445
8	B1M1C - 1-1/2"	474	-	474	$ 75.46	$ 429,311	$ 429,311
	Commodity Usage						
9	First Tier - First 100,000 Gals.	284,741	-	284,741	$ 2.9201	$ 831,473	
10	Second Tier - Over 100,000 Gals.	36,222	-	36,222	$ 3.1432	$ 113,854	
							$ 945,327
11	B1M1D - 2"	140	-	140	$ 110.68	$ 185,987	$ 185,987
	Commodity Usage						
12	First Tier - First 150,000 Gals.	91,660	-	91,660	$ 2.9201	$ 267,657	
13	Second Tier - Over 150,000 Gals.	15,244	-	15,244	$ 3.1432	$ 47,915	
							$ 315,572
14	B1M1E - 3"	0	-	0.06	$ 191.15	$ 147	$ 147
	Commodity Usage						
15	First Tier - First 275,000 Gals.	16	-	16	$ 2.9201	$ 47	
16	Second Tier - Over 275,000 Gals.		-	0	$ 3.1432	$ -	
							$ 47
17	B1M1F - 4"	1	-	1	$ 284.20	$ 3,476	$ 3,476
	Commodity Usage						
18	First Tier - First 400,000 Gals.	4,893	-	4,893	$ 2.9201	$ 14,288	
19	Second Tier - Over 400,000 Gals.	103,406	-	103,406	$ 3.1432	$ 325,029	
							$ 339,317
20	Total Residential Customers	15,009	2	15,011			
21	Total Residential Usage	1,705,021	255	1,705,276			
22	TOTAL RESIDENTIAL CUSTOMERS REVENUE						$ 7,917,392
	COMMERCIAL CUSTOMERS						
23	B2M1A - 5/8" & 3/4"	70	-	70	$ 13.81	$ 11,594	$ 11,594
	Commodity Usage						
24	First Tier - First 15,000 Gals.	3,285	-	3,285	$ 2.9201	$ 9,593	
25	Second Tier - Over 15,000 Gals.	2,308	-	2,308	$ 3.1432	$ 7,255	
							$ 16,847
26	B2M1B - 1"	85	(0.4)	85	$ 35.21	$ 35,790	$ 35,790
	Commodity Usage						
27	First Tier - First 40,000 Gals.	16,952	(153)	16,799	$ 2.9201	$ 49,055	
28	Second Tier - Over 40,000 Gals.	14,350	-	14,350	$ 3.1432	$ 45,105	
							$ 94,160
29	B2M1C - 1-1/2"	87	-	87	$ 75.46	$ 78,777	$ 78,777
	Commodity Usage						
30	First Tier - First 100,000 Gals.	34,850	-	34,850	$ 2.9201	$ 101,766	
31	Second Tier - Over 100,000 Gals.	12,469	-	12,469	$ 3.1432	$ 39,193	
							$ 140,958
32	B2M1D - 2"	132	(0.1)	132	$ 110.68	$ 175,768	$ 175,768
	Commodity Usage						
33	First Tier - First 150,000 Gals.	98,774	(90)	98,684	$ 2.9201	$ 288,167	
34	Second Tier - Over 150,000 Gals.	44,612	-	44,612	$ 3.1432	$ 140,226	
							$ 428,393
35	B2M1E - 3"	11	-	11	$ 191.15	$ 25,092	$ 25,092
	Commodity Usage						
36	First Tier - First 275,000 Gals.	12,243	-	12,243	$ 2.9201	$ 35,751	
37	Second Tier - Over 275,000 Gals.	24,438	-	24,438	$ 3.1432	$ 76,814	

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR DETERMIN'TS	(B) ANN'ZED ADJUSTM'TS	(C) TEST YEAR ADJUSTED DETERMIN'TS	(D) PROPOSED CHARGES & USAGE FEES	(E) RUCO PROPOSED REVENUES	(F) TOTAL REVENUES
38	B2M1F - 4"	1	-	1	$ 284.20	$ 3,410	$ 3,410
	Commodity Usage						
39	First Tier - First 400,000 Gals.	4,800	-	4,800	$ 2.9201	$ 14,016	
40	Second Tier - Over 400,000 Gals.	7,385	-	7,385	$ 3.1432	$ 23,213	
							$ 37,229
41	B2M1G - 6"	1	-	1	$ 389.83	$ 4,783	$ 4,783
	Commodity Usage						
42	First Tier - First 550,000 Gals.	3,146	-	3,146	$ 2.9201	$ 9,187	
43	Second Tier - Over 550,000 Gals.	-	-	-	$ 3.1432	$ -	
							$ 9,187
44	Total Commercial Customers	387	(0.5)	387			
45	Total Commercial Usage	279,612	(243)	279,369			
46	TOTAL COMMERCIAL CUSTOMERS REVENUE						$ 1,061,989
	PRIVATE FIRE PROTECTION CUSTOMERS						
47	B6MO4 - 4"	18	-	18	$ 64.87	$ 14,011	
48	B6MO6 - 6"	42	-	42	$ 97.32	$ 49,139	
49	B6MO8 - 8"	10	-	10	$ 129.75	$ 15,674	
50	Commodity Usage	-	-	-	No Charge		
51	TOTAL PRIVATE FIRE PROTECTION CUSTOMERS REVENUE						$ 78,824
52	**TOTAL RUCO PROPOSED REVENUE PER BILL COUNT**						$ 9,058,205
53	Unreconciled Difference vs. Billed Revenues						(21,397)
	Other Revenue						40,401
54	**TOTAL REVENUE**						$ 9,077,209
55	**PROPOSED REVENUE PER FILING**						$ 9,077,209
56	Difference						$ 0

TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	DESCRIPTION	(A) PRESENT	(B) PRESENT	(C) COMPANY PROPOSED	(D) COMPANY PROPOSED	(E) RUCO PROPOSED	(F) RUCO PROPOSED
	REVENUE ALLOCATION						
1	RESIDENTIAL	$ 4,884,840	86.06%	$ 8,597,662	86.33%	$ 7,917,392	87.41%
2	OTHER	791,022	13.94%	1,361,070	13.67%	1,140,813	12.59%
3	TOTAL	$ 5,675,862	100.00%	$ 9,958,732	100.00%	$ 9,058,205	100.00%
	ALLOCATION RATIOS						
4	FIX REVENUE	$ 2,386,032	42.04%	$ 3,758,789	37.74%	$ 3,461,383	38.21%
5	VARIABLE REVENUE	3,289,830	57.96%	6,199,943	62.26%	5,596,822	61.79%
6	TOTAL	$ 5,675,862	100.00%	$ 9,958,732	100.00%	$ 9,058,205	100.00%

	RESIDENTIAL (5/8" X 3/4") RATE DESIGN		PRESENT	COMPANY PROPOSED	RUCO PROPOSED
7	BASIC MONTHLY CHARGE		$ 9.57	$ 15.00	$ 13.81
	COMMODITY CHARGE				
	PRESENT	PROPOSED			
8	First Tier - First 4,000 Gals.	First Tier - First 4,000 Gals.	$ 1.3092	$ 2.8802	$ 2.6523
9	Second Tier - Next 11,000 Gals.	Second Tier - Next 11,000 Gals.	$ 1.7442	$ 3.1710	$ 2.9201
10	Third Tier - Over 15,000 Gals.	Third Tier - Over 15,000 Gals.	$ 2.0102	$ 3.4133	$ 3.1432

	RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL	% OF AVERAGE MONTH USAGE OF 6,704 Gal.	GALLONS USED AT VARIOUS USAGE	PRESENT MONTHLY WATER COST	RUCO PROP'D MONTHLY WATER COST	RUCO PROP'D MONTHLY INCREASE	RUCO PROP'D MONTHLY % INCREASE
11		25.00%	1,676	$ 11.76	$ 18.26	$ 6.49	55.20%
12		50.00%	3,352	$ 13.96	$ 22.70	$ 8.75	62.65%
13		100.00%	6,704	$ 19.52	$ 32.32	$ 12.80	65.54%
14		150.00%	10,056	$ 25.37	$ 42.11	$ 16.74	65.97%
15		200.00%	13,408	$ 31.22	$ 51.89	$ 20.68	66.24%

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR DETERMIN'TS	(B) ANN'ZED ADJUSTM'TS	(C) TEST YEAR ADJUSTED DETERMIN'TS	(D) PROPOSED CHARGES & USAGE FEES	(E) RUCO PROPOSED REVENUES	(F) TOTAL REVENUES
	RESIDENTIAL CUSTOMERS						
1	F1M1A - 5/8" & 3/4"	461	1	462	$ 29.34	$ 162,687	$ 162,687
	Commodity Usage						
2	First Tier - First 4,000 Gals.	17,836	118	17,954	$ 3.4125	$ 60,867	
3	Second Tier - Next 16,000 Gals.	32,438	-	32,438	$ 4.3785	$ 142,029	
4	Third Tier - Over 20,000 Gals.	14,857	-	14,857	$ 4.4688	$ 66,392	
							$ 269,288
5	F1M1B - 1"	23	0.2	23	$ 44.17	$ 12,417	$ 12,417
	Commodity Usage						
6	First Tier - First 35,000 Gals.	3,655	41	3,696	$ 4.3785	$ 16,004	
7	Second Tier - Over 35,000 Gals.	2,032	-	2,032	$ 4.4688	$ 9,081	
							$ 25,085
11	F1M1D - 2"	3	-	3	$ 145.35	$ 5,266	$ 5,266
	Commodity Usage						
12	First Tier - First 150,000 Gals.	1,628	-	1,628	$ 4.3785	$ 7,128	
13	Second Tier - Over 150,000 Gals.	17	-	17	$ 4.4688	$ 76	
							$ 7,204
14	F1M1E - 3"	1	-	1	$ 172.42	$ 2,064	$ 2,064
	Commodity Usage						
15	First Tier - First 175,000 Gals.	10	-	10	$ 4.3785	$ 44	
16	Second Tier - Over 175,000 Gals.	0	-	0	$ 4.4688	$ -	
							$ 44
20	Total Residential Customers	489	1	490			
21	Total Residential Usage	72,474	158	72,632			
22	TOTAL RESIDENTIAL CUSTOMERS REVENUE						$ 484,055
	COMMERCIAL CUSTOMERS						
23	F2M1A - 5/8" & 3/4"	47	0	47	$ 29.34	$ 16,413	$ 16,413
	Commodity Usage			0			
24	First Tier - First 20,000 Gals.	3,406	0	3,406	$ 4.3785	$ 14,913	
25	Second Tier - Over 20,000 Gals.	1,688	0	1,688	$ 4.4688	$ 7,543	
				0			$ 22,456
26	F2M1B - 1"	16	0	16	$ 44.17	$ 8,481	$ 8,481
	Commodity Usage			0			
27	First Tier - First 35,000 Gals.	2,641	64	2,705	$ 4.3785	$ 11,562	
28	Second Tier - Over 35,000 Gals.	3,472	0	3,472	$ 4.4688	$ 15,516	
				0			$ 27,078
29	F2M1C - 1-1/2"	2	0	2	$ 88.35	$ 2,120	$ 2,120
	Commodity Usage			0			
30	First Tier - First 85,000 Gals.	491	0	491	$ 4.3785	$ 2,150	
31	Second Tier - Over 85,000 Gals.		0	0	$ 4.4688	$ -	
				0			$ 2,150
32	F2M1D - 2"	10	0	10	$ 145.35	$ 16,792	$ 16,792
	Commodity Usage			0			
33	First Tier - First 150,000 Gals.	6,618	0	6,618	$ 4.3785	$ 28,977	
34	Second Tier - Over 150,000 Gals.	2,950	0	2,950	$ 4.4688	$ 13,183	
				0			$ 42,160
35	F2M1E - 3"	4	0	4	$ 172.42	$ 7,678	$ 7,678
	Commodity Usage			0			
36	First Tier - First 175,000 Gals.	864	0	864	$ 4.3785	$ 3,783	
37	Second Tier - Over 175,000 Gals.	45	0	45	$ 4.4688	$ 201	
							$ 3,984
38	Total Commercial Customers	78	0	78			
39	Total Commercial Usage	22,175	64	22,239			
40	TOTAL COMMERCIAL CUSTOMERS REVENUE						$ 149,312
41	**TOTAL RUCO PROPOSED REVENUE PER BILL COUNT**						$ 633,367
42	Unreconciled Difference vs. Billed Revenues						(301)
43	**REVENUE PER BILL COUNT**						633,065
44	Other Revenue						3,839
45	**TOTAL REVENUE**						$ 636,904
46	**PROPOSED REVENUE PER BOOK**						$ 636,904
	Difference						$ 0

TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	DESCRIPTION	(A) PRESENT	(B)	(C) COMPANY PROPOSED	(D)	(E) RUCO PROPOSED	(F)
	REVENUE ALLOCATION						
1	RESIDENTIAL	$ 321,006	75.84%	$ 536,183	76.43%	$ 484,055	76.43%
2	OTHER	102,238	24.16%	165,391	23.57%	149,312	23.57%
3	TOTAL	$ 423,244	100.00%	$ 701,574	100.00%	$ 633,367	100.00%
	ALLOCATION RATIOS						
4	FIX REVENUE	$ 156,585	37.00%	$ 259,109	36.93%	$ 233,918	36.93%
5	VARIABLE REVENUE	266,659	63.00%	442,465	63.07%	$ 399,448	63.07%
6	TOTAL	423,244	100.00%	$ 701,574	100.00%	$ 633,367	100.00%

	RESIDENTIAL (5/8" X 3/4") RATE DESIGN		PRESENT	COMPANY PROPOSED	RUCO PROPOSED
7	BASIC MONTHLY CHARGE		$ 19.68	$ 32.50	$ 29.34
	COMMODITY CHARGE				
	PRESENT	PROPOSED			
8	First Tier - First 4,000 Gals.	First Tier - First 4,000 Gals.	$ 1.89	$ 3.78	$ 3.41
9	Second Tier - Next 16,000 Gals.	Second Tier - Next 16,000 Gals.	$ 2.85	$ 4.85	$ 4.38
10	Third Tier - Over 20,000 Gals.	Third Tier - Over 20,000 Gals.	$ 3.41	$ 4.95	$ 4.47

	RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL	MONTHLY CONSUMPTION	% OF AVERAGE MONTH USAGE OF 11,767 Gal.	PRESENT MONTHLY WATER COST	RUCO PROP'D MONTHLY WATER COST	RUCO PROP'D MONTHLY INCREASE	RUCO PROP'D MONTHLY % INCREASE
11		2,942	25.00%	$ 25.24	$ 39.38	$ 14.14	56.02%
12		5,884	50.00%	$ 32.61	$ 51.24	$ 18.63	57.13%
13		11,767	100.00%	$ 49.38	$ 77.00	$ 27.62	55.94%
14		17,651	150.00%	$ 66.15	$ 102.76	$ 36.62	55.36%
15		23,534	200.00%	$ 84.89	$ 128.84	$ 43.95	51.77%

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR DETERMIN'TS	(B) ANN'ZED ADJTM'TS	(C) TEST YEAR ADJUSTED DETERMIN'TS	(D) PROPOSED CHARGES & USAGE FEES	(E) RUCO PROPOSED REVENUES	(F) TOTAL REVENUES
	RESIDENTIAL CUSTOMERS						
1	C1M1A - 5/8" & 3/4"	28,342	17	28,358	$ 11.87	$ 4,039,184	$ 4,039,184
	Commodity Usage						
2	First Tier - First 4,000 Gals.	1,171,104	792	1,171,896	$ 2.3150	$ 2,712,958	
3	Second Tier - Next 9,000 Gals.	1,028,560	673	1,029,233	$ 2.7402	$ 2,820,282	
4	Third Tier - Over 13,000 Gals.	317,241	-	317,241	$ 2.9039	$ 921,236	
							$ 6,454,477
5	C1M1B - 1"	4,711	58	4,769	$ 30.37	$ 1,738,156	$ 1,738,156
	Commodity Usage						
6	First Tier - First 45,000 Gals.	588,528	8,192	596,720	$ 2.7402	$ 1,635,119	
7	Second Tier - Over 45,000 Gals.	75,925	-	75,925	$ 2.9039	$ 220,479	
							$ 1,855,598
8	C1M1C - 1-1/2"	151	-	151	$ 63.49	$ 115,298	$ 115,298
	Commodity Usage						
9	First Tier - First 100,000 Gals.	108,479	-	108,479	$ 2.7402	$ 297,251	
10	Second Tier - Over 100,000 Gals.	152,922	-	152,922	$ 2.9039	$ 444,070	
							$ 741,321
11	C1M1D - 2"	187	-	187	$ 95.22	$ 213,281	$ 213,281
	Commodity Usage						
12	First Tier - First 150,000 Gals.	209,433	-	209,433	$ 2.7402	$ 573,884	
13	Second Tier - Over 150,000 Gals.	280,576	-	280,576	$ 2.9039	$ 814,765	
							$ 1,388,649
14	C1M1E - 3"	2	-	2	$ 186.30	$ 4,104	$ 4,104
	Commodity Usage						
15	First Tier - First 300,000 Gals.	882	-	882	$ 2.7402	$ 2,416	
16	Second Tier - Over 300,000 Gals.	0	-	0	$ 2.9039	$ -	
							$ 2,416
17	C1M1G - 6"		-	0	$ 482.98	$ -	$ -
	Commodity Usage						
18	First Tier - First 800,000 Gals.	0	-	0	$ 2.7402	$ -	
19	Second Tier - Over 800,000 Gals.	0	-	0	$ 2.9039	$ -	
							$ -
20	Total Residential Customers	33,393	75	33,468			
21	Total Residential Usage	3,933,650	9,657	3,943,307			
22	TOTAL RESIDENTIAL CUSTOMERS REVENUE						$ 16,552,484
	COMMERCIAL CUSTOMERS						
23	C2M1A - 5/8" & 3/4"	69	-	69	$ 11.87	$ 9,872	$ 9,872
	Commodity Usage						
24	First Tier - First 13,000 Gals.	2,597	-	2,597	$ 2.7402	$ 7,116	
25	Second Tier - Over 13,000 Gals.	2,406	-	2,406	$ 2.9039	$ 6,987	
							$ 14,103
26	C2M1B - 1"	123	1	124	$ 30.37	$ 45,013	$ 45,013
	Commodity Usage						
27	First Tier - First 45,000 Gals.	30,583	264	30,848	$ 2.7402	$ 84,528	
28	Second Tier - Over 45,000 Gals.	25,134	0	25,134	$ 2.9039	$ 72,987	
							$ 157,514
29	C2M1C - 1-1/2"	183	2	185	$ 63.49	$ 140,818	$ 140,818
	Commodity Usage						
30	First Tier - First 100,000 Gals.	110,452	2,000	112,452	$ 2.7402	$ 308,139	
31	Second Tier - Over 100,000 Gals.	138,710	267	138,977	$ 2.9039	$ 403,576	
							$ 711,714
32	C2M1D - 2"	311	0	312	$ 95.22	$ 356,099	$ 356,099
	Commodity Usage						
33	First Tier - First 150,000 Gals.	287,425	750	288,175	$ 2.7402	$ 789,652	
34	Second Tier - Over 150,000 Gals.	428,063	208	428,270	$ 2.9039	$ 1,243,654	
							$ 2,033,306
35	C2M1E - 3"	76	-	76	$ 186.30	$ 168,902	$ 168,902
	Commodity Usage						
36	First Tier - First 300,000 Gals.	70,432	-	70,432	$ 2.7402	$ 192,998	
37	Second Tier - Over 300,000 Gals.	76,160	-	76,160	$ 2.9039	$ 221,160	
							$ 414,157

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
ADJUSTED TEST-YEAR REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR DETERMIN'TS	(B) ANN'ZED ADJTM'TS	(C) TEST YEAR ADJUSTED DETERMIN'TS	(D) PROPOSED CHARGES & USAGE FEES	(E) RUCO PROPOSED REVENUES	(F) TOTAL REVENUES
38	C2M1F - 4"	1	-	1	$ 250.60	$ 2,297	$ 2,297
	Commodity Usage						
39	First Tier - First 400,000 Gals.	2,284	-	2,284	$ 2.7402	$ 6,259	
40	Second Tier - Over 400,000 Gals.	4,581	-	4,581	$ 2.9039	$ 13,302	
							$ 19,561
41	C2M1G - 6"	3	-	3	$ 482.98	$ 16,808	$ 16,808
	Commodity Usage						
42	First Tier - First 800,000 Gals.	17,669	-	17,669	$ 2.7402	$ 48,416	
43	Second Tier - Over 800,000 Gals.	41767	-	41,767	$ 2.9039	$ 121,287	
							$ 169,703
44	C2M3 - Arizona Water Contract	1	-	1	$ -	$ -	$ -
	Commodity Usage						
45	First Tier - First 8,000 Gals.	17	-	17	$ 2.3150	$ 39	
46	Second Tier - Over 8,000 Gals.	1984	-	1,984	$ 2.7402	$ 5,437	
							$ 5,476
47	Total Commercial Customers	766	3	769			
48	Total Commercial Usage	1,240,264	3,490	1,243,754			
49	TOTAL COMMERCIAL CUSTOMERS REVENUE						$ 4,265,344
	OPA						
50	C4M2 - Agua Fria OPA - Prison	1	-	1	$ 217.80	$ 3,614.46	
51	All Commodity Usage	14,430	-	14,430	$ 2.7402	$ 39,540.78	
52	TOTAL OPA CUSTOMER REVENUE						$ 43,155
	SALE FOR RESALE						
53	C5M1 - Agua Fria OWU Pl Surprise	4	-	4	$ -	$ -	
54	All Commodity Usage	123,440	-	123,440	$ 0.7913	$ 97,677.57	
55	TOTAL SALE FOR RESALE CUSTOMER REVENUE			-	$ -		$ 97,678
	PRIVATE FIRE PROTECTION CUSTOMERS			-	$ -		
56	B6MO4 - 4"	1	-	1	$ 50.72	$ 609	
57	C6M04 - 4"	82	-	82	$ 39.25	$ 38,797	
58	C6MO6 - 6"	111	-	111	$ 58.85	$ 78,210	
59	C6MO8 - 8"	36	-	36	$ 78.46	$ 34,158	
60	C6M12 - 12"	1	-	1	$ 235.38	$ 2,825	
61	E6M06 6"	1	-	1	$ 182.32	$ 1,276	
62	Commodity Usage	-	-	-	No Charge		
63	TOTAL PRIVATE FIRE PROTECTION CUSTOMERS REVENUE						$ 155,874
	MISC IRRIGATION SALES						
64	C7M2 - Agua Fria Irrigation - Raw	4	-	4	$ -	$ -	
	All Commodity Usage	4,464	-	4,464	$ 0.7913	$ 3,532	
65	C8M2 - Agua Fria Non-Potable	1	-	1	$ -	$ -	
66	All Commodity Usage	152,821	-	152,821	$ 0.9812	$ 149,949	
67	TOTAL MISC IRRIGATION CUSTOMERS REVENUE						$ 153,481
68	**TOTAL RUCO TEST YEAR REVENUE PER BILL COUNT**						$ 21,268,016
69	Unreconciled Difference vs. Billed Revenues						228,251
70	**REVENUE PER BILL COUNT**						$ 21,496,267
71	Other Revenue						905,117
72	ACRM Revenue						-
73	**TOTAL REVENUE**						$ 22,401,384
74	**ADJUSTED TEST-YEAR REVENUE PER FILING**						$ 22,401,384
75	Difference						$ (0)

TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	DESCRIPTION	(A) PRESENT	(B) PRESENT	(C) COMPANY PROPOSED	(D) COMPANY PROPOSED	(E) RUCO PROPOSED	(F) RUCO PROPOSED
	REVENUE ALLOCATION						
1	RESIDENTIAL	$ 13,689,331	77.05%	$ 20,981,543	77.84%	$ 16,552,484	77.83%
2	OTHER	4,078,231	22.95%	5,973,910	22.16%	4,715,532	22.17%
3	TOTAL	$ 17,767,562	100.00%	$ 26,955,453	100.00%	$ 21,268,016	100.00%
	ALLOCATION RATIOS						
4	FIX REVENUE	$ 6,142,639	34.57%	$ 8,890,833	32.98%	$ 7,009,320	32.96%
5	VARIABLE REVENUE	11,624,923	65.43%	18,064,620	67.02%	14,258,695	67.04%
6	TOTAL	$ 17,767,562	100.00%	$ 26,955,453	100.00%	$ 21,268,016	100.00%

	RES. G-1 (5/8" X 3/4") RATE DESIGN		PRESENT	COMPANY PROPOSED	RUCO PROPOSED
7	BASIC MONTHLY CHARGE		$ 10.45	$ 15.00	$ 11.87
	COMMODITY CHARGE				
	PRESENT	PROPOSED			
8	First Tier - First 4,000 Gals.	First Tier - First 4,000 Gals.	$ 1.5398	$ 2.9256	$ 2.3150
9	Second Tier - Next 9,000 Gals.	Second Tier - Next 9,000 Gals.	$ 2.2198	$ 3.4629	$ 2.7402
10	Third Tier - Over 13,000 Gals.	Third Tier - Over 13,000 Gals.	$ 2.6468	$ 3.6698	$ 2.9039

	RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL	% OF AVERAGE MONTH USAGE OF 7400 Gal.	GALLONS USED AT VARIOUS USAGE	PRESENT MONTHLY WATER COST	RUCO PROP'D MONTHLY WATER COST	RUCO PROP'D MONTHLY INCREASE	RUCO PROP'D MONTHLY % INCREASE
11		25.00%	1,850	$ 13.30	$ 16.15	$ 2.85	21.46%
12		50.00%	3,700	$ 16.15	$ 20.43	$ 4.29	26.55%
13		100.00%	7,400	$ 24.16	$ 30.45	$ 6.29	26.04%
14		150.00%	11,100	$ 32.37	$ 40.58	$ 8.21	25.38%
15		200.00%	14,800	$ 41.35	$ 51.02	$ 9.67	23.38%

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR DETERMIN'TS	(B) ANN'ZED ADJTM'TS	(C) TEST YEAR ADJUSTED DETERMIN'TS	(D) PROPOSED CHARGES & USAGE FEES	(E) RUCO PROPOSED REVENUES	(F) TOTAL REVENUES
	RESIDENTIAL CUSTOMERS						
1	H1M1A - 5/8" & 3/4"	1,679	(8)	1,671	$ 25.66	$ 514,491	$ 514,491
	Commodity Usage						
2	First Tier - First 4,000 Gals.	59,838	(380)	59,458	$ 3.6953	$ 219,712	
3	Second Tier - Next 9,000 Gals.	67,209	(542)	66,667	$ 3.8447	$ 256,316	
4	Third Tier - Over 13,000 Gals.	69,397	-	69,397	$ 4.1744	$ 289,692	
					$ -		$ 765,720
5	H1M1B - 1"	1	-	1	$ 44.15	$ 343	$ 343
	Commodity Usage						
6	First Tier - First 30,000 Gals.	79	-	79	$ 3.8447	$ 304	
7	Second Tier - Over 30,000 Gals.	63	-	63	$ 4.1744	$ 263	
							$ 567
8	H1M1D - 2"	1	-	1	$ 86.87	$ 1,106	$ 1,106
	Commodity Usage						
9	First Tier - First 60,000 Gals.	377	-	377	$ 3.8447	$ 1,449	
10	Second Tier - Over 60,000 Gals.	0	-	0	$ 4.1744	$ -	
							$ 1,449
11	H1M1F - 4"	2	-	2	$ 149.51	$ 4,182	$ 4,182
	Commodity Usage						
12	First Tier - First 110,000 Gals.	1,992	-	1,992	$ 3.8447	$ 7,659	
13	Second Tier - Over 110,000 Gals.	4,381	-	4,381	$ 4.1744	$ 18,288	
							$ 25,947
14	H1M3D - Apt 2"	0	-	0	$ 12.83	$ 13	$ 13
	Commodity Usage						
15	First Tier - First 60,000 Gals.	53	-	53	$ 3.8447	$ 204	
16	Second Tier - Over 60,000 Gals.	0	-	0	$ 4.1744	$ -	
							$ 204
17	H1M3F - Apt 4"	40	-	40	$ 12.83	$ 6,209	$ 6,209
	Commodity Usage						
18	First Tier - First 110,000 Gals.	254	-	254	$ 3.8447	$ 977	
19	Second Tier - Over 110,000 Gals.	76	-	76	$ 4.1744	$ 317	
							$ 1,294
20	H1M3H - Apt 4" - Valley Manor	73	-	73	$ 12.83	$ 11,174	$ 11,174
	Commodity Usage						
21	First Tier - First 110,000 Gals.	1,430	-	1,430	$ 3.8447	$ 5,498	
22	Second Tier - Over 110,000 Gals.	2,748	-	2,748	$ 4.1744	$ 11,471	
							$ 16,969
23	H1M3J - Apt 4" - Kenjen RV	111	-	111	$ 12.83	$ 17,011	$ 17,011
	Commodity Usage						
24	First Tier - First 110,000 Gals.	1,401	-	1,401	$ 3.8447	$ 5,386	
25	Second Tier - Over 110,000 Gals.	271	-	271	$ 4.1744	$ 1,131	
							$ 6,518
26	H1M3K - Apt 4"- HV Falls RV	280	-	280	$ 12.83	$ 43,029	$ 43,029
	Commodity Usage						
27	First Tier - First 110,000 Gals.	1,253	-	1,253	$ 3.8447	$ 4,817	
28	Second Tier - Over 110,000 Gals.	796	-	796	$ 4.1744	$ 3,323	
							$ 8,140
29	H1M3L - Apt 1" - LH RV	38	-	38	$ 12.83	$ 5,786	$ 5,786
	Commodity Usage						
30	First Tier - First 30,000 Gals.	330	-	330	$ 3.8447	$ 1,269	
31	Second Tier - Over 30,000 Gals.	1,747	-	1,747	$ 4.1744	$ 7,293	
							$ 8,561
32	H1M3M - Apt 1" - D Hills RV	99	-	99	$ 12.83	$ 15,190	$ 15,190
	Commodity Usage						
33	First Tier - First 30,000 Gals.	503	-	503	$ 3.8447	$ 1,934	
34	Second Tier - Over 30,000 Gals.	799	-	799	$ 4.1744	$ 3,335	
							$ 5,269
35	H1M3P - Apt 6" - Hav Resort	166	-	166	$ 12.83	$ 25,517	$ 25,517
	Commodity Usage						
36	First Tier - First 500,000 Gals.	5,777	-	5,777	$ 3.8447	$ 22,212	
37	Second Tier - Over 500,000 Gals.	526	-	526	$ 4.1744	$ 2,194	
38	Total Residential Customers	2,654	(8)	2,646			$ 24,407
39	Total Residential Usage	227,603	(922)	226,681			
40	TOTAL RESIDENTIAL CUSTOMERS REVENUE						$ 1,509,097

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
ADJUSTED TEST-YEAR REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR DETERMIN'TS	(B) ANN'ZED ADJTM'TS	(C) TEST YEAR ADJUSTED DETERMIN'TS	(D) PROPOSED CHARGES & USAGE FEES	(E) RUCO PROPOSED REVENUES	(F) TOTAL REVENUES
	COMMERCIAL CUSTOMERS						
34	H2M1A - 5/8" & 3/4"	38	-0.2	38	$ 25.66	$ 11,728	$ 11,728
	Commodity Usage						
35	First Tier - First 13,000 Gals.	3,229	-26.0	3,203	$ 3.8447	$ 12,315	
36	Second Tier - Over 13,000 Gals.	5,349	-0.9	5,348	$ 4.1744	$ 22,325	
							$ 34,640
37	H2M1B - 1"	10	-0.3	10	$ 44.15	$ 5,099	$ 5,099
	Commodity Usage						
38	First Tier - First 30,000 Gals.	2,145	-90.0	2,055	$ 3.8447	$ 7,901	
39	Second Tier - Over 30,000 Gals.	5,041	-91.9	4,949	$ 4.1744	$ 20,660	
							$ 28,560
40	H2M1D - 2"	22	-0.1	22	$ 86.87	$ 23,175	$ 23,175
	Commodity Usage						
41	First Tier - First 60,000 Gals.	9,042	-60.0	8,982	$ 3.8447	$ 34,533	
42	Second Tier - Over 60,000 Gals.	11,161	-15.5	11,146	$ 4.1744	$ 46,526	
							$ 81,059
43	H2M1E - 3"	5	0.0	5	$ 118.19	$ 6,521	$ 6,521
	Commodity Usage						
44	First Tier - First 90,000 Gals.	814	0.0	814	$ 3.8447	$ 3,130	
45	Second Tier - Over 90,000 Gals.	419	0.0	419	$ 4.17	$ 1,749	
							$ 4,879
46	Total Commercial Customers	75	-1	75			
47	Total Commercial Usage	37,200	-284	36,916			
48	TOTAL COMMERCIAL CUSTOMERS REVENUE						$ 195,662

64	**TOTAL RUCO TEST YEAR REVENUE PER BILL COUNT**	$ 1,704,758
65	Unreconciled Difference vs. Billed Revenues	(41,062)
66	**REVENUE PER BILL COUNT**	1,663,696
67	Other Revenue	23,110
68	ACRM Revenue	-
69	**TOTAL REVENUE**	$ 1,686,806
70	**PROPOSED REVENUE PER FILING**	$ 1,686,806
71	Difference	$ (0)

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	DESCRIPTION	(A) PRESENT	(B)	(C) COMPANY PROPOSED	(D)	(E) RUCO PROPOSED	(F)
	REVENUE ALLOCATION						
1	RESIDENTIAL	$ 917,232	88.44%	$ 1,646,824	88.52%	$ 1,509,097	88.52%
2	OTHER	119,942	11.56%	213,518	11.48%	195,662	11.48%
3	TOTAL	$ 1,037,174	100.00%	$ 1,860,342	100.00%	$ 1,704,758	100.00%
	ALLOCATION RATIOS						
4	FIX REVENUE	$ 470,144	45.33%	$ 753,600	40.51%	$ 690,575	40.51%
5	VARIABLE REVENUE	567,030	54.67%	1,106,743	59.49%	1,014,184	59.49%
6	TOTAL	$ 1,037,174	100.00%	$ 1,860,342	100.00%	$ 1,704,758	100.00%

	RES. G-1 (5/8" X 3/4") RATE DESIGN		PRESENT	COMPANY PROPOSED	RUCO PROPOSED
7	BASIC MONTHLY CHARGE		$ 17.40	$ 28.00	$ 25.66
	COMMODITY CHARGE				
	PRESENT	PROPOSED			
8	First Tier - First 4,000 Gals.	First Tier - First 4,000 Gals.	$ 1.6802	$ 4.0325	$ 3.6953
9	Second Tier - Next 9,000 Gals.	Second Tier - Next 9,000 Gals.	$ 2.1852	$ 4.1956	$ 3.8447
10	Third Tier - Over 13,000 Gals.	Third Tier - Over 13,000 Gals.	$ 2.5002	$ 4.5554	$ 4.1744

	RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL	% OF AVERAGE MONTH USAGE OF 9705 Gal.	GALLONS USED AT VARIOUS USAGE	PRESENT MONTHLY WATER COST	RUCO PROP'D MONTHLY WATER COST	RUCO PROP'D MONTHLY INCREASE	RUCO PROP'D MONTHLY % INCREASE
11		25.00%	2,426	$ 21.48	$ 34.62	$ 13.15	61.22%
12		50.00%	4,853	$ 25.98	$ 43.59	$ 17.60	67.75%
13		100.00%	9,705	$ 35.55	$ 61.29	$ 25.74	72.40%
14		150.00%	14,558	$ 47.68	$ 81.55	$ 33.86	71.02%
15		200.00%	19,410	$ 59.81	$ 101.80	$ 41.99	70.19%

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR DETERMIN'TS	(B) ANN'ZED ADJTM'TS	(C) TEST YEAR ADJUSTED DETERMIN'TS	(D) PROPOSED CHARGES & USAGE FEES	(E) RUCO PROPOSED REVENUES	(F) TOTAL REVENUES
	RESIDENTIAL CUSTOMERS						
1	G1M1A - 5/8" & 3/4"	14,732	(3)	14,729	$ 10.30	$ 1,821,332	$ 1,821,332
	Commodity Usage						
2	First Tier - First 4,000 Gals.	527,981	(148)	527,833	$ 1.2632	$ 666,744	
3	Second Tier - Next 6,000 Gals.	483,259	(151)	483,108	$ 1.3954	$ 674,137	
4	Third Tier - Over 10,000 Gals.	415,917	-	415,917	$ 1.4976	$ 622,878	
							$ 1,963,759
5	G1M1B - 1"	55	0	55	$ 25.02	$ 16,663	$ 16,663
	Commodity Usage						
6	First Tier - First 25,000 Gals.	9,632	96	9,728	$ 1.3954	$ 13,575	
7	Second Tier - Over 25,000 Gals.	6,291	-	6,291	$ 1.4976	$ 9,421	
							$ 22,996
8	G1M1D - 2"	30	-	30	$ 80.08	$ 28,852	$ 28,852
	Commodity Usage						
9	First Tier - First 80,000 Gals.	14,419	-	14,419	$ 1.3954	$ 20,120	
10	Second Tier - Over 80,000 Gals.	29,167	-	29,167	$ 1.4976	$ 43,681	
							$ 63,801
11	G1M2A - Apt 5/8" X 3/4"	72	-	72	$ 10.30	$ 8,959	$ 8,959
	Commodity Usage						
12	First Tier - First 10,000 Gals.	7,980	-	7,980	$ 1.3954	$ 11,135	
13	Second Tier - Over 10,000 Gals.	7,248	-	7,248	$ 1.4976	$ 10,855	
							$ 21,990
14	G1M2B - Apt 1"	55	-	55	$ 25.02	$ 16,383	$ 16,383
	Commodity Usage						
15	First Tier - First 25,000 Gals.	10,407	-	10,407	$ 1.3954	$ 14,522	
16	Second Tier - Over 25,000 Gals.	6,078	-	6,078	$ 1.4976	$ 9,102	
							$ 23,625
17	G1M2C - Apt 1-1/2"	4	-	4	$ 50.05	$ 2,359	$ 2,359
	Commodity Usage						
18	First Tier - First 50,000 Gals.	2,090	-	2,090	$ 1.3954	$ 2,916	
19	Second Tier - Over 50,000 Gals.	500	-	500	$ 1.4976	$ 749	
							$ 3,665
20	G1M2D - Apt 2"	145	-	145	$ 80.08	$ 139,434	$ 139,434
	Commodity Usage						
21	First Tier - First 80,000 Gals.	57,666	-	57,666	$ 1.3954	$ 80,468	
22	Second Tier - Over 80,000 Gals.	68,243	-	68,243	$ 1.4976	$ 102,201	
							$ 182,669
23	G1M2F - Apt 4"	4	-	4	$ 253.20	$ 11,427	$ 11,427
	Commodity Usage						
24	First Tier - First 250,000 Gals.	5,465	-	5,465	$ 1.3954	$ 7,626	
25	Second Tier - Over 250,000 Gals.	3,049	-	3,049	$ 1.4976	$ 4,566	
							$ 12,192
26	G1M2G - Apt 6"	3	-	3	$ 500.51	$ 18,018	$ 18,018
	Commodity Usage						
27	First Tier - First 500,000 Gals.	9,165	-	9,165	$ 1.3954	$ 12,789	
28	Second Tier - Over 500,000 Gals.	9,449	-	9,449	$ 1.4976	$ 14,151	
							$ 26,940
29	G1M3A - Apt 5/8" x 3/4" - Rio Utility	352	-	352	$ 10.30	$ 43,522	$ 43,522
	Commodity Usage						
30	First Tier - First 4,000 Gals.	13,793		13,793	$ 1.2632	$ 17,423	
31	Second Tier - Next 6,000 Gals.	14,700	-	14,700	$ 1.3954	$ 20,513	
32	Third Tier - Over 10,000 Gals.	14,697	-	14,697	$ 1.4976	$ 22,010	
							$ 59,946
33	G1M3B - Apt 1" - Rio Utility	4	-	4	$ 25.02	$ 1,201	$ 1,201
	Commodity Usage						
34	First Tier - First 25,000 Gals.	468	-	468	$ 1.3954	$ 653	
35	Second Tier - Over 25,000 Gals.	53	-	53	$ 1.4976	$ 79	
							$ 732
36	Total Residential Customers	15,456	(3)	15,453			
37	Total Residential Usage	1,703,924	(202)	1,703,722			
38	TOTAL RESIDENTIAL CUSTOMERS REVENUE						$ 4,490,466

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR DETERMIN'TS	(B) ANN'ZED ADJTM'TS	(C) TEST YEAR ADJUSTED DETERMIN'TS	(D) PROPOSED CHARGES & USAGE FEES	(E) RUCO PROPOSED REVENUES	(F) TOTAL REVENUES
	COMMERCIAL CUSTOMERS						
39	G2M1A - 5/8" & 3/4"	402	(1)	402	$ 10.30	$ 49,673	$ 49,673
	Commodity Usage						
40	First Tier - First 13,000 Gals.	25,169	(90)	25,079	$ 1.3954	$ 34,996	
41	Second Tier - Over 13,000 Gals.	31,262	(15)	31,247	$ 1.4976	$ 46,795	
							$ 81,791
42	G2M1B - 1"	171	0	171	$ 25.02	$ 51,370	$ 51,370
	Commodity Usage						
43	First Tier - First 30,000 Gals.	28,236	125	28,361	$ 1.3954	$ 39,575	
44	Second Tier - Over 30,000 Gals.	25,918	7	25,925	$ 1.4976	$ 38,826	
							$ 78,401
45	G2M1C - 1-1/2"	9	(0)	9	$ 50.05	$ 5,242	$ 5,242
	Commodity Usage						
46	First Tier - First 60,000 Gals.	3,433	(150)	3,283	$ 1.3954	$ 4,581	
47	Second Tier - Over 60,000 Gals.	9,690	(215)	9,475	$ 1.4976	$ 14,189	
							$ 18,770
48	G2M1D - 2"	206	0	207	$ 80.08	$ 198,494	$ 198,494
	Commodity Usage						
49	First Tier - First 60,000 Gals.	97,948	80	98,028	$ 1.3954	$ 136,790	
50	Second Tier - Over 60,000 Gals.	157,392	23	157,415	$ 1.4976	$ 235,745	
							$ 372,535
51	G2M1E - 3"	30	-	30	$ 160.16	$ 56,948	$ 56,948
	Commodity Usage						
52	First Tier - First 60,000 Gals.	16,576	-	16,576	$ 1.3954	$ 23,130	
53	Second Tier - Over 60,000 Gals.	21,120	-	21,120	$ 1.4976	$ 31,629	
							$ 54,760
54	G2M1F - 4"	1	-	1	$ 253.20	$ 3,747	$ 3,747
	Commodity Usage						
55	First Tier - First 60,000 Gals.	2,117	-	2,117	$ 1.3954	$ 2,954	
56	Second Tier - Over 60,000 Gals.	255	-	255	$ 1.4976	$ 382	
							$ 3,336
57	G2M1G - 6"	2	-	2	$ 500.51	$ 9,740	$ 9,740
	Commodity Usage						
58	First Tier - First 60,000 Gals.	1,449	-	1,449	$ 1.3954	$ 2,022	
59	Second Tier - Over 60,000 Gals.	185	-	185	$ 1.4976	$ 277	
							$ 2,299
60	G2M1V - 5/8" X 3/4" - BHC Memorial	2	-	2	$ -	$ -	$ -
	Commodity Usage						
61	First Tier - First 60,000 Gals.	207	-	207	$ 1.3954	$ 289	
62	Second Tier - Over 60,000 Gals.	1,236	-	1,236	$ 1.4976	$ 1,851	
							$ 2,140
63	H2M1D - 2" - Havasu Commercial	1	-	1	$ 46.96	$ 335	$ 335
	Commodity Usage						
64	First Tier - First 60,000 Gals.	415	-	415	$ 1.6693	$ 693	
65	Second Tier - Over 60,000 Gals.	2,444	-	2,444	$ 1.8669	$ 4,563	
							$ 5,256
66	H2M1F - 4" - Havasu Commercial	0	-	0	$ 80.83	$ 404	$ 404
	Commodity Usage						
67	First Tier - First 90,000 Gals.	550	-	550	$ 1.6693	$ 918	
68	Second Tier - Over 90,000 Gals.	882	-	882	$ 1.8669	$ 1,647	
							$ 2,565
69	Total Commercial Customers	824	(1)	823			
70	Total Commercial Usage	1,703,924	(202)	1,703,722			
71	TOTAL COMMERCIAL CUSTOMERS REVENUE						$ 997,806

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR DETERMIN'TS	(B) ANN'ZED ADJTM'TS	(C) TEST YEAR ADJUSTED DETERMIN'TS	(D) PROPOSED CHARGES & USAGE FEES	(E) RUCO PROPOSED REVENUES	(F) TOTAL REVENUES
	OPA						
72	G4M1 - Bullhead OPA - 5/8" X 3/4"	25	-	25	$ 10.30	$ 3,112	
73	All Commodity Usage	2,257	-	2,257	$ 1.4547	$ 3,283	
							$ 6,395
74	G4M1 - Bullhead OPA - 1"	8	0	8	$ 25.02	$ 2,390	
75	All Commodity Usage	3,543	6	3,549	$ 1.4547	$ 5,163	
							$ 7,553
76	G4M1 - Bullhead OPA - 1-1/2"	4	-	4	$ 50.05	$ 2,403	
77	All Commodity Usage	2,104	-	2,104	$ 1.4547	$ 3,061	
							$ 5,463
78	G4M1 - Bullhead OPA - 2"	42	0	42	$ 80.08	$ 40,509	
79	All Commodity Usage	36,512	798	37,310	$ 1.4547	$ 54,274	
							$ 94,782
80	G4M1 - Bullhead OPA - 3"	2	-	2	$ 160.16	$ 3,844	
81	All Commodity Usage	17,545	-	17,545	$ 1.4547	$ 25,522	
							$ 29,366
82	G4M1 - Bullhead OPA - 4"	1	-	1	$ 253.20	$ 3,038	
83	All Commodity Usage	9,597	-	9,597	$ 1.4547	$ 13,960	
							$ 16,999
84	G4M1 - Bullhead OPA - 6"	1	-	1	$ 500.51	$ 6,006	
85	All Commodity Usage	19,160	-	19,160	$ 1.4547	$ 27,871	
							$ 33,878
86	Total OPA Customers	83	1	83			
87	Total OPA Usage	86,204	804	87,008			
88	TOTAL OPA CUSTOMERS REVENUE						$ 194,436
	PRIVATE FIRE PROTECTION CUSTOMERS (No Commodity Usage Charge)						
89	G6M02 - 2"	21	-	21	$ 8.32	$ 2,097	
90	G6M04 - 4"	66	0	66	$ 16.62	$ 13,158	
91	G6M06 - 6"	20	-	20	$ 24.94	$ 5,985	
92	G6M08 - 8"	5	-	5	$ 33.26	$ 1,995	
93	G6M10 - 10"	1	-	1	$ 41.55	$ 499	
94	G8M4 - Hydrant	161	-	161	$ 21.18	$ 40,912	
95	Total Fire Protection Customers	274	0	274			
96	TOTAL PRIVATE FIRE PROTECTION CUSTOMERS						$ 64,646
97	**TOTAL RUCO TEST YEAR REVENUE PER BILL COUNT**						$ 5,747,355
98	Unreconciled Difference vs. Billed Revenues						(104,938)
99	**REVENUE PER BILL COUNT**						5,642,417
100	Other Revenue						181,023
101	ACRM Revenue						-
102	**TOTAL REVENUE**						$ 5,823,440
103	**PROPOSED REVENUE PER FILING**						$ 5,823,440
104	Difference						$ (0)
105	Percentage Difference						0.00%

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	DESCRIPTION	(A) PRESENT	(B) PRESENT	(C) COMPANY PROPOSED	(D) COMPANY PROPOSED	(E) RUCO PROPOSED	(F) RUCO PROPOSED
	REVENUE ALLOCATION						
1	RESIDENTIAL	$ 3,891,713	77.57%	$ 5,229,273	78.13%	$ 4,490,466	78.13%
2	OTHER	1,125,047	22.43%	1,463,682	21.87%	1,256,889	21.87%
3	TOTAL	$ 5,016,760	100.00%	$ 5,747,355	100.00%	$ 5,747,355	100.00%
	ALLOCATION RATIOS						
4	FIX REVENUE	$ 2,186,482	43.58%	$ 3,039,479	45.41%	$ 2,610,052	45.41%
5	VARIABLE REVENUE	2,830,278	56.42%	3,653,476	54.59%	3,137,302	54.59%
6	TOTAL	$ 5,016,760	100.00%	$ 5,747,355	100.00%	$ 5,747,355	100.00%

	RES. G-1 (5/8" X 3/4") RATE DESIGN		PRESENT	COMPANY PROPOSED	RUCO PROPOSED
7	BASIC MONTHLY CHARGE		$ 8.75	$ 12.00	$ 10.30
	COMMODITY CHARGE				
	PRESENT	PROPOSED			
8	First Tier - First 4,000 Gals.	First Tier - First 4,000 Gals.	$ 0.8500	$ 1.4710	$ 1.2632
9	Second Tier - Next 6,000 Gals.	Second Tier - Next 6,000 Gals.	$ 1.3000	$ 1.6250	$ 1.3954
10	Third Tier - Over 10,000 Gals.	Third Tier - Over 10,000 Gals.	$ 1.5000	$ 1.7440	$ 1.4976

	RESIDENTIAL BILL COMPARISONS COST OF WATER SERVICE AT DIFFERENT LEVELS OF USAGE WITH PERCENTAGE INCREASE IN BILL	% OF AVERAGE MONTH USAGE OF 8073 Gal.	GALLONS USED AT VARIOUS USAGE	PRESENT MONTHLY WATER COST	RUCO PROP'D MONTHLY WATER COST	RUCO PROP'D MONTHLY INCREASE	RUCO PROP'D MONTHLY % INCREASE
11		25.00%	2,018	$ 10.47	$ 12.85	$ 2.39	22.82%
12		50.00%	4,037	$ 12.20	$ 15.41	$ 3.21	26.32%
13		100.00%	8,073	$ 17.44	$ 21.04	$ 3.60	20.61%
14		150.00%	12,110	$ 23.12	$ 26.89	$ 3.77	16.33%
15		200.00%	16,146	$ 29.17	$ 32.93	$ 3.77	12.91%

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE
PROPOSED REVENUE

LINE NO.	DESCRIPTION	(A) TEST YEAR DETERMIN'TS	(B) DWELLING UNIT COUNT	(C) ANN'ZED ADJUSTM'TS	(D) TEST YEAR ADJUSTED DETERMIN'TS	(E) PRESENT CHARGES & USAGE FEES	(F) RUCO TEST YEAR REVENUES	(G) TOTAL REVENUES
	RESIDENTIAL CUSTOMERS							
1	P1MS1	1,215	14,583	-	14,583	$ 59.98	$ 874,671	$ 874,671
2	**COMMERCIAL CUSTOMERS**							
	P2MS1	5	132	-	132	$ 59.98	$ 7,917	$ 7,917
3	P2MS4	2	26	-	26	$ 77.31	$ 2,028	$ 2,028
4	Volume Charge - All Usage	214,945	5,638	-	5,638	$ 5.34	$ 30,126	$ 30,126
								$ 32,154
5	TOTAL COMMERCIAL CUSTOMERS REVENUE							$ 40,071
	OPA CUSTOMERS							
6	P4MS1	13	156	-	156	$ 59.98	$ 9,357	$ 9,357
	EFFLUENT SALES CUSTOMERS							
7	P7A1	1	206	-	206	$ 166.98	$ 34,480	$ 34,480
8	**TOTAL MOHAVE WASTEWATER - BILLED REVENUES**							$ 958,578
9	RESIDENTIAL	1,215	14,583	-	14,583	$ 59.98	$ 874,671	$ 874,671
10	COMMERCIAL							
	P2MS1	5	132	-	132	$ 59.98	$ 7,917	
	P2MS4	2	26	-	26	$ 77.31	$ 2,028	$ 9,945
11	P2MS4 - VOLUME CHARGE	214,945	5,638	-	5,638	$ 5.34	$ 30,126	$ 30,126
12	OPA	13	156	-	156	$ 59.98	$ 9,357	$ 9,357
13	EFFLUENT SALES	1	206	-	206	$ 166.98	$ 34,480	$ 34,480
14	TOTAL MOHAVE WASTEWATER							
15	BILLED REVENUES	1,229						$ 958,578
38	**TOTAL RUCO PROPOSED REVENUE PER BILL COUNT**							$ 958,578
39	Unreconciled Difference vs. Billed Revenues							(1,753)
40	**REVENUE PER BILL COUNT**							956,825
	Other Revenue							4,882
41								
42	**TOTAL REVENUE**							$ 961,707
	PROPOSED REVENUE PER FILING							$ 961,707
	Difference							$ (0)
43	Percentage Difference							0.00%
44								
47								

TYPICAL RESIDENTIAL BILL ANALYSIS

LINE NO.	DESCRIPTION	(A) PRESENT	(B) PRESENT	(C) COMPANY PROPOSED	(D) COMPANY PROPOSED	(E) RUCO PROPOSED	(F) RUCO PROPOSED
	REVENUE ALLOCATION						
1	RESIDENTIAL	$ 724,046	91.35%	$ 1,309,553	91.25%	$ 874,671	92.20%
2	OTHER	68,553	8.65%	125,626	8.75%	73,962	7.80%
3	TOTAL	$ 792,599	100.00%	$ 1,435,179	100.00%	$ 948,633	100.00%
	ALLOCATION RATIOS						
4	FIX REVENUE	$ 740,024	93.37%	$ 1,338,452	93.26%	$ 884,027	93.19%
5	VARIABLE REVENUE	52,575	6.63%	96,728	6.74%	64,606	6.81%
6	TOTAL	$ 792,599	100.00%	$ 1,435,179	100.00%	$ 948,633	100.00%

	RESIDENTIAL (5/8" X 3/4") RATE DESIGN		PRESENT	COMPANY PROPOSED	RUCO PROPOSED
7	BASIC MONTHLY CHARGE		$ 49.65	$ 89.80	$ 59.98
	COMMODITY CHARGE				
	PRESENT	PROPOSED			
8	Flat Rate	Flat Rate	$ 2.00	$ 8.00	$ 5.34
9	Effluent - All Acre Feet	Effluent - All Acre Feet	$ 200.00	$ 250.00	$ 166.98

RESIDENTIAL BILL COMPARISONS

	MONTHLY CONSUMPTION	PRESENT MONTHLY WATER COST	RUCO PROP'D MONTHLY WATER COST	RUCO PROP'D MONTHLY INCREASE	RUCO PROP'D MONTHLY % INCREASE
10	Flat Rate	$ 49.65	$ 59.98	$ 10.33	20.80%