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BEFORE THE ARIZONA CORPORATION COMMISSION

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AZ CORP COMMISSION
DOCKET CONTROL

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 FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WATER DISTRICT.	DOCKET NO. W-01303A-07-0209 **NOTICE OF FILING STAFF'S DIRECT TESTIMONY**

Staff of the Arizona Corporation Commission hereby files the Direct Testimony of Alexander I. Igwe, Steven P. Irvine, and Dorothy Hains in the above-referenced matter.

RESPECTFULLY SUBMITTED this 15th day of October, 2007.

Robin R. Mitchell
Attorney, Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007
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Original and thirteen (13) copies of the foregoing were filed this 15th day of October, 2007 with:

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Arizona Corporation Commission
DOCKETED
OCT 15 2007
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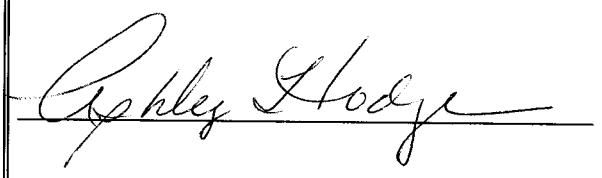

DIRECT

TESTIMONY

OF

ALEXANDER I. IGWE

STEVEN P. IRVINE

DOROTHY HAINS

DOCKET NO. W-01303A-07-0209

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 PROPPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR THE UTILITY SERVICE BY ITS SUN CITY WATER DISTRICT

OCTOBER 15, 2007

IGWE

BEFORE THE ARIZONA CORPORATION COMMISSION

MIKE GLEASON
Chairman
WILLIAM A. MUNDEL
Commissioner
JEFF HATCH-MILLER
Commissioner
KRISTIN K. MAYES
Commissioner
GARY PIERCE
Commissioner

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 THE UTILITY SERVICE BY ITS SUN CITY WATER DISTRICT	) DOCKET NO. W-01303A-07-0209

DIRECT

TESTIMONY

OF

ALEXANDER IBHADE IGWE

EXECUTIVE CONSULTANT III

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

OCTOBER 15, 2007

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SCHEDULES

EXECUTIVE SUMMARY
ARIZONA-AMERICAN WATER COMPANY – SUN CITY WATER DISTRICT
DOCKET NO. W-01303A-07-0209

On April 2, 2007, Arizona-American Water Company-Sun City Water District ("Sun City Water District" or "Company") filed an application for determination of the current value of its utility plant and property and for increases in its rates and charges. The Company asserts that its proposed rate increase is necessary to reflect increases in cost of service since December 2001, the test year end in the prior rate proceeding.

Sun City Water District provides water service to approximately 23,000 customers in the towns of Sun City and Youngtown. Its current rates and charges were approved by the Arizona Corporation Commission ("Commission") in Decision No. 67093, dated June 20, 2004.

The Company is proposing revenue requirement of $9,933,297, an increase of $2,244,778 or 29.20 percent over its reported adjusted test year operating revenues of $7,688,479. The Company's proposal results in an operating income of $2,071,759 or a rate of return of 7.98 percent on its adjusted Original Cost Rate Base ("OCRB") of $25,961,898.

Staff recommends revenue requirement of $9,518,830, an increase of $1,830,351 or 23.81 percent over its adjusted test year operating revenues. Staff's recommended revenue requirement is $414,427 less than the Company's proposal. Staff's recommendation produces an operating income of $1,872,660 or a rate of return of 7.40 percent on Staff's adjusted OCRB of $25,306,214.

INTRODUCTION

Q. Please state your name and business address.

A. My name is Alexander Ibhade Igwe. My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

Q. What is your current employment position?

A. I am employed with the Utilities Division of the Arizona Corporation Commission ("Commission") as an Executive Consultant III.

Q. Briefly describe your responsibilities as an Executive Consultant.

A. In my capacity as an Executive Consultant III, I perform complex financial analysis and make recommendations to the Commission on rate base, revenue requirement and rate design; for water, wastewater, electric and gas rate proceedings. Also, I provide recommendations on financing, merger and acquisitions, sales of assets, issuance and extension of Certificate of Convenience and Necessity as well as other ancillary matters.

Q. Please describe your educational background and professional experience.

A. I received a Bachelor of Science degree in Accounting from the University of Benin, Nigeria and a Master of Information Systems Management degree from Keller Graduate School of Management of Devry University. I was a Certified Public Accountant and a member of the American Institute of Certified Public Accountants. I have attended various training classes and courses regarding regulatory audits, rate-making, and other utility related matters. In addition, in my over eight years with the Utilities Division Staff ("Staff"), I have prepared Staff Reports and pre-filed testimonies and presented oral testimonies in several proceedings before the Commission.

PURPOSE OF TESTIMONY

Q. What is the purpose of your testimony in this proceeding?

A. I am presenting Staff's analysis and recommendations regarding Arizona-American Water Company's ("Arizona American") application for a determination of the current value of its utility plant and property and for increases in its rates and charges based thereon for the utility service by its Sun City Water District ("Sun City Water District" or "Company"). My testimony addresses the Company's proposal regarding rate base and revenue requirement.

Q. What is the basis of Staff's recommendations?

A. I reviewed the Company's filing and conducted a regulatory audit of its financial statements and records to determine whether sufficient, relevant, and reliable evidence exists to support its requested rate increase. The regulatory audit entailed examination and testing of financial information, accounting records and other supporting documentation, as well as verifying that the accounting principles applied by the Company were in accordance with the National Association of Regulatory Utility Commissioners ("NARUC") Uniform System of Accounts ("USoA").

BACKGROUND

Q. Please provide a brief description of the Company.

A. Sun City Water District is a division of Arizona-American, a wholly owned subsidiary of American Water Company, which in turn, is a subsidiary of RWE, a German Company. Sun City Water District provides water service to approximately 23,000 customers, consisting primarily of residential consumers, in the towns of Sun City and Youngtown. The Company's current rates were approved in Decision No. 67093, dated June 20, 2004.

Q. What is the Company's rationale for filing this rate application?

A. According to the Company's witness, Thomas Broderick, at page 2, lines 11 through 14 of his Direct Testimony, the requested rate increase is "...needed to recover certain Commission approved deferred items, increase in plant in service since the last test year (2001), increase in operating and maintenance expenses, again, since 2001,and increases to the Company's cost of capital."

Also, Sun City Water District seeks Commission approval for its proposed Fire Flow Surcharge Mechanism.

CONSUMER SERVICE

Q. Please summarize the Company's consumer service history since the last rate case.

A. Staff finds that the Arizona-American, the parent company of Sun City Water District, is currently in good standing with the Corporations Division of the Commission.

Staff's search of the Commission database indicates that Sun City Water District had sixty-two (62) complaints and twenty-five (25) inquiries since the last rate proceeding. There were also nine (9) opinions in opposition to this rate increase. Except for five complaints currently being investigated by Staff, all reported issues have been resolved.

Q. Has the Company published a notice of its pending rate application?

A. Yes. Consistent with the Procedural Order issued on June 12, 2007, the Company published a notice of its rate application in the "Daily News-Sun", a newspaper of general circulation within and around its certificated territory. On September 19, 2007, the Company docketed an Affidavit of Publication ("Affidavit") showing that the notice was

published on September 11, 2007. Also, the Company filed a second Affidavit on September 21, 2007, indicating that its customers have been notified of this proceeding through direct mailings.

Pursuant to the May 7, 2007 Procedural Order, the notice of this proceeding was separately published in the *Arizona Business Gazette,* on May 10, 2007, and the Daily News-Sun, on May 12, 2007. These notices relate to the Public Comment session held in the town of Sun City.

Q. Did Staff review a sample of the Company's bill format?

A. Yes. Our review shows that the Company's bill format is compliant with the Arizona Administrative Code ("A.A.C.") § R14-2-409.B.2.

REVENUE REQUIREMENT

Q. Please summarize the Company's proposed revenue requirement in this proceeding.

A. The Company proposes total annual operating revenues of $9,933,257, an increase of $2,244,778 or 29.20 percent over its reported adjusted test year revenues of $7,688,479. The Company's proposal results in an operating income of $2,071,759 or 7.98 percent rate of return on an Original Cost Rate Base ("OCRB") of $25,961,898.

Q. What is Staff's recommending for revenue requirement?

A. As shown on Schedule AII-1, Staff recommends revenue requirement of $9,518,830, an increase of $1,830,351 or 23.81 percent over its adjusted test year revenues of $7,688,479. Staff's recommended revenue requirement is $414,427 less than the Company's proposal.

Staff's recommended revenues requirement results in an operating income of $1,872,660 or a rate of return of 7.40 percent on Staff adjusted OCRB of $25,306,214.

SUMMARY OF ADJUSTMENTS

Q. Please summarize the adjustments addressed in this testimony.

A. Staff's analysis addresses the following adjustments:

Gross Utility Plant in Service

This adjustment reduces the Company's reported gross utility plant in service by $1,101,820, from $45,025,075 to $43,923,255. It eliminates $747,449 of Utility Plant in Service ("UPIS") previously disallowed by the Commission per Decision No. 67093. Also, it removes $354,371 of several plant items not used and useful in the provision of water service, in the Sun City Water District.

Accumulated Depreciation and Amortization

This adjustment increases rate base by $446,136 to reflect Staff's recalculation of accumulated depreciation based on Staff's adjusted gross utility plant in service. It eliminates accrued depreciation on plant items that are not used and useful in the provision of service.

Regulatory Expense

This adjustment reduces operating expenses by $25,508 to reflect a prudent level of regulatory expense.

Depreciation Expense

This adjustment reduces operating expenses by $34,767 to reflect Staff's recalculation of depreciation expense based on Staff adjusted gross utility plant in service at test year end.

Property Tax Expense

This adjustment decreases operating expenses by $32,578 to reflect Staff's recalculation of test year property tax expense.

Income Tax Expenses

This adjustment increases operating expenses by $33,687 to reflect an appropriate level of income tax expense on Staff's adjusted test year taxable income.

RATE BASE

Fair Value Rate Base

Q. Did the Company provide any schedule showing elements of Reconstruction Cost New Rate Base?

A. No. On the Company's filed Schedule B-4, it indicated that "The Company did not conduct an RCND study." It appears that the Company intended that its requested OCRB be treated as fair value rate base.

Rate Base Summary

Q. What is Staff's recommendation regarding rate base?

A. As shown on Schedule AII-3, Staff recommends a rate base of $25,306,214, $655,684 less than the Company's proposal of $25,961,898.

Q. Please summarize Staff's adjustments to the Company's proposed rate base.

A. Staff's rate base adjustments could be classified into two categories - plant items that were disallowed in the prior proceeding but erroneously restated in this filing, and plant items that are not used and useful in the provision of water service in the Sun City Water District. The following rate base adjustments address each of Staff's recommendations.

Rate Base Adjustment No. 1 – Wells and Springs

Q. What is the Company's proposal regarding Wells and Springs?

A. The Company proposes $3,021,387 of wells and springs.

Q. Did Staff analyze the Company's reported Wells and Springs?

A. Yes. Staff conducted an audit and an engineering analysis of the Company's reported wells and springs, and determined that $427,725 of the reported balance was not used and useful in the provision of service. First, Staff found that $408,640 of wells and springs previously disallowed per Decision No. 67093 was erroneously restated as plant additions in this proceeding. The Company did not demonstrate that these plant items were in service at the end of test year. Also, Staff found that $19,085 of a plant item registered to the United States Department of Interior Bureau of Land Development was erroneously reported as a plant addition in this proceeding. Accordingly, Staff recommends removal of both transactions, an aggregate of $427,725, to eliminate plant items that Staff has determined to be not used and useful in the provision of service.

Q. Has the Company agreed with Staff that $427,725 of Wells and Springs should eliminated from this proceeding?

A. Yes. The Company concedes that inclusion of the above transactions were inadvertent errors that should be corrected for in this proceeding.

Q. What is Staff's recommendation regarding Wells and Springs?

A. As shown on Schedule AII-5, Staff recommends $2,593,662 of wells and springs, $427,725 less than the Company's reported balance of $3,021,387.

Rate Base Adjustment No. 2 – Water Treatment Equipment

Q. What is the Company proposing for Water Treatment Equipment in this proceeding?

A. The Company proposes $396,541 of water treatment equipment.

Q. Did Staff find that $19,594 of plant items reported by the Company as Water Treatment Equipment were not used and useful?

A. Yes. Staff's audit finding indicates that $19,594 of reported water treatment equipment was previously disallowed in the last proceeding. Again, the Company has not demonstrated that these plant items are now used and useful for provision of service.

Q. Has the Company agreed with Staff that $19,594 of its reported Water Treatment Equipment was not used and useful?

A. Yes. The Company agrees that $19,594 of its reported water treatment equipment was not in service at test year end in this proceeding.

Q. What is Staff's recommended adjustment to Water Treatment Equipment?

A. As shown on Schedule AII-6, Staff recommends removal of $19,594 from water treatment equipment determined to be not used and useful at test year end.

Q. Please state Staff's recommendation for Water Treatment Equipment.

A. Staff recommends $376,947 for water treatment equipment, a decrease of $19,594 to the Company's proposal of $396,541.

Rate Base Adjustment No. 3 -Distribution Reservoirs and Standpipes

Q. Please state the Company's proposal for Distribution Reservoirs and Standpipes.

A. The Company proposes $1,802,878 for distribution reservoirs and standpipes.

Q. Did Staff find that $319,215 of the Company's reported Distribution Reservoirs and Standpipes were previously disallowed by the Commission?

A. Yes. Staff's audit found that $319,215 of plant items reported as plant additions in this proceeding, were previously disallowed by the Commission per Decision No. 67093. In the prior rate proceeding, the Commission found that the referenced plant items were not used and useful for the provision of service in the Sun City Water District.

Q. Did the Company demonstrate that these plant items are now used and useful?

A. No. The Company agrees with Staff that inclusion of the referenced plant items was erroneous and should be corrected for in this proceeding.

Q. What is Staff's recommended adjustment to Distribution Reservoirs and Standpipes?

A. As shown on Schedule AII-7, Staff recommends reducing the Company's proposal of $1,802,878, by $319,215. This adjustment eliminates distribution reservoirs and standpipes that were not used and useful at test year end.

Q. What is Staff recommending for Distribution Reservoirs and Standpipes?

A. Staff recommends $1,483,663 for distribution reservoirs and standpipes in this proceeding.

Rate Base Adjustment No. 4 – Land and Land Rights

Q. What is the Company proposing for Land and Land Rights in this proceeding?

A. The Company proposes an aggregate amount of $353,918 for land and land rights.

Q. Does the Company's proposed Land and Land Rights include certain plant items that were contributed to the Agua Fria Water District?

A. Yes. During audit, Staff found that several plant items contributed by developers to the Agua Fria Water District were erroneously reported as plant additions in this proceeding. These plant items were severally booked between December 2003 and December 2005. Although, the Company attempted to correct for these errors through series of reversal entries, the Company had a net balance of $148,130 in its reported UPIS.

Q. Has the Company agreed with Staff that its proposed Land and Land Rights include a net balance of plant items contributed to the Agua Fria Water District?

A. Yes. The Company agrees with Staff that its proposed land and land rights include a net balance of $148,130 of land and land rights contributed to the Agua Fria Water District.

Q. What is Staff's recommended adjustment?

A. As shown on Schedule AII-8, Staff recommends an adjustment of $148,130 to eliminate the net balance of plant items incorrectly included in land and land rights.

Q. What is Staff recommending regarding Land and Land Rights?

A. Staff recommends $205,788 for land and land rights, $148,130 less than the Company's proposal.

Rate Base Adjustment No. 5 – Structures and Improvements

Q. What is the Company proposing for Structures and Improvements?

A. The Company proposes $3,013,016 for structures and improvements. This amount includes $220,883 of capital expenditure incurred for the renovation and security upgrade of Sun City corporate office.

Q. Did Staff find that the Sun City corporate office provides benefit to all Arizona-American districts?

A. Yes. Staff inquiry confirmed that the Sun City corporate office benefits all Arizona-American districts.

Q. Does the Company agree with Staff that its Sun City office serves all its districts?

A. Yes. Also, the Company agrees that the $220,883 expended on its Sun City corporate office should be allocated to all its districts based on the 2006 Four Factor Allocation.

Q. What adjustment is Staff recommending for Structures and Improvements?

A. As shown on Schedule AII-9, Staff is recommending an adjustment of $187,156 to the Company's proposed structures and improvements. This adjustment reflects a proper allocation of the costs of renovating Sun City corporate office to Sun City Water District, at $33,727 or 15.269 percent of $220,883.

Q. What is Staff recommending for Structures and Improvement?

A. Staff recommends $2,825,860 for structures and improvements in this proceeding.

Rate Base Adjustment No. 6 – Accumulated Depreciation

Q. What is the Company's proposed Accumulated Depreciation?

A. The Company proposes $17,192,328 of accumulated depreciation.

Q. Please explain the method used by the Company in calculating its proposed Accumulated Depreciation?

A. The Company calculated its proposed accumulated depreciation by aggregating its calculated monthly depreciation expenses for each plant account from the last proceeding through end of test year. Depreciation expense on plant additions and retirements during each month was calculated based on a half-month convention. Also, the Company appropriately eliminated plant retirements from accumulated depreciation and plant balances at the end of each year.

Q. Did Staff review the Company's applied depreciation rates?

A. Yes. Staff review indicates that the Company applied depreciation rates are consistent with the Commission approved rates in the prior proceeding.

Q. Did Staff recalculate accumulated depreciation in this proceeding?

A. Yes. Staff recalculated the Company's reported accumulated depreciation to reflect the effects of Staff's recommended adjustments to depreciable UPIS. Also, Staff's recalculated accumulated depreciation eliminates depreciation expense accrued by the Company between when plant items were incorrectly booked and when the corresponding reversal entries were effectuated. For example, $421,792 of power generation equipment contributed to Agua Fria Water District was separately booked by Sun City Water District as plant additions on December 5, 2003 and January 21, 2004. One of the entries was immediately reversed on January 21, 2004, while the second entry was depreciated until a reversal entry was made on September 9, 2005. Although the correcting adjustment was made prior to the end of the test year, the Company had accrued depreciation on the balance of $421,792 during the intervening period.

Q. What is the result of Staff's recalculation of Accumulated Depreciation?

A. Staff's recalculation results in an accumulated depreciation of $16,746,192, a decrease of $446,136 to the Company's proposal of $17,192,328.

Q. What is Staff recommending for accumulated depreciation and amortization?

A. As shown on Schedule AII-10, Staff recommends $16,746,192 for accumulated depreciation.

OPERATING INCOME

REVENUES

Q. Please summarize the Company's test year Operating Income.

A. Staff recommends adoption of the Company's adjusted test year revenues.

EXPENSES

Operating Income Adjustment No. 1 - Regulatory Expense

Q. What is the Company proposal for Regulatory Expense?

A. The Company's application as filed proposes $150,000 of regulatory expense for recovery over a three year period, at $50,000 each year. The Company's witness, Thomas Broderick, has revised its proposed aggregate regulatory expense to $101,766 or an annual regulatory expense of $33,922.

Q. Did the Company provide any details regarding its proposed Regulatory Expense?

A. Yes. The Company's proposed regulatory expense includes the costs of retaining an outside Counsel and a Cost of Capital witness as well as pertinent administrative costs. In addition, the Company proposes to expend $20,000 on additional fire flow and ratemaking surveys. The Company asserts that the proposed survey is necessary to properly inform its customers and elicit their feedback on the implementation of its fire flow plan.

Q. Please comment on the Company's proposed Regulatory Expense for this proceeding.

A. Staff's analysis indicates that the Company's estimates for outside Counsel and cost of capital witness are excessive. For example, the Company projects that it will require additional 136 hours of external legal review or $40,790 for the remainder of this proceeding. Staff finds that 75 hours of additional outside legal review will be adequate for the remainder of this proceeding. Staff's estimates recognizes the full participation of the Company's in-house Attorney in this rate filing.

As to the Company's proposal to expend additional $20,000 on customer education, and fire flow and rate making surveys, Staff agrees with the Company's assertion that further customer input might be necessary before the implementation of its proposed fire flow surcharges. However, Staff's analysis indicates the $17,500 will be adequate for pertinent mailing and processing of its proposed fire flow survey.

Q. What is Staff's recommended adjustment to Regulatory Expense?

A. As shown on Schedule AII-13, Staff recommends an adjustment of $25,508 to eliminate excess costs reflected in the Company's proposal.

Q. What is Staff recommending regarding Regulatory Expense?

A. As shown on Schedule AII-13, Staff recommends $73,476 of regulatory expense, normalized over three years at $24,492 annually.

Operating Income Adjustment No. 2 - Depreciation and Amortization Expense

Q. What is the Company's proposed depreciation and amortization expense?

A. The Company proposes $1,287,647 of depreciation and amortization, consisting of $1,381,041 of depreciation expense, $18,573 of amortization of deferred debit, $5,915 of amortization of Youngtown fire flow study costs, less $117,882 of amortization of contributions, imputed regulatory assets and Youngtown plant.

Q. Did Staff re-calculate the Company's depreciation and amortization expense?

A. Yes. Staff recalculated the Company's proposed depreciation expense by multiplying Staff adjusted test year end depreciable plant in service and Commission approved depreciations rates. Staff's recalculation results in $1,346,274 of depreciation expense,

$34,767 less than the Company's proposal of $1,381,041. The variance between Staff's recommended and the Company's proposed depreciation expense is attributable to Staff's adjustments to the Company's reported test year end depreciable plant in service.

Staff accepts the Company's proposed amortization of deferred debt, Youngtown Fire Flow Study costs, imputed regulatory assets and Youngtown plant.

Q. Did Staff's recalculation of Depreciation Expense result in an adjustment to the Company's proposal.

A. Staff's recalculation results in an adjustment of $34,767 to the Company's proposed depreciation expense.

Q. What is Staff's recommendation for Depreciation and Amortization Expense?

A. As shown on Schedule AII-14, page 1 of 2, Staff recommends $1,252,880 of depreciation and amortization expense.

Operating Income Adjustment No 3 - Property Taxes

Q. What is the Company proposing regarding property taxes?

A. The Company proposes $297,758 of property taxes derived by employing an adaptation of the Arizona Department of Revenues' ("ADOR") Centrally Valued Properties methodology.

Q. Does the ADOR's centrally valued methodology provide an acceptable basis for determination of property taxes in Arizona?

A. Yes. Staff accepts the Company's use of an adaptation of ADOR's Centrally Valued Properties methodology. Also, the Company appropriately utilized a 2008 assessment ratio of 23.50 percent in its calculation of property taxes. However, the Company did not reflect the net book value of transportation equipment in its calculation.

Q. Did Staff recompute the Company's property taxes based on ADOR methodology?

A. Yes. Staff's recalculated test property taxes based on the same methodology utilized by the Company. Also, Staff's calculation reflects the net book value of transportation equipment at test year end. Staff's recalculation results in an adjusted test year property taxes of $265,180, $32,578 less than the Company's proposal.

Q. What are Staff's recommended property taxes?

A. Staff recommends adjusted test year property taxes of $265,180.

Operating Income Adjustment No. 4 – Income Taxes

Q. What is the Company proposing for Income Tax Expense?

A. The Company proposes test year income tax expense of a negative $86,355.

Q. Did Staff recalculate Test Year In come Tax Expense?

A. Yes. Staff recalculated test year income tax expense by applying statutory federal and state income tax rates to Staff's adjusted test year taxable income. Staff's calculation results in a negative test year income tax expense of $52,668, $33,687 over the Company's reported test year income tax expense.

Q. What is Staff recommending for test year income tax expense?

A. Staff recommends a test year income tax expense of negative $52,668.

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

A. Yes.

ARIZONA AMERICAN WATER COMPANY - SUN CITY WATER DISTRICT
Docket No. W-01303A-07-209
Test Year Ended December 31, 2006

Schedule All-1

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	(A) COMPANY ORIGINAL COST	(B) COMPANY FAIR VALUE	(C) STAFF ORIGINAL COST	(D) STAFF FAIR VALUE
1	Adjusted Rate Base	$ 25,961,898	$ 25,961,898	$ 25,306,214	$ 25,306,214
2	Adjusted Operating Income (Loss)	$ 693,411	$ 693,411	$ 752,577	$ 752,577
3	Current Rate of Return (L2 / L1)	2.67%	2.67%	2.97%	2.97%
4	Required Rate of Return	7.98%	7.98%	7.40%	7.40%
5	Required Operating Income (L1 * L4)	$ 2,071,759	$ 2,071,759	$ 1,872,660	$ 1,872,660
6	Operating Income Deficiency (L5 - L2)	$ 1,378,348	$ 1,378,348	$ 1,120,082	$ 1,120,082
7	Gross Revenue Conversion Factor	1.6286	1.6286	1.6341	1.6341
8	Required Revenue Increase (L7 * L6)	$ 2,244,778	$ 2,244,778	$ 1,830,351	$ 1,830,351
9	Adjusted Test Year Revenue	$ 7,688,479	$ 7,688,479	$ 7,688,479	$ 7,688,479
10	Proposed Annual Revenue (L8 + L9)	$ 9,933,257	$ 9,933,257	$ 9,518,830	$ 9,518,830
11	Required Increase in Revenue (%)	29.20%	29.20%	23.81%	23.81%
12	Rate of Return on Equity (%)	11.30%	11.30%	10.80%	10.80%

References:
Columns [A] and [B]: Company Schedules A-1, A-2, & D-1
Columns [C] and [D]: STAFF Schedules All-2, All-3 and All-11

ARIZONA AMERICAN WATER COMPANY - SUN CITY WATER DISTRICT
Docket No. W-01303A-07-209
Test Year Ended December 31, 2006

Schedule AII-2

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)	(D)
	Calculation of Gross Revenue Conversion Factor:				
1	Billings	1.000000			
2	Uncollectible Factor	0.000000			
3	Revenues	1.000000			
4	Less: Combined Federal, State & Property Tax Rate (L18)	0.388050			
5	Subtotal (L3 - L4)	0.611950			
6	**Revenue Conversion Factor (L1 / L5)**	**1.634122**			
	Calculation of Effective Tax Rate:				
7	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
8	Arizona State Income Tax Rate	6.9680%			
9	Federal Taxable Income (L7 - L8)	93.0320%			
10	Applicable Federal Income Tax Rate (Line 43)	33.4484%			
11	Effective Federal Income Tax Rate (L9 x L10)	31.1177%			
12	Combined Federal and State Income Tax Rate (L8 +L11)		38.0857%		
	Calculation of Effective Property Tax Rate:				
13	Unity	100.0000%			
14	Combined Federal & State Income Tax Rate	38.0857%			
15	One Minus Combined Income Tax Rate	61.91431%			
16	Property Tax Factor	1.16186%			
17	Effective Property Tax Rate(L15 x L16)		0.71936%		
18	Combined Federal, State Income & Property Tax Rate (L12 + L17)			38.8050%	
19	Required Operating Income (Schedule AII-1, Line 5)	$ 1,872,660			
20	Adjusted Test Year Operating Income (Loss) (Schedule AII-11, Line 27)	$ 752,577			
21	Required Increase in Operating Income (L19 - L20)	$ 1,120,083	$ 1,120,083		
22	Income Taxes on Recommended Revenue (Col. (D), L42)	$ 636,335			
23	Income Taxes on Test Year Revenue (Col. (B), L42)	$ (52,668)			
24	Required Increase in Revenue to Provide for Income Taxes (L22 -L23)		$ 689,002		
25	Property Tax with Recommended Revenue (AII-15, Col B, L19)	$ 286,447			
26	Property Tax on Test Year Revenue (AII-15, Col A, L16)	$ 265,180			
27	Increase in Property Tax Due to Increase in Revenue (L25-L26)		$ 21,266		
28	Required Increase in Revenue (L21 + L24 + L27)			$ 1,830,351	
	Calculation of Income Tax:	Test Year		Staff Proposed	
29	Revenue (Schedule AII-11, Columns C and E)	$ 7,688,479		$ 9,518,830	
30	Less: Operating Expenses Excluding Income Taxes	$ 6,988,569		$ 7,009,835	
31	Less: Synchronized Interest (L46)	$ 860,411		$ 860,411	
32	Arizona Taxable Income (L29 - L30 - L31)	$ (160,502)		$ 1,648,583	
33	Arizona State Income Tax Rate	6.968%		6.968%	
34	Arizona Income Tax (L32 x L33)		$ (11,184)		$ 114,873
35	Federal Taxable Income (L32 - L34)	$ (149,318)		$ 1,533,710	
36	Federal Tax on First Income Bracket ($1 - $50,000) @ 15%	$ (7,500)		$ 7,500	
37	Federal Tax on Second Income Bracket ($51,001 - $75,000) @ 25%	$ (6,250)		$ 6,250	
38	Federal Tax on Third Income Bracket ($75,001 - $100,000) @ 34%	$ (8,500)		$ 8,500	
39	Federal Tax on Fourth Income Bracket ($100,001 - $335,000) @ 39%	$ (19,234)		$ 91,650	
40	Federal Tax on Fifth Income Bracket ($335,001 - $10,000,000) @ 34%	$ -		$ 407,561	
41	Total Federal Income Tax		$ (41,484)		$ 521,461
42	Combined Federal and State Income Tax (L34 + L41)		$ (52,668)		$ 636,335
43	Applicable Federal Income Tax Rate [Col. (D), L35 - Col. (B), L35] / [Col. (C), L41 - Col. (A), L41]				33.4484%
	Calculation of Interest Synchronization:				
44	Rate Base (Schedule AII-3, Col. (C), Line 14)	$ 25,306,214			
45	Weighted Average Cost of Debt	3.40%			
46	Synchronized Interest (L44 x L45)	$ 860,411			

ARIZONA AMERICAN WATER COMPANY - SUN CITY WATER DISTRICT Schedule AII-3
Docket No. W-01303A-07-209
Test Year Ended December 31, 2006

RATE BASE - ORIGINAL COST

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) STAFF ADJUSTMENTS	(C) STAFF AS ADJUSTED
1	Plant in Service	$ 45,025,075	$ (1,101,820)	$ 43,923,255
2	Less: Accumulated Depreciation	17,192,328	(446,136)	16,746,192
3	Net Plant in Service	$ 27,832,747	$ (655,684)	$ 27,177,063
	LESS:			
4	Net Contribution in Aid of Constructiuon (CIAC)	$ 63,004	-	$ 63,004
5	Imputed Regulatory Contributions	567,874	-	567,874
6	Advances in Aid of Construction (AIAC)	3,576,920	-	3,576,920
7	Imputed Regulatory Advances	551,760	-	551,760
8	Customer Deposits	2,100	-	2,100
9	Investment Tax Credits	(1,938,781)	-	(1,938,781)
10	Total Deductions	$ 2,822,877	-	$ 2,822,877
	ADD:			
11	Allowance for Working Capital	$ 309,400	-	309,400
12	Deferred Debits	642,628	-	642,628
13	Total Additions	$ 952,028	-	$ 952,028
14	**Original Cost Rate Base**	$ 25,961,898	$ (655,684)	$ 25,306,214

References:
Column [A], Company Schedule B-1
Column [B]: Column [C] - Column [A]
Column [C]: Schedule AII-4, Column [H]

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] ADJ #1	[C] ADJ #2	[D] ADJ #3	[E] ADJ #4	[F] ADJ #5	[G] ADJ #6	[H] STAFF ADJUSTED
		PLANT IN SERVICE								
1		**Intangible Plant**								
2	301.00	Organization	$ 471	-	-	-	-	-	-	$ 471
3	302.00	Franchises	2,851	-	-	-	-	-	-	2,851
4	303.00	Land & Land Rights	353,918	-		-	(148,130)	-	-	205,788
5		**Subtotal Intangible**	$ 357,240	-	-	-	$ (148,130)	-	-	$ 209,110
6		**Source of Supply**								-
7	304.00	Structures & Improvements	$ 3,013,016	-		-		$ (187,156)	-	$ 2,825,860
8	305.00	Collecting and Impounding Res.	314	-	-	-	-	-	-	314
9	306.00	Lake River and Other Intakes		-	-	-	-	-	-	-
10	307.00	Wells and Springs	3,021,387	(427,725)	-	-	-	-		2,593,662
11	308.00	Infiltration Galleries and Tunnels	-	-	-	-	-	-	-	-
12	309.00	*Supply Mains*	-	-	-	-	-	-	-	-
13	310.00	Power Generating Equipment	146,519	-	-		-	-	-	146,519
14	311.00	Electric Pumping Equipment	6,890,085	-	-	-	-	-	-	6,890,085
15	312.00	Collecting & Impounding Reservoirs	-	-	-	-	-	-	-	-
16	313.00	Lakes, Rivers, Other Intakes	-	-	-	-	-	-	-	-
17		**Subtotal Source of Supply**	$ 13,071,321	$ (427,725)	-	-	-	$ (187,156)	-	$ 12,456,440
		Water Treatment								
18	320.00	Water Treatment Equipment	$ 396,541		$ (19,594)		-		-	$ 376,947
19	321.00	Structures & Improvements	-	-	-	-	-	-	-	-
20	323.00	Other Power Production	-	-	-	-	-	-	-	-
21	325.00	Electric Pumping Equipment	-	-	-	-	-	-	-	-
22	326.00	Diesel Pumping Equipment	-	-	-	-	-	-	-	-
23	328.10	Gas Engine Pumping Equipment	-	-	-	-	-	-	-	-
24		**Subtotal Water Treatment**	$ 396,541	-	$ (19,594)	-	-	-	-	$ 376,947
		Transmission & Distribution								
25	330.00	Distribution Reservoirs & Standpipe	$ 1,802,878	-	-	$ (319,215)	-	-	-	$ 1,483,663
26	331.00	Transmission and Distribution Mains	15,118,990	-	-	-	-	-	-	15,118,990
27	332.00	Services	5,572,172	-	-	-	-	-	-	5,572,172
28	334.00	Meters	3,812,785	-	-	-	-		-	3,812,785
29	335.00	Hydrants	2,175,095	-	-	-	-	-	-	2,175,095
30	336.00	Backflow Prevention Devices	-	-	-	-	-	-	-	-
31	339.00	Other Plant and Miscellaneous Equipment	523	-	-	-	-	-	-	523
32		**Subtotal Transmission & Distribution**	$ 28,482,443	-	-	$ (319,215)	-	-	-	$ 28,163,228
		General Plant								
33	340.10	Office Furniture and Equipment	717,809	-	-	-	-	-	-	$ 717,809
34	340.20	Computer & Peripheral Equip.	351,250	-	-	-	-	-	-	$ 351,250
35	340.30	Computer and Software	204,551	-	-	-	-	-	-	$ 204,551
36	341.10	Transportation Equipment	745,318	-	-	-	-	-	-	$ 745,318
37	342.00	Stores Equipment	21,022	-	-	-	-	-	-	$ 21,022
38	343.00	Tools and Work Equipment	265,669	-	-	-	-	-	-	$ 265,669
39	344.00	Laboratory Equipment	9,560	-	-	-	-	-	-	$ 9,560
40	345.00	Power Operated Equipment	111,284	-	-	-	-	-	-	$ 111,284
41	346.10	Communications Equipment - Non-Telephone	243,629	-	-	-	-	-	-	$ 243,629
42	346.20	Communications Equipment - Telephone	7,586	-	-	-	-	-	-	$ 7,586
43	348.10	Communications Equipment - Other	167,342	-	-	-	-	-	-	$ 167,342
44	347.00	Miscellaneous Equipment	-	-	-	-	-	-	-	-
45	349.00	Other Tangible Plant	-	-	-	-	-	-	-	-
46		Plant Held for Future Use	-	-	-	-	-	-	-	-
47		**Subtotal General Plant**	$ 2,845,020	-	-	-	-	-	-	$ 2,845,020
48		Sub-Total Plant in Service	$ 45,152,565	$ (427,725)	$ (19,594)	$ (319,215)	$ (148,130)	$ (187,156)	-	$ 44,050,745
	Less:									
49		Youngtown Plant	127,485	-	-	-	-	-	-	127,485
50		Rounding Variance	5	-	-	-	-	-	-	5
51		Total Plant in Service	$ 45,025,075	$ (427,725)	$ (19,594)	$ (319,215)	$ (148,130)	$ (187,156)	$ -	$ 43,923,255
52		Less: Accumulated Depreciation	17,192,328	-	-	-	-	-	(446,136)	16,746,192
53		Net Plant in Service (L51 - L53)	$ 27,832,747	$ (427,725)	$ (19,594)	$ (319,215)	$ (148,130)	$ (187,156)	$ 446,136	$ 27,177,063
		LESS:								
54		Net Contributions in Aid of Construction (CIAC)	63,004	- #	- #	- #	- #	- #	- #	63,004
55		Imputed Regulatory Contributions	567,874	-	-	-	-	-	-	567,874
56		Advances in Aid of Construction (AIAC)	3,576,920	-	-	-	-	-	-	3,576,920
57		Imputed Regulatory Advances	551,760	-	-	-	-	-	-	551,760
58		Customer Meter Deposits	2,100	-	-	-	-	-	-	2,100
59		Investment Tax Credits	(1,938,781)	-	-	-	-	-	-	(1,938,781)
60		Deferred Income Tax Credits (Debits)		-	-	-	-	-	-	-
61		Total Deductions	$ 2,822,877	-	-	-	-	-	-	$ 2,822,877
		ADD:								
62		Allowance for Working Capital	309,400	-	-	-	-	-	-	309,400
63		Deferred Debits	642,628	-	-	-	-	-	-	642,628
64		Total Additions	$ 952,028	-	-	-	-	-	-	$ 952,028
65		**Original Cost Rate Base**	$ 25,961,898	$ (427,725)	$ (19,594)	$ (319,215)	$ (148,130)	$ (187,156)	$ 446,136	$ 25,306,214

ADJ #	Description
1	Wells and Springs Adjustment - Schedule AII-5
2	Water Treatment Equipment Adjustment - Schedule AII-6
3	Distribution Reservoir and Standpipes Adjustments - Scheduler AII-7
4	Land and Land Rights Adjustments- Schedule AII-8
5	Structures and Improvements Adjustment - Schedule AII-9
6	Accumulated Depreciation Adjustment - Schedule AII-10

ARIZONA AMERICAN WATER COMPANY - SUN CITY WATER DISTRICT Schedule AII-5
Docket No. W-01303A-07-209
Test Year Ended December 31, 2006

RATE BASE ADJUSTMENT #1 - Wells & Springs

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED
1	Wells & Springs	$ 3,021,387	$ (427,725)	$ 2,593,662
2	Total	$ 3,021,387	$ (427,725)	$ 2,593,662

	Sumamry of Adjustment #1	
3	Wells & Springs disallowed per Decision No. 67093	$ 408,639.65
4	Wells & Springs registered to the US Department of Interior Bureau of Land Development	$ 19,085.00
5	Total	$ 427,724.65

ARIZONA AMERICAN WATER COMPANY - SUN CITY WATER DISTRICT
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Schedule AII-6

RATE BASE ADJUSTMENT #2 - WATER TREATMENT EQUIPMENT

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED
1	Water Testing Equipment (Per Decision No. 67093)	$ 396,541	$ (19,594)	$ 376,947
2	Total	$ 396,541	$ (19,594)	$ 376,947

REFERENCES:
Column [A]: Company Schedule B-2
Column [B]: Testimony, AII
Column [C]: Column [A] + Column [B]

ARIZONA AMERICAN WATER COMPANY - SUN CITY WATER DISTRICT
Docket No. W-01303A-07-209
Test Year Ended December 31, 2006

Schedule AII-7

RATE BASE ADJUSTMENT #3 - DISTRIBUTION RESERVOIR & STANDPIPES

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED
1	Distribution Reservoir & Standpipe (Per Decision No. 67093)	$ 1,802,878	$ (319,215)	$ 1,483,663
2	Total	$ 1,802,878	$ (319,215)	$ 1,483,663

REFERENCES:
Column [A]: Company Schedule B-2
Column [B]: Testimony, AII
Column [C]: Column [A] + Column [B]

ARIZONA AMERICAN WATER COMPANY - SUN CITY WATER DISTRICT Schedule AII-8
Docket No. W-01303A-07-209
Test Year Ended December 31, 2006

RATE BASE ADJUSTMENT #4 - Land & Land Rights (Agua Fria Water District)

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED
1	Land & Land Rights	$ 353,918	$ (148,130)	$ 205,788
2	Total	$ 353,918	$ (148,130)	$ 205,788

	Land & Land Rights Contributed for the Sierra Montana Booster Station - Agua Fria Water District	
3	Land & Land Rights Booked - 12/05/03	$ 228,968
4	Land & Land Rights Adj. Booked - 09/24/04	$ (24,725)
5	Land & Land Rights Adj. Booked - 10/22/04	$ (309)
6	Land & Land Rights Adj. Booked - 11/19/04	$ (12,208)
7	Land & Land Rights Adj. Booked - 12/10/04	$ (56,442)
8	Land & Land Rights Booked - 12/05/05	$ 12,846
9	Total	$ 148,130

ARIZONA AMERICAN WATER COMPANY - SUN CITY WATER DISTRICT Schedule AII-9
Docket No. W-01303A-07-209
Test Year Ended December 31, 2006

RATE BASE ADJUSTMENT #5 - STRUCTURES & IMPROVEMENT

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED
1	Structures & Improvement	$ 3,013,016	$ (187,156)	$ 2,825,860
2	Total	$ 3,013,016	$ (187,156)	$ 2,825,860

	Calculation of Adjustment to Structure & Improvements	
3	Total Amount Booked on 12/03/05	$ 220,883
4	Proper Allocation to Sun City Water District	
5	**($220,883 x 15.269%)**	$ 33,727
6	Adjustment	$ (187,156)

REFERENCES:
Column [A]: Company Schedule B-2
Column [B]: Testimony, AII
Column [C]: Column [A] + Column [B]

ARIZONA AMERICAN WATER COMPANY - SUN CITY WATER DISTRICT Schedule All-10
Docket No. W-01303A-07-209
Test Year Ended December 31, 2006

RATE BASE ADJUSTMENT #6 - ACCUMULATED DEPRECIATION

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF ADJUSTED
1	Accumulated Depreciation	$ 17,192,328	$ (446,136)	$ 16,746,192
2	Total	$ 17,192,328	$ (446,136)	$ 16,746,192

REFERENCES:
Column [A]: Company Schedule B-2
Column [B]: Testimony, All
Column [C]: Column [A] + Column [B]

ARIZONA AMERICAN WATER COMPANY - SUN CITY WATER DISTRICT Schedule AII-11
Docket No. W-01303A-07-209
Test Year Ended December 31, 2006

OPERATING INCOME STATEMENT - TEST YEAR AND STAFF RECOMMENDED

LINE NO.	DESCRIPTION	[A] COMPANY TEST YEAR AS FILED	[B] STAFF TEST YEAR ADJUSTMENTS	[C] STAFF TEST YEAR AS ADJUSTED	[D] STAFF PROPOSED CHANGES	[E] STAFF RECOMMENDED
	REVENUES:					
1	Metered Water Sales	$ 7,578,436	-	$ 7,578,436	$ 1,830,351	$ 9,408,787
2	Other Operating Revenue	110,043	-	110,043	-	110,043
3	**Total Operating Revenues**	$ 7,688,479	-	$ 7,688,479	$ 1,830,351	$ 9,518,830
4						
5	*OPERATING EXPENSES:*					
6	Labor	$ 1,137,093	-	$ 1,137,093	-	$ 1,137,093
7	Purchased Water	-	-	-	-	-
8	Fuel and Power	1,573,296	-	1,573,296	-	1,573,296
9	Chemicals	49,041	-	49,041	-	49,041
10	Waste Disposal	4,270	-	4,270	-	4,270
11	Management Fees	1,386,158	-	1,386,158	-	1,386,158
12	Group Insurance	276,821	-	276,821	-	276,821
13	Pensions	51,046	-	51,046	-	51,046
14	Regulatory Expense	50,000	(25,508)	24,492	-	24,492
15	Insurance Other Than Group	51,587	-	51,587	-	51,587
16	Customer Accounting	165,878	-	165,878	-	165,878
17	Rents	19,442	-	19,442	-	19,442
18	General Office Expense	97,290	-	97,290	-	97,290
19	Miscellaneous	360,734	-	360,734	-	360,734
20	Maintenance Expense	173,137	-	173,137	-	173,137
21	Depreciation & Amortization	1,287,646	(34,767)	1,252,879	-	1,252,879
22	Amortization of CIAC	-	-	-	-	-
23	General Taxes	100,225	-	100,225	-	100,225
24	Property Taxes	297,758	(32,578)	265,180	21,266	286,447
25	Income Taxes	(86,355)	33,687	(52,668)	689,002	636,335
26	**Total Operating Expenses**	$ 6,995,068	$ (59,165)	$ 6,935,902	$ 710,269	$ 7,646,170
27	**Operating Income (Loss)**	$ 693,411	$ 59,165	$ 752,577	$ 1,120,082	$ 1,872,660

References:
Column (A): Company Schedule C-1
Column (B): Schedule AII-12
Column (C): Column (A) + Column (B)
Column (D): Schedules AII-1, AII-2 and AII-16
Column (E): Column (C) + Column (D)

ARIZONA AMERICAN WATER COMPANY - SUN CITY WATER DISTRICT
Docket No. W-01303A-07-209
Test Year Ended December 31, 2006

Schedule All-12

SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] ADJ #1	[C] ADJ #2	[E] ADJ #3	[F] ADJ #4	[G] STAFF ADJUSTED
	REVENUES:						
1	Metered Water Sales	$ 7,578,436	-	-	-	-	$ 7,578,436
3	Other Operating Revenue	110,043		-	-	-	110,043
4	**Total Operating Revenues**	$ 7,688,479	-	-	-	-	$ 7,688,479
5							
6	*OPERATING EXPENSES:*						
7	Labor	$ 1,137,093	-	-	-	-	$ 1,137,093
8	Purchased Water	-	-	-	-	-	-
9	Fuel and Power	1,573,296	-	-	-	-	1,573,296
10	Chemicals	49,041	-	-	-	-	49,041
11	Waste Disposal	4,270	-	-	-	-	4,270
12	Management Fees	1,386,158	-	-	-	-	1,386,158
13	Group Insurance	276,821	-	-	-	-	276,821
14	Pensions	51,046	-	-	-	-	51,046
15	Regulatory Expense	50,000	(25,508)		-	-	24,492
16	Insurance Other Than Group	51,587	-	-	-	-	51,587
17	Customer Accounting	165,878	-	-	-	-	165,878
18	Rents	19,442	-	-	-	-	19,442
19	General Office Expense	97,290	-	-	-	-	97,290
20	Miscellaneous	360,734	-	-	-	-	360,734
21	Maintenance Expense	173,137	-	-	-	-	173,137
22	Depreciation & Amortization	1,287,646		(34,767)	-	-	1,252,879
23	Amortization of CIAC	-	-	-	-	-	-
24	General Taxes	397,983	-	-	(32,578)	-	365,405
25	Property Taxes	-	-	-	-	-	-
26	Income Taxes	(86,355)	-	-	-	33,687	(52,668)
27	**Total Operating Expenses**	$ 6,995,067	$ (25,508)	$ (34,767)	$ (32,578)	$ 33,687	$ 6,935,902
28	**Operating Income (Loss)**	$ 693,412	$ 25,508	$ 34,767	$ 32,578	$ (33,687)	$ 752,577

ADJ #	REFERENCES:
1	Regulatory Expense - Schedule Adjustment, Schedule All-13
2	Depreciation Expense Adjustment - Schedule All-14
3	Property Taxes Adjustment - Schedule All-15
4	Income Taxes Adjustment - Schedule All-16

ARIZONA AMERICAN WATER COMPANY - SUN CITY WATER DISTRICT
Docket No. W-01303A-07-209
Test Year Ended December 31, 2006

Schedule AII-13

OPERATING INCOME ADJUSTMENT #1 - REGULATORY EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	(C) STAFF AS ADJUSTED
1	Regulatory Expense	$ 50,000	$ (25,508)	$ 24,492
2	Total	$ 50,000	$ (25,508)	$ 24,492
3				

Re-calculation of Regulatory Expense

	Rate Case Expense:	Actual through 9/24/2007	Estimated Hours	Hourly Rate	Estimated Future Expense	Total
8	Craig Marks, External Counsel	$8,550	75	$300	$22,500	$31,050
9						$0
10	Joel Reiker, Cost of Equity External Witness		75	$100	$7,500	$7,500
11						$0
12	Dollar Energy Fund					$0
13	Low Income Program Testimony, External Witness	$1,650				$1,650
14						$0
15	Copying Services, Public Meetings, Notices, Surveys					$0
16	Fedex Kinko's	$1,392			$2,000	$3,392
17	Arizona Republic Classified	$33				$33
18	Mesa Tribune	$170				$170
19	Office Max	$1,367				$1,367
20	Moody's Quick Delivery	$25			$25	$50
21	Direct Impact (Postage, Copying Notice)	$8,299				$8,299
22	Additional Fire Flow & Ratemaking Survey	$0			$17,500	$17,500
23	Public Participation Meetings	$0			$2,000	$2,000
24	Miscellaneous Other	$465				$465
25		$21,951			$51,525	$73,476
26						
27	Normalized over 3 years ($73,476/3)					**$24,492**

ARIZONA AMERICAN WATER COMPANY - SUN CITY WATER DISTRICT
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OPERATING INCOME ADJUSTMENT #2 - DEPRECIATION EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED
1	Depreciation Expense on Test Year Staff Adjusted UPIS	1,381,041	(34,767)	1,346,274
2	Amortization of Deferred debit - Y2k Costs	18,573		18,573
3	Amortization of Youngtown - Fire Flow Study	5,915		5,915
4		1,405,529	(34,767)	1,370,762
5	LESS:			
6	Amortization of Contributions at 1.52% per year	972		972
7	Amortization of Imputed Regulatory CIAC	112,708		112,708
8	Amortization of Youngtown Plant	4,202		4,202
9		117,882	-	117,882
10				
11		1,287,647	(34,767)	1,252,880

REFERENCES:
Column [A]: Company Schedule C-2, page 1
Column [B]: Testimony, AII
Column [C]: Column [A] + Column [B]

OPERATING ADJUSTMENT #2 - DEPRECIATION EXPENSE

Line No.	ACCT NO.	DESCRIPTION	[A] ORIGINAL COST	[B] DEPREC. RATE	[C] DEPREC. EXPENSE
1		**Intangible Plant**			
2	301000	Organization	471	0.00%	-
3	302000	Franchises	2,851	0.00%	-
4	303000	Land & Land Rights	205,788	0.00%	-
5		**Subtotal Intangible**	209,110		-
6					
7		**Source of Supply**			
8	304100	Struct & Imp SS	787,273	2.50%	19,682
9	304200	Struct & Imp P	456,858	1.67%	7,630
10	304300	Struct & Imp WT	126,815	1.67%	2,118
11	304400	Struct & Imp TD	28,604	2.00%	572
12	304600	Struct & Imp Offices	98,125	4.63%	4,543
13	304800	Struct & Imp Misc.	1,328,185	1.67%	22,181
14	305000	Collect & Impounding	314	2.50%	8
15	306000	Lake, River & Other Intakes	-	2.50%	-
16	307000	Wells & Springs	2,593,662	2.52%	65,360
17	308000	Infiltration Galleries and Tunnels	-	6.67%	-
18	309000	Supply Mains	-	2.00%	-
19	310000	Power Generating Equipment	146,519	4.42%	6,476
20	311200	Electric Pumping Equipment (Co. 311200 & 311500)	6,713,399	4.42%	296,732
21	311300	Electric Pumping Equipment - *Diesel*	36,032	5.00%	1,802
22	311500	Electric Pumping Equipment Other	140,654	5.01%	7,047
23		**Subtotal Source of Supply**	12,456,440		434,150
24					
25		**Water Treatment**			
26	320100	Water Treatment Equipment	376,947	4.00%	15,078
27	321000	Structures & Improvements	-	3.33%	-
28	323000	Other Power Production	-	5.00%	-
29	325000	Electric Pumping Equipment	-	5.00%	-
30	326000	Diesel Pumping Equipment	-	5.00%	-
31	328000	Gas Engine Pumping Equipment	-	5.00%	-
32		**Subtotal Water Treatment**	376,947		15,078
33					
34		**Transmission & Distribution**			
35	330000	Distribution Reservoirs & Standpipe	1,483,663	1.67%	24,777
36	331001 &331100	Transmission and Distribution Mains	15,118,990	1.53%	231,321
37	332000	Services (co. 333000)	5,572,172	2.48%	138,190
38	334000	Meters (Co. 334100 & 334200)	3,812,785	2.51%	95,701
39	335000	Hydrants	2,175,095	2.00%	43,502
40	336000	Backflow Prevention Devices	-	6.67%	-
41	339000	Other Plant and Miscellaneous Equipment	523	2.00%	10
42		**Subtotal Transmission & Distribution**	28,163,228		533,501
43					
44		**General Plant**			
45	340100	Office Furniture and Equipment	717,809	4.59%	32,947
46	340200	Computer and Peripheral Equip.	351,250	4.49%	15,771
47	340300	Computer and Software	204,551	37.71%	77,136
48	341000	Transportation Equipment (Co. 341100,341200 & 341400)	745,318	25.00%	186,330
49	342000	Stores Equipment	21,022	3.91%	822
50	343000	Tools and Work Equipment	265,669	4.02%	10,680
51	344000	Laboratory Equipment	9,560	3.71%	355
52	345000	Power Operated Equipment	111,284	5.20%	5,787
53	346000	Communications Equipment Non-Telephone	243,629	10.30%	25,094
54	346300	Communications Equipment- Other	174,928	4.93%	8,624
55	347000	Miscellaneous Equipment	-	0.00%	-
56	349000	Other Tangible Plant	-	0.00%	-
57		Plant Held for Future Use	-	0.00%	-
58		**Subtotal General Plant**	2,845,020		363,545
59					
60		**Total**	44,050,745		1,346,274

ARIZONA AMERICAN WATER COMPANY - SUN CITY WATER DISTRICT Schedule AII-15
Docket No. W-01303A-07-209
Test Year Ended December 31, 2006

OPERATING ADJUSTMENT #3 - PROPERTY TAX EXPENSE

LINE NO.	DESCRIPTION	[A] STAFF AS ADJUSTED	[B] STAFF RECOMMENDED
1	Staff Adjusted Test Year Revenues - 2005	$ 7,688,479	$ 7,688,479
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	$ 15,376,958	$ 15,376,958
4	Staff Recommended Revenue	7,688,479	9,518,830
5	Subtotal (Line 4 + Line 5)	$ 23,065,437	$ 24,895,788
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	$ 7,688,479	$ 8,298,596
8	Department of Revenue Multiplier	2	2
9	Revenue Base Value (Line 7 * Line 8)	$ 15,376,958	$ 16,597,192
10	Plus: 10% of CWIP	20,865	20,865
11	Less: Net Book Value of Licensed Vehicles	181,994	181,994
12	Full Cash Value (Line 9 + Line 10 - Line 11)	$ 15,215,829	$ 16,436,063
13	Assessment Ratio	23.50%	23.50%
14	Assessment Value (Line 12 * Line 13)	$ 3,575,720	$ 3,862,475
15	Composite Property Tax Rate - Obtained from ADOR	7.41614%	7.41614%
16	Staff Test Year Adjusted Property Tax Expense (Line 14 * Line 15)	$ 265,180	
17	Company Proposed Property Tax	297,758	
18	Staff Test Year Adjustment (Line 16 - Line 17)	$ (32,578)	
19	Property Tax - Staff Recommended Revenue (Line 14 * Line 15)		$ 286,447
20	Staff Test Year Adjusted Property Tax Expense (Line 16)		265,180
21	Increase in Property Tax Due to Increase in Revenue Requirement		$ 21,266
22	Increase in Property Tax Due to Increase in Revenue Requirement (Line 21)		$ 21,266
23	Increase in Revenue Requirement		$ 1,830,351
24	Increase in Property Tax Per Dollar Increase in Revenue (Line 22 / Line 23)		**1.161862%**

REFERENCES:
Line 15: Composite Tax Rate obtained from Arizona Department of Revenue
Line 17: Company Schedule C-1
Line 21: Line 19 - Line 20
Line 23: Schedule AII-1

ARIZONA AMERICAN WATER COMPANY - SUN CITY WATER DISTRICT Schedule AII-16
Docket No. W-01303A-07-209
Test Year Ended December 31, 2006

OPERATING INCOME ADJUSTMENT #4 - INCOME TAX EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED
1	Income Taxes	$ (86,355)	$ 33,687	$ (52,668)
2	Total	$ (86,355)	$ 33,687	$ (52,668)

References:
Column (A), Company Schedule C-2
Column (B): Column (C) - Column (A)
Column (C): Schedule AII-2

IRVINE

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 ARIZONA-AMERICAN WATER COMPANY FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WATER DISTRICT	)	DOCKET NO. W-01303A-07-0209

DIRECT

TESTIMONY

OF

STEVEN P. IRVINE

PUBLIC UTILITIES ANALYST IV

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

OCTOBER 15, 2007

TABLE OF CONTENTS

SCHEDULES

Exhibit

EXECUTIVE SUMMARY
ARIZONA-AMERICAN WATER COMPANY
DOCKET NO. W-01303A-07-0209

The Direct Testimony of Staff witness Steven P. Irvine addresses the following issues:

Capital Structure – Staff recommends that the Arizona Corporation Commission ("Commission") adopt a capital structure for Arizona-American Water Company ("Arizona-American" or "Company") for this proceeding consisting of 62.4 percent debt and 37.6 percent equity.

Cost of Equity – Staff's 10.8 percent estimated return on equity ("ROE") for the Company is based on cost of equity estimates for the sample companies ranging from 9.1 percent using the discounted cash flow method ("DCF") to 10.6 percent using the capital asset pricing model ("CAPM"). Staff's ROE recommendation includes a 0.9 percent upward adjustment due to the higher financial risk reflected in Arizona-American's capital structure in relation to that of the sample companies.

Cost of Debt – Staff recommends that the Commission adopt a 5.4 percent cost of debt.

Overall Rate of Return – Staff recommends that the Commission adopt an overall rate of return ("ROR") of 7.4 percent.

Mr. Reiker's Testimony – The Commission should reject the 8.0 percent ROR proposed by Arizona-American for the following reasons:

1. The Company's proxy group includes Southwest Water. The majority of Southwest Water's revenues are derived from non-utility operations.
2. The Company uses market value to represent the equity positions of the sample group companies when making its financial risk adjustment.
3. The Company fails to include all of its debt obligations in its capital structure.

Staff's recommendations are based on calculations that have inadvertently included the Tolleson Obligation in calculation of the capital structure and cost of debt. Staff will file errata schedules and explanatory testimony that portray Staff's recommendation based on exclusion of the Tolleson Obligation from the capital structure and cost of debt calculation as soon as possible. This change will also require filing of errata schedules for revenue requirement and such schedules will also be filed as soon as possible.

I. INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My name is Steve Irvine. I am a Public Utilities Analyst IV 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.

A. In my capacity as a Public Utilities Analyst, I conduct studies to estimate the cost of equity capital, perform analyses of debt costs and compute the overall rate of return in rate proceedings. I also design rates to generate the revenue requirement in rate proceedings.

Q. Please describe your educational background and professional experience.

A. In 1994, I graduated from Arizona State University, receiving a Bachelor of Science degree in Business Marketing. In 1997, I received a Masters degree in Public Administration from Arizona State University. I began employment with the Commission in May of 2001 and have worked in the Utilities Division since September of 2002.

Q. What is the scope of your testimony in this case?

A. My testimony provides Staff's recommended rate of return for Arizona-American Water Company ("Arizona-American" or "Company") in this case.

Summary of Testimony and Recommendations

Q. Briefly summarize how Staff's cost of capital testimony is organized.

A. Staff's cost of capital testimony is presented in ten sections. Section I is this introduction. Section II discusses the concept of weighted average cost of capital ("WACC"). Section

III presents the concept of capital structure and presents Staff's recommended capital structure for Arizona-American in this proceeding. Section IV discusses the concepts of return on equity ("ROE") and risk. Section V presents the methods employed by Staff to estimate Arizona-American's ROE. Section VI presents the findings of Staff's ROE analysis. Section VII presents Staff's final cost of equity estimates for Arizona-American. Section VIII presents Staff's rate of return ("ROR") recommendation for Arizona-American. Section IX presents Staff's comments on the direct testimony of Arizona-American's witness, Mr. Joel Reiker. Finally, Section X summarizes Staff's recommendations.

Q. Briefly summarize Staff's proposed capital structure, return on equity and overall rate of return for Arizona-American in this proceeding.

A. Staff recommends a 7.4 percent overall ROR. Staff's recommended ROR reflects a capital structure composed of 62.4 percent debt and 37.6 percent equity, a 10.8 percent ROE for the Company based on cost of equity estimates for the sample companies ranging from 9.1 percent using the discounted cash flow method ("DCF") to 10.6 percent using the capital asset pricing model ("CAPM") and a 5.4 percent cost of debt. Staff's recommended 10.8 percent ROE includes a 0.9 percent upward financial risk adjustment. Staff's recommended 7.4 percent ROR is calculated in Schedule SPI-1.

Q. Briefly summarize Arizona-American's proposed capital structure, return on equity and overall rate of return for this proceeding.

A. The Company proposes a capital structure that consists of 42.4 percent equity and 57.6 percent debt. The Company recommends an 11.3 percent cost of equity and 5.6 percent

cost of debt for an 8.0 percent overall ROR. Table I summarizes Arizona-American's proposed capital structure and costs.

Table 1

	Weight	Cost	Weighted Cost
Long-term Debt	57.6%	5.6%	3.2%
Common Equity	42.4%	11.3%	4.8%
Cost of Capital/ROR			**8.0%**

II. THE WEIGHTED AVERAGE COST OF CAPITAL

Q. Please explain the term cost of capital.

A. Cost of capital is the opportunity cost of an investment. For an investor it is the rate of return that one would expect to earn in investments with risk similar to the investment being considered. One can invest in a company through a variety of securities such as stock, bonds, and debt. The cost of capital to a company issuing a variety of securities is an average of the expected returns on the securities the company has issued weighted according to the size of each security relative to the company's entire security portfolio. This total cost of capital is referred to as the weighted average cost of capital ("WACC"). Equity investors are attracted to an equity investment when the expected returns are similar to those of other entities with similar risk. That is, the cost of equity capital is determined by the market.

Q. What is the WACC formula?

A. The WACC formula is as follows:

Equation 1

$$WACC = \sum_{i=1}^{n} W_i * r_i$$

In this equation, W_i is the weight given to the i^{th} security (the proportion of the i^{th} security relative to the portfolio) and r_i is the expected return on the i^{th} security.

Q. Please provide an example of a hypothetical capital structure demonstrating application of Equation 1.

A. For purposes of this example, assume that an entity has a capital structure composed of 70.0 percent debt and 30.0 percent equity. Also, assume that the embedded cost of debt is 7.0 percent and the expected return on equity, i.e. the cost of equity, is 10.0 percent. Calculation of the WACC is as follows:

WACC = (70.0% * 7.0%) + (30.0% * 10.0%)

WACC = 4.90% + 3.00%

WACC = 7.90%

The weighted average cost of capital in this example is 7.90 percent. The entity in this example would need to earn an overall rate of return of 7.90 percent to cover its cost of capital.

III. CAPITAL STRUCTURE

Background

Q. Please explain the capital structure concept.

A. While WACC describes the average unit cost of capital employed from a company's various securities, capital structure describes the relative proportions of each type of security (capital leases, long-term debt, short-term debt, preferred stock, and common stock). As the proportion of the capital structure represented by fixed obligation financing increases (increased leverage), risk associated with the ability to meet financial obligations (financial risk) increases.

Q. How is the capital structure for a given company described?

A. A company's capital structure is described by simply stating the percentage of each component of the capital structure relative to the whole capital structure. The following is an example of a hypothetical capital structure. Assume that the capital structure for an entity that is financed by $10,000 of capital leases, $30,000 of long-term debt, $5,000 of short-term debt, $10,000 of preferred stock and $45,000 of common stock. The capital structure for the company is shown in Table 2.

Table 2

Component			%
Capital Leases	$10,000	($10,000/$100,000)	10.0%
Long-Term Debt	$30,000	($30,000/$100,000)	30.0%
Short-Term Debt	$5,000	($5,000/$100,000)	5.0%
Preferred Stock	$10,000	($10,000/$100,000)	10.0%
Common Stock	$45,000	($45,000/$100,000)	45.0%
Total	$100,000		100%

The capital structure in this example is composed of 10.0 percent capital leases, 30.0 percent long-term debt, 5.0 percent short-term debt, 10.0 percent preferred stock and 45.0 percent common stock.

Arizona-American's Capital Structure

Q. What capital structure does Arizona-American propose?

A. The Company recommends a capital structure with 57.6 percent long-term debt and 42.4 percent equity.

Q. What capital structure does Staff recommend for Arizona-American?

A. Staff recommends a capital structure composed of 37.6 percent equity and 62.4 percent debt as shown in Schedules SPI-1. Staff recommends that the Company's capital structure reflect Anthem's most recent debt (Table 3, below) and equity positions (Table 4, below). In addition, Staff updated the Company's actual capital structure to include $3 million from an interconnection agreement between the Company and the City of Phoenix that created an obligation for the Company to pay the City of Phoenix for an interconnection between the respective water systems.

Q. What cost of debt does Staff recommend for Arizona-American?

A. Staff recommends a cost of debt of 5.4 percent as shown in Table 3, below.

Table 3

Applicant's Cost of Debt (Including the Tolleson Obligation)

	Amount outstanding as of 6/30/2007	Annual Interest	Interest Rate	Weight
Long-Term Debt				
Aug '08 L-T Senior Notes	$ 4,500,000	320,490	7.122%	
Sept '13 PILR - Monterey	41,323	2,587	6.260%	
Aug '13 PILR - Montex/Lincoln	23,036	1,327	5.761%	
Aug '15 PILR - Rosalee	43,340	3,112	7.180%	
Aug '15 PILR - T.O. Development	37,123	2,665	7.179%	
Sept '28 L-T Note - Maricopa	10,635,000	386,051	3.630%	
Dec '13 L-T Promissory Note	24,700,000	1,331,330	5.390%	
Dec '16 L-T Promissory Note	11,200,000	618,240	5.520%	
Dec '18 L-T Promissory Note	123,100,000	6,918,220	5.620%	
Fall 2037 L-T Promissory Note[1]	10,000,000	595,000	5.950%	
Fall 2037 L-T Promissory Note[1]	6,450,000	383,775	5.950%	
Tolleson Obligation[2]	8,560,000	280,768	3.280%	
Phoenix Interconnection Agreement	2,000,000	-	0.000%	
Long-Term Debt	201,289,822	10,843,564	5.387%	55.4%
Short-Term Debt				
Short-Term Debt	24,391,823	1,327,891	5.444%	
Phoenix Interconnection Agreement	1,000,000	-	0.000%	
Short-Term Debt	25,391,823	1,327,891	5.230%	7.0%
Total Debt	$ 226,681,645	$ 12,171,455	5.369%	62.4%

Table 4

Company's Equity

	Amount outstanding	% of Total Capital
Total Common Equity	$ 125,408,846	35.8%

Q. How does Arizona-American's capital structure compare to capital structures of publicly traded water utilities?

A. The average capital structure of the six publicly traded water companies ("sample companies") is 50.1 percent debt and 49.9 percent equity. The capital structure for each of the sample companies is shown in Schedule SPI-3.

Q. Does Staff discuss the matter of a cost of equity adjustment as it relates to capital structure differences between Arizona-American and the sample water companies?

A. Yes. This matter is discussed in Section VII, Final Cost of Equity Estimates for Arizona-American.

IV. RETURN ON EQUITY

Background

Q. Please define the term cost of equity.

A. Cost of equity is the compensation that investors expect for bearing the risk of ownership of a stock. The return that investors expect for a given stock is equivalent to the expected returns of other firms with equivalent risk. Investors can expect a given stock's return to be similar to returns of other stocks with equivalent levels of risk as investors can simply select the other stocks as an alternative. Investors are likely to do so if there are other stocks available with similar levels of risk and higher returns. Cost of equity is therefore determined by the market given the prevailing market conditions.

Q. Can the cost of equity for Arizona-American be determined by market data related to its stock and earnings?

A. As Arizona-American's stock is not publicly traded, its cost of equity cannot be estimated directly. As stated previously, investors expect returns equivalent to the returns of stocks with equivalent risk. As a proxy for Arizona-American's own market data, Staff has estimated Arizona-American's cost of equity using market data from six publicly traded water utilities.

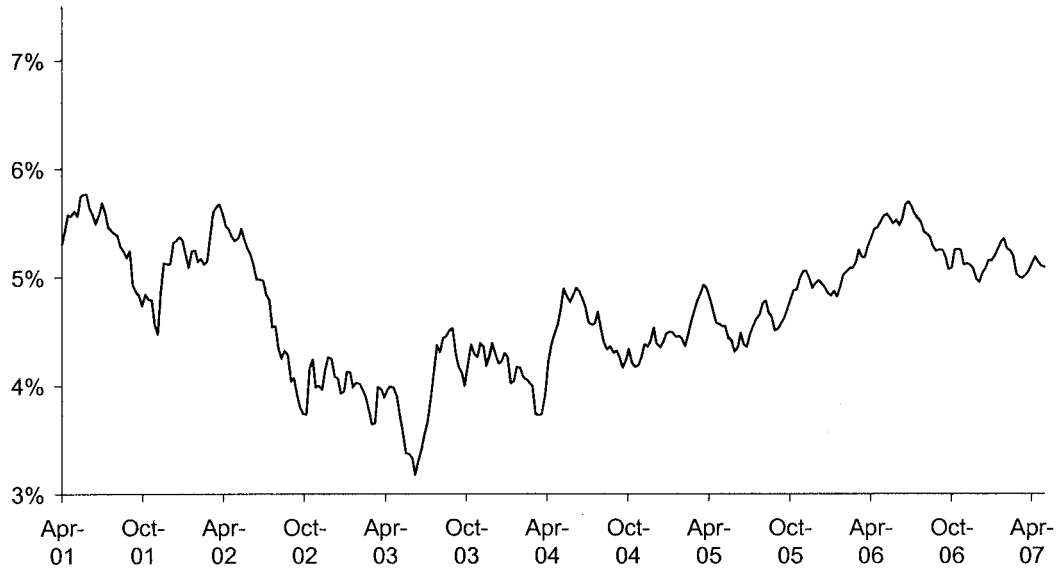
Q. Do interest rates affect cost of equity?

A. Yes. According to the CAPM, the direction of change in interest rates is an indicator of the direction of change in cost of equity. The CAPM is a market based model used for cost of capital estimation that Staff employs to estimate Arizona-American's cost of equity. The CAPM model is discussed in greater detail in Section V of this testimony.

Q. What has been the general trend in interest rates in recent years?

A. U.S. treasury rates from November 2000 to 2007 are shown in Chart 1. The chart shows that the rates in this timeframe generally declined until mid 2003 and have on average risen somewhat since that time.

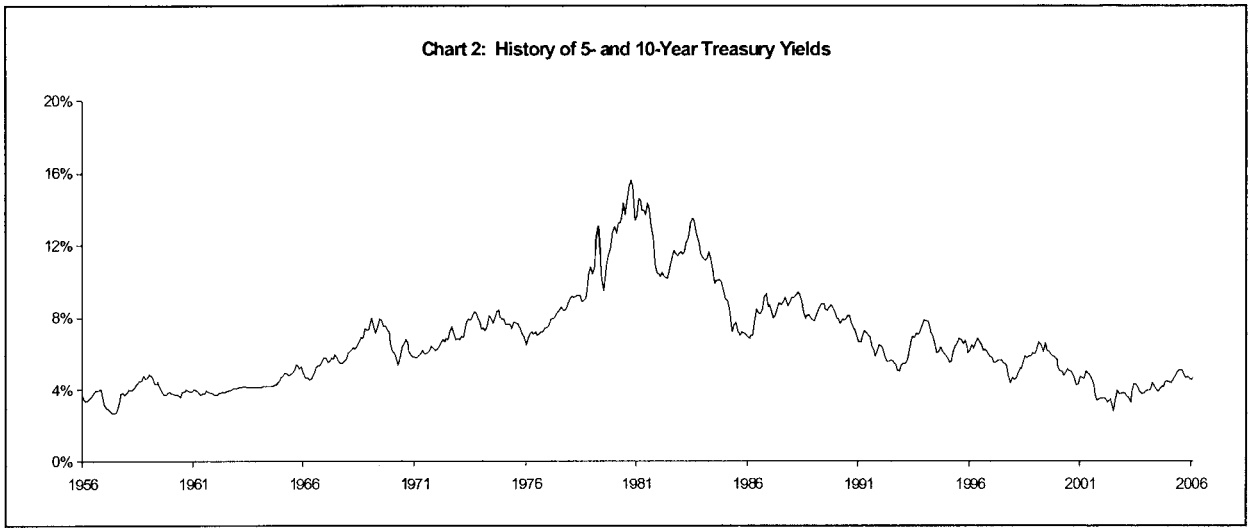
Chart 1: Average Yield on 5-, 7-, & 10-Year Treasuries



Source: Federal Reserve

Q. What has been the general trend in interest rates in the long-term?

A. U.S. treasury rates from 1955 to present are shown in Chart 2. The chart demonstrates that in that period rates rose on average until the 1980's and have fallen on average since that time.



Source: Federal Reserve

Q. What do these trends suggest for cost of equity?

A. As mentioned previously, interest rates generally have a direct relationship with cost of capital. As a result, cost of equity has declined significantly in the past 25 years.

Risk

Q. Please define risk as it relates to cost of capital.

A. Risk is uncertainty that results from the variability of returns from an investment. Greater variability results in greater risk. Because investors are generally averse to risk, investments with greater inherent risk must promise higher expected yields.[1] Risk can be separated into two components: market risk and non-market risk. Market risk can also be referred to as systematic or non-diversifiable risk. Non-market risk can also be referred to as unique or diversifiable risk.

[1] Scott, David L. Wall Street Words, revised edition. Houghton Mifflin Company. Boston. 1988. p. 324.

Q. What is market risk?

A. Market risk is risk which results from forces that affect the entire market. Examples of forces that contribute to market risk include but are not limited to: inflation, interest rates, general business cycles, international incidents, and war. Each of these forces impacts the entire market. An investor cannot eliminate market risk by holding a diverse portfolio as market risk affects all stocks. While market risk affects all stocks, the degree to which market risk affects an individual stock's returns varies. The sensitivity of a given stock's returns relative to the whole market is measured by the indicator beta. Beta reflects both the business risk and financial risk of a firm. As beta is a component of the CAPM model, it is discussed in greater detail in Section V of this testimony.

Q. What is business risk?

A. Business risk is that risk which is associated with the fluctuation in earnings due to the basic nature of a firm's business. Companies in the same line of business experience the same business risk associated with earning cycles for that line of business. Business risk affects cost of equity.

Q. What is financial risk?

A. Financial risk is the risk that results from a company's reliance on debt financing. Financial risk affects cost of equity. Firms whose capital is highly leveraged have greater exposure related to the ability to service debt. As leverage increases, risk also increases. This increase in risk results in an increase in cost of equity.

Q. What is non-market risk?

A. Non-market risk, or firm-specific risk, is risk that results from forces which are firm specific, or singular to a firm. Examples of forces that contribute to non-market risk include but are not limited to: strikes, lawsuits, failure of a product line, and loss of a client. Different firms experience their own unique, or non-market, risks. By holding a diverse portfolio an individual investor can eliminate non-market risk.

Q. Do market and non-market risk affect cost of equity?

A. Market risk does affect cost of equity. Because non-market risk is diversifiable, investors cannot expect to be compensated for non-market risk.

V. ESTIMATING THE COST OF EQUITY

Introduction

Q. Did Staff directly estimate Arizona-American's cost of equity?

A. No. As Arizona-American is not a publicly traded company, financial metrics needed to directly estimate Arizona-American's cost of equity are not available. For this reason, Staff used market information from six publicly traded water companies as a proxy for the financial metrics needed to estimate Arizona-American's cost of equity. Data from the proxy companies is averaged in Staff's analysis. Relying on averaged data from a sample group as a proxy has the beneficial effect of reducing sample error associated with variance present at the instant in time from which the financial metrics are selected.

Q. What Companies did Staff select as proxies or comparables for Arizona-American?

A. Staff's sample consisted of: American States Water, California Water, Connecticut Water Services, Middlesex Water, Aqua America, and SJW Corp. These companies were

selected as they are publicly traded and a significant portion of their revenues come from regulated operations. Arizona-American's analysis is based on these same sample companies.

Q. What models did Staff implement to estimate Arizona-American's cost of equity?

A. Staff's estimate of the cost of equity is based on the DCF and the CAPM.

Q. Why did Staff choose to base its analysis on the DCF and CAPM?

A. Staff chose these models as they are widely recognized market based models for estimating the cost of equity. Since the cost of equity is determined by the market, use of market based models is appropriate. These models are explained in the following sections of this testimony.

Discounted Cash Flow Model Analysis

Q. Please provide a brief summary of the theory upon which the DCF method of estimating the cost of equity is based.

A. The DCF method of stock valuation is based on the theory that an investment's current value is equal the discounted sum of the future revenues generated from the investment. Professor Myron Gordon pioneered the use of the DCF method to estimate the cost of capital for a public utility in the 1960's. This model is widely used due to its theoretical merit and simplicity. The DCF formula calculates the cost of capital using expected dividends, market price, and a dividend growth rate. This process is applied to each of the sample companies and the results are averaged to determine an estimated cost of capital for the subject company.

Q. Are alternative growth rate models used in Staff's application of the DCF?

A. Yes. Staff uses two versions of the DCF. In one version, Staff uses a single continuous growth rate. This is referred to as the constant growth DCF. In the second version, Staff uses a two-stage growth rate that assumes that dividend growth will change in the future. This second model is referred to as the multi-stage or non-constant growth DCF.

The Constant-Growth DCF

Q. What is the mathematical formula used in Staff's constant-growth DCF analysis?

A. The constant-growth DCF formula used in Staff's analysis is as follows:

Equation 2:

$$K = \frac{D_1}{P_0} + g$$

where:
K = the cost of equity
D_1 = the expected annual dividend
P_0 = the current stock price
g = the expected infinite annual growth rate of dividends

This formula assumes that the company has a constant earnings retention rate and that its earnings will continue to grow at a single constant rate. According to this equation, a stock with a current market price of $10 per share, an expected annual dividend of $0.60 per share and an expected dividend growth rate of 4.0 percent per year has a cost of equity of 10.0 percent. This is calculated as follows: ($0.60/$10 or 6.0 percent) + (4.0 percent) = 10.0 percent.

Q. How did Staff select the dividend yield components D_1 and P_0 in the constant-growth DCF formula?

A. Staff used the expected annual dividend[2] (D_1) and stock price (P_0) at the close of the market on September 5, 2007, as reported by *MSN Money*.

Q. Why did Staff use the September 5, 2007 spot stock price rather than a historical average stock price to calculate the dividend yield component of the DCF formula?

A. Current rather than historic spot price is used in order to be consistent with financial theory. According to the efficient market hypothesis, current stock prices reflect all available information. This includes investors' current expectations of future returns. Consequently, current stock price is the best indicator of those expectations. Use of a historical average of stock prices illogically discounts the most recent information in favor of less recent information. The latter is stale and is representative of underlying conditions that may have changed.

Q. How did Staff estimate the dividend growth (g) component of the constant-growth DCF model represented by Equation 2?

A. The growth component used by Staff is determined by averaging six different estimation methods. The results are shown in Schedule SPI-7. Staff calculated both historical and projected growth estimates on dividend-per-share ("DPS")[3], earnings-per-share ("EPS")[4] and sustainable growth bases.

[2] *Value Line* Summary & Index. July 27, 2007, http://ir.aquaamerica.com and www.ctwater.com
[3] Derived from information provided by *Value Line*
[4] Derived from information provided by *Value Line*

Q. Why did Staff include EPS growth in estimation of the dividend growth component of the constant-growth DCF model?

A. Historic and projected EPS are considered in the constant-growth DCF model as dividends are related to earnings. While dividends payouts are not necessarily determined by a given constant proportion to earnings, dividends cannot exceed earnings indefinitely. In the long term, dividend payouts are dependent on earnings.

Q. How did Staff calculate historical DPS growth?

A. Staff calculated historical DPS growth by averaging DPS growth of the sample water utilities from 1996 to 2006. These averages are shown on Schedule SPI-4. Staff's analysis indicates an average historical growth rate of 2.8 for the sample water utilities.

Q. How did Staff estimate the projected DPS growth?

A. Staff averaged the projected DPS growth rates shown in *Value Line* for the sample water utilities. The average of the DPS projections is 4.9 percent as shown in SPI-4.

Q. How did Staff calculate the historical EPS growth rate?

A. Staff calculated the historical EPS growth rate by averaging the EPS for the sample companies from 1996 to 2006. Staff excluded Connecticut Water's historical EPS growth rate from the average as it is negative 1.8 and California Waters historical EPS growth rate as it is negative 1.2 percent. This is done as negative growth is inconsistent with the DCF model. The historical average EPS is 4.0 percent as shown in SPI-4.

Q. How did Staff estimate the projected EPS growth?

A. Staff averaged the projected EPS growth rates shown in *Value Line* for the sample water utilities. The average of the EPS projections is 9.3 percent as shown in SPI-4.

Q. How did Staff calculate its historical and projected sustainable growth rates?

A. Historical and projected sustainable growth rates are calculated by adding the respective retention growth rates (br) to stock financing growth rates (vs) as shown in the last two columns of SPI-5.

Q. What is retention growth?

A. Retention growth is growth in dividends that results from retention of earnings. This concept is based on the theory that dividend growth will not be achieved unless the company retains and reinvests some of its earnings. It is used in Staff's calculation of sustainable growth shown in SPI-5.

Q. What is the formula for the retention growth rate?

A. Retention growth is the product of the retention ratio and the book/accounting return on equity. The formula is as follows:

Equation 3:

$$\text{Retention Growth Rate} = br$$

where: b = the retention ratio (1 – dividend payout ratio)
r = the accounting/book return on common equity

Q. How did Staff calculate the average historical retention growth rate (br) for the sample water utilities?

A. Staff calculated the historical retention rates by averaging the retention rates for the sample companies from 1997 to 2006. The historical average retention rate is 3.0 percent as shown in SPI-5.

Q. How did Staff determine projected retention growth rate (br) for the sample water utilities?

A. Staff averaged the projected retention growth rates for the period 2009 to 2011 shown in *Value Line* for the sample water utilities. The average of the retention rate projections is 4.3 percent as shown in SPI-5.

Q. When can retention growth provide a reasonable estimate of future dividend growth?

A. The retention growth rate is a reasonable estimate of future dividend growth when the retention ratio is reasonably constant and the entity's market price to book value ("market-to-book ratio") is expected to be 1.0. The average retention ratio has been reasonably constant in recent years. However, the market-to-book ratio for the sample water utilities is 2.4, notably higher than 1.0, as shown in Schedule SPI-6.

Q. Is there any financial implication of a market-to-book ratio greater than 1.0?

A. Yes. A market-to-book ratio greater than 1.0 implies that investors expect an entity to earn an accounting/book return on its equity that exceeds its cost of equity. The relationship between required returns and expected cash flows is readily observed in the fixed securities market. For example, assume an entity contemplating issuance of bonds

with a face value of $10 million at either 6.0 percent or 7.0 percent, and thus, paying annual interest of $600,000 or $700,000, respectively. Regardless of investors' required return on similar bonds, investors will be willing to pay more for the bonds if issued at 7.0 percent than if the bonds are issued at 6.0 percent. For example, if the current interest rate required by investors is 6.0 percent, then investors would bid $10 million for the 6.0 percent bonds and more than $10 million for the 7.0 percent bonds. Similarly, if equity investors require a 7.0 percent return and expect an entity to earn accounting/book returns of 12.0 percent, the market will bid up the price of the entity's stock to provide the required return of 7.0 percent.

Q. How has Staff generally recognized a market-to-book ratio exceeding 1.0 in its cost of equity analyses in recent years?

A. Staff has assumed that investors expect the market-to-book ratio to remain greater than 1.0. Given that, Staff has added a stock financing growth rate (vs) term to the retention ratio (br) term to calculate its historical and projected sustainable growth rates.

Q. Do the historical and projected sustainable growth rates Staff uses to develop its DCF cost of equity in this case include stock financing growth as an input?

A. Yes.

Q. What is stock financing growth?

A. Stock financing growth is the growth in an entity's dividends due to the sale of stock by that entity. Stock financing growth is a concept derived by Myron Gordon and discussed in his book *The Cost of Capital to a Public Utility.*[5] Stock financing growth is the product

[5] Gordon, Myron J. *The Cost of Capital to a Public Utility*, MSU Public Utilities Studies, Michigan, 1974. pp 31-35.

of the fraction of the funds raised from the sale of stock that accrues to existing shareholders (v) and the fraction resulting from dividing the funds raised from the sale of stock by the existing common equity(s).

Q. What is the mathematical formula for the stock financing growth rate?

A. The stock financing growth rate formula is as follows:

Equation 4:

$$\text{Stock Financing Growth} = vs$$

where: v = Fraction of the funds raised from the sale of stock that accrues to existing shareholders

s = Funds raised from the sale of stock as a fraction of the existing common equity

Q. How is the variable v presented above calculated?

A. Variable v is calculated as follows:

Equation 5:

$$v = 1 - \left(\frac{book\ value}{market\ value} \right)$$

For example, assume that a share of stock has a $40 book value and is selling for $80. Then, to find the value of v, the formula is applied:

$$v = 1 - \left(\frac{40}{80} \right)$$

In this example, v is equal to 0.50.

Q. How is the variable s presented above calculated?

A. Variable s is calculated as follows:

Equation 6:

$$s = \frac{\text{Funds raised from issuance of stock}}{\text{Total existing common equity before issuance}}$$

For example, assume that an entity has $100 in existing equity, and it sells $25 of stock. Then, to find the value of s, the formula is applied:

$$s = \left(\frac{25}{100} \right)$$

In this example, s is equal to 25.0 percent.

Q. What is the vs term when the market-to-book ratio is equal to 1.0?

A. A market-to-book ratio equal to 1.0 reflects that investors expect an entity to earn a book/accounting return on their equity investment equal to the cost of equity. When the market-to-book ratio is equal to 1.0, none of the funds raised from the sale of stock by the entity accrues to the benefit of existing shareholders, i.e., the term v is equal to zero (0.0).

Consequently, the vs term is also equal to zero (0.0). When stock financing growth is zero, dividend growth depends solely on the br term.

Q. What is the affect of the vs term when the market-to-book ratio is greater than 1.0?

A. A market-to-book ratio greater than 1.0 reflects that investors expect an entity to earn a book/accounting return on their equity investment greater than the cost of equity. Equation 5 shows that when the market-to-book ratio is greater than 1.0 the v term is also greater than zero. The excess by which new shares are issued and sold over book value per share of outstanding stock is a contribution that accrues to existing stockholders in the form of a higher book value. The resulting higher book value leads to higher expected earnings and dividends. Continued growth from the vs term is dependent upon the continued issuance and sale of additional shares at a price that exceeds book value per share.

Q. What vs estimate did Staff calculate from its analysis of the sample water utilities?

A. Staff estimated an average stock financing growth (vs) of 2.7 percent for the sample water utilities as shown in Schedule SPI-5.

Q. What would one expect to occur should a stock have a market-to-book ratio greater than 1.0 as a result of investors' expectations that earnings would exceed the cost of equity capital and the entity subsequently have rates authorized equal to its cost of equity capital?

A. A reasonable expectation is for the market-to-book ratio to move toward 1.0.

Q. If the average market-to-book ratio of the sample water utilities falls to 1.0 due to authorized ROE's equaling the cost of equity capital, would Staff's inclusion of the vs term in its constant-growth DCF analysis result in an overestimate of its sustainable dividend growth rate and the resulting DCF ROE estimate?

A. Yes. Inclusion of the vs term assumes that the market-to-book ratio continues to exceed 1.0, and that the water utilities will continue to issue and sell stock at prices exceeding book value resulting in benefits for existing shareholders. If the market-to-book ratio declines to 1.0, the stock financing term is not necessary.

Q. What are Staff's historical and projected sustainable growth rates?

A. Based on the average earnings retention of the sample water companies, Staff's estimated historical sustainable growth rate is 5.7 percent. Staff's projected sustainable growth rate is 8.2 percent based on the retention growth rate projected by *Value Line.* Staff's estimates of the sustainable growth rate are shown in SPI-5 and SPI-7.

Q. What is Staff's expected infinite annual growth rate in dividends?

A. Staff's expected infinite annual growth rate in dividends is 5.8 percent, the average of historical and projected dividends per share ("DPS"), earnings per share ("EPS"), and sustainable growth rate estimates. The calculation is shown in SPI-7.

Q. What is Staff's constant-growth DCF estimate?

A. Staff's constant-growth DCF estimate is 8.6 percent as shown in Schedule SPI-2.

Multi-Stage DCF

Q. Why did Staff include the multi-stage DCF in its estimate of Arizona-American's cost of equity?

A. Staff used the multi-stage DCF to consider the assumption that dividends may not grow at a constant rate.

Q. Please describe the multi-stage DCF used in Staff's analysis?

A. As mentioned previously, the multi-stage DCF uses two stages of growth. The first stage is four years followed by the second stage. A separate growth rate is applied to each stage.

Q. What is the mathematical formula for the multi-stage DCF?

A. The multi-stage DCF formula is shown in the following equation:

Equation 7:

$$P_0 = \sum_{t=1}^{n} \frac{D_t}{(1+K)^t} + \frac{D_n(1+g_n)}{K-g_n}\left[\frac{1}{(1+K)}\right]^n$$

Where: P_0 = current stock price
D_t = dividends expected during stage 1
K = cost of equity
n = years of non – constant growth
D_n = dividend expected in year n
g_n = constant rate of growth expected after year n

Q. What steps did Staff take to implement its multi-stage DCF cost of equity model?

A. First, Staff projected future dividends for each of the sample water utilities using the near-term and long-term growth rate periods discussed previously. Second, Staff calculated the

rate (cost of equity) which equates the present value of the forecasted dividends to the current stock price for each of the sample water utilities. Finally, Staff calculated an average of the individual sample companies' cost of equity estimates.

Q. How did Staff calculate growth rate for the first stage of the multi-stage DCF?

A. The growth rate for the first stage is based on *Value Line's* projected dividends for the next twelve months, when available, and on the average dividend growth rate calculated in Staff's constant DCF analysis for the remainder of the stage.

Q. How did Staff estimate the growth rate for the second stage of the multi-stage DCF model?

A. Staff calculated the arithmetic mean of growth in GDP from 1929 to 2006.[6] Use of the historic arithmetic mean of GDP assumes that dividend growth for the utility will be similar to the historical growth in the overall economy.

Q. What is the historical GDP growth rate that Staff used in stage-2 growth?

A. The arithmetic mean of growth in GDP used in stage-2 is 6.8 percent as shown in SPI-8.

Q. What is Staff's multi-stage DCF estimate?

A. Staff's multi-stage DCF estimate is 9.5 percent as shown in Schedule SPI-8.

[6] www.bea.doc.gov

Q. What is Staff's overall DCF estimate?

A. Staff's overall DCF estimate is 9.1 percent. Staff calculated the overall DCF estimate by averaging the constant growth DCF (8.6 percent) and multi-stage DCF (9.5 percent) estimates as shown in Schedule SPI-2.

Capital Asset Pricing Model

Q. Please describe the capital asset pricing model ("CAPM") and the premise it is based on.

A. The CAPM is a model used in pricing of securities. The CAPM formula is based on the premise that the return on a security is equal to the sum of a risk free rate and a risk premium. The risk free rate portion of the formula compensates an investor for the risk inherent in investing in the market. The risk premium portion of the formula compensates an investor for taking on additional risk. The model illustrates the relationship between risk and expected return. It is useful in establishing expected returns for a security given its risk and the returns of other securities of similar risk. In 1990, Professors Harry Markowitz, William Sharpe, and Merton Miller earned the Nobel Prize in Economic Sciences for their contribution to the development of the CAPM. The CAPM assumes that investors hold portfolios sufficiently diversified to eliminate any non-systematic (unique) risk.[7]

Q. What is the mathematical formula for the CAPM?

A. The mathematical formula for the CAPM is:

[7] Brigham, Eugene F. and Ehrhardt, Michael C. Financial Management Theory and Practice 11th Edition. 2005. Thomson South-Western. United States. P. 182.

Equation 8:

$$K = R_f + \beta (R_m - R_f)$$

where:

R_f	=	risk free rate
R_m	=	return on market
β	=	beta
$R_m - R_f$	=	market risk premium
K	=	expected return

The equation shows that the expected return (K) on a security is equal to the risk-free interest rate (R_f) plus the product of the market risk premium ("Rp") ($R_m - R_f$) multiplied by beta (β) where beta represents the risk of the investment relative to the market.

Q. What is the risk free rate?

A. The risk free rate is the rate of return of an investment with no risk.

Q. What rate does Staff use to estimate the risk free rate?

A. Staff relies on the U.S. Treasury security spot rates as an estimate for the risk free rate.

Q. Why are U.S. Treasury security spot rates an appropriate measure of the risk-free rate?

A. U.S. Treasury securities are generally considered risk free as they are issued and backed by the U.S. Government. U.S. Treasuries also have the benefit of being verifiable, objective and readily available.

Q. What does beta measure?

A. Beta represents the correlation between price variation of an individual security and the price variation of the market. Beta is a measure of systematic (market) risk. Systematic

risk, as opposed to unsystematic (unique) risk, cannot be eliminated by diversification. Investors who hold diverse portfolios can eliminate non-systematic risk. Therefore, only systematic risk affects the cost of equity.

Q. How is the beta measurement expressed?

A. Beta is expressed as a numeral. Beta for the market is 1.0. A security with a beta greater than 1.0 is riskier than the market, and a security with a beta less than 1.0 is less risky than the market. The degree to which a given security's beta is greater or less than 1.0 indicates its relatively greater or lesser risk to the market.

Q. How did Staff estimate Arizona-American's beta?

A. Staff's DCF analysis for Arizona-American uses a beta equal to the average of the betas for the sample companies. Staff used the betas published in *Value Line* on July 27, 2007. The average of the betas is 0.85. Schedule SPI-6 shows the *Value Line* betas and their average.

Q. How did the average of the sample water utilities beta's compare to the market's beta?

A. The average beta of the six sample water utilities is 0.85. This conclusion is based on averaging beta's published in *Value Line* on July 27, 2007. As beta for the entire market is 1.0, the average of the sample companies' betas is less than the market's beta.

Q. What is the implication of a 0.85 beta for the average of sample water utilities compared to a 1.0 beta for the market?

A. The implication is that the cost of equity for a regulated water utility is below the average required return on the market.

Q. Please describe the expected market risk premium (R_m-R_f).

A. Conceptually, it is the return that an investor expects to receive to compensate for market risk. Mathematically speaking, the expected market risk premium is the expected return on a market portfolio minus the risk free rate.

Q. How many risk premium CAPM analyses did Staff conduct in its analysis of Arizona-American's cost of equity capital?

A. Staff conducted two risk premium CAPM analyses: current market risk premium and historic market risk premium. Staff averaged the results of the two risk premium analyses to calculate a CAPM cost of equity estimate as shown in SPI-2.

Historic Market Risk Premium

Q. What did Staff use for the historic market risk premium?

A. Staff referred to the *Ibbotson Associates' Stocks, Bonds, Bills, and Inflation 2007 Yearbook* and selected Ibbotson's measure of the average premium of the market over intermediate treasury securities since 1926. Ibbotson Associates calculates the historical risk premium by averaging the historical arithmetic differences between the S&P 500 and the intermediate-term government bond income returns. Staff's historic market risk premium is 7.6 percent as shown in Schedule SPI-2.

Current Market Risk Premium

Q. How did Staff establish the current market risk premium?

A. Staff solved equation 8 for the market risk premium using a DCF derived expected return (K) of 11.43 percent based on *Value Line's* current projections for the dividend yield (1.7 percent) and growth (9.73 percent[8]) for all dividend paying stocks; the 30-year Treasury note rate (4.78 percent) for the risk free rate (R_f); and the market beta of 1.0. Staff calculated a current market risk premium of 6.65 percent.[9]

Q. What are the results of Staff's historical and current market risk premium CAPM analyses?

A. Staff's cost of equity estimate is 10.8 percent using the historical market risk premium CAPM and 6.7 percent using current market risk premium CAPM.

Q. What is Staff's overall CAPM estimate?

A. Staff's overall CAPM estimate is 10.6 percent which is the average of the historical market risk premium CAPM and the current market risk premium CAPM estimates as shown in Schedule SPI-2.

VI. SUMMARY OF STAFF'S COST OF EQUITY ANALYSIS

Q. What is Staff's constant-growth DCF analysis estimate of the cost of equity for the sample water companies?

A. Staff's constant-growth DCF estimate of the cost of equity for the sample water utilities is 8.6 percent. The results are shown in Schedule SPI-2. A summary of the analysis is as follows:

---

[8] 3 to 5 year growth = 45%. $1.45^{0.25}$ = 1.0973; (1.0973 – 1.0 = .0973 or 9.73%)
[9] If 11.43= 4.78% + 1(Rm – Rf), then, (Rm-Rf) = 6.65%

k = Dividend yield + Expected dividend growth

k = 2.8% + 5.8%

k = 8.6%

Q. What is Staff's multi-stage DCF analysis estimate of the cost of equity for the sample water companies?

A. Staff's multi-stage DCF estimate of the cost of equity for the sample water utilities is 9.5 percent. The result is presented in Schedule SPI-2. A summary of the analysis is as follows:

Company	**Equity Cost Estimate (k)**
American States Water	9.2%
California Water	9.7%
Aqua America	8.7%
Connecticut Water	10.4%
Middlesex Water	10.5%
SJW Corp	8.6%
Average	**9.5%**

Q. What is Staff's overall DCF estimate of the cost of equity?

A. Staff's overall DCF estimate of the cost of equity for the sample utilities is 9.1 percent. This estimate is calculated by averaging Staff's constant growth and multi-stage DCF estimates as shown in Schedule SPI-2.

Q. What is Staff's CAPM estimate of the cost of equity for the sample companies using the historical market risk premium?

A. Staff's CAPM estimate of the cost of equity for the sample companies using the historical market risk premium is 10.8 percent. The results are shown in Schedule SPI-2. A summary of the analysis is as follows:

k = historical risk free rate + beta * historical market risk premium
k = 4.3% + 0.85 * 7.6%
k = 4.3% + 6.5%
k = 10.8%

Q. What is Staff's CAPM estimate of the cost of equity for the sample companies using the current market risk premium?

A. Staff's CAPM estimate of the cost of equity for the sample companies using the current market risk premium is 10.4 percent. The results are shown in Schedule SPI-2. A summary of the analysis is as follows[10]:

k = current risk free rate + beta * current market risk premium
k = 4.8% + 0.85 * 6.7%
k = 4.8% + 5.6%
k = 10.4%

Q. What is Staff's overall CAPM estimate of the cost of equity for the sample utilities?

A. Staff's overall CAPM estimate for the sample utilities is 10.6 percent. This estimate is calculated by averaging Staff's constant growth and multi-stage DCF estimates as shown in Schedule SPI-2.

[10] Rounded Figures

Q. Please summarize the results of Staff's cost of equity analysis.

A. The following table shows the results of Staff's cost of equity analysis:

Table 5

Method	Estimate
Average DCF Estimate	9.1%
Average CAPM Estimate	10.6%
Overall Average	**9.9%**

Staff's average estimate of the cost of equity of the sample water utilities is 9.9 percent.

VII. FINAL COST OF EQUITY ESTIMATES FOR ARIZONA-AMERICAN

Q. Does capital structure influence the cost of equity?

A. Yes. Capital structure influences cost of capital. Companies with higher debt leverage have higher financial risk. Investors require a higher rate of return to compensate for greater risk. Accordingly, when an Company"s capital structure is different than the average of the sample companies an adjustment to the cost of equity may be appropriate to reflect the difference in financial risk.

Q. Does Arizona-American's capital structure differ from the average capital structure of the sample companies?

A. Yes. Arizona-American's capital structure reflects more financial risk than the average of the sample companies. The sample companies average 50.1 percent debt and 49.9 percent equity.

Q. Does Staff recommend an adjustment to recognize the difference in financial risk between Arizona-American and the sample companies?

A. Yes. Staff used the methodology developed by Professor Robert Hamada of the University of Chicago, which incorporates capital structure theory with the CAPM, to estimate the effect of Arizona-American's capital structure on its cost of equity. Staff calculated a financial risk adjustment for Arizona-American of positive 90 basis points. Staff estimated a 10.8 cost of equity for Arizona-American by addition of the financial risk adjustment to Staff's average estimate of the cost of equity to the sample water utilities.

The calculation is as follows:

Adjusted ROE = Overall average estimated ROE + Financial risk adjustment

Adjusted ROE for Arizona-American = 9.9% + 0.9%

Adjusted ROE for Arizona-American = 10.8%

Q. What is Staff's ROE recommendation for Arizona-American?

A. Staff recommends an ROE of 10.8 percent.

VIII. RATE OF RETURN RECOMMENDATION

Q. What is Staff's overall rate of return recommendation for Arizona-American?

A. Staff recommends a 7.4 percent ROR for Arizona-American. Staff's recommendation is based on a capital structure composed of 62.4 percent debt at 5.4 percent and 37.6 percent equity at 10.8 percent as shown in Schedule SPI-1 and Table 6 below.

Table 6

	Weight	Cost	Weighted Cost
Debt	62.4%	5.4%	3.3%
Common Equity	37.6%	10.8%	4.1%
Cost of Capital/ROR			**7.4%**

IX. STAFF RESPONSE TO COMPANY'S COST OF CAPITAL WITNESS MR. JOEL M. REIKER

Q. Please summarize Mr. Reiker's cost of capital analyses and recommendations.

A. Mr. Reiker's cost of capital recommendation is based on use of both CAPM and DCF models. Like Staff, Mr. Reiker uses both a constant and multi-stage growth DCF model and both a current and historic market risk premium CAPM model. Mr. Reiker's methodology is similar to Staff's but does include some differences. Mr. Reiker includes Southwest Water in his group of proxy sample companies in addition to the six companies used by Staff. Mr. Reiker's Hamada adjustment relies on market values of the sample companies rather than book value. Mr. Reiker's proposed capital structure does not include debt related to the Phoenix Interconnection Agreement. Mr. Reiker recommends an 11.3 percent ROE and an 8.0 percent overall ROR.

Proxy Companies

Q. What are Staff's comments on Mr. Reiker's inclusion of Southwest Water in the Company's sample of proxy companies?

A. Southwest Water is a less than desirable representative of a regulated water utility since the majority of its revenues are derived from non-utility operations. Southwest Water is not comparable to Arizona-American and inclusion of Southwest in the proxy sample

skews the results of the financial analysis. For this reason, Staff opposes including Southwest Water in the proxy sample group for ROE estimation.

Market Value Capital Structure

Q. What are Staff's comments on Mr. Reiker's use of market value rather than book value of equity in calculating return on equity?

A. The Company uses market value to represent the equity positions of the sample group companies for use in calculation of a financial risk adjustment. It is both common Commission practice and appropriate utility ratemaking to compare the book value capital structure of the subject utility to the book value capital structures of proxy companies.

Q. Has Mr. Reiker previously supported the use of book value equity in calculation of financial risk adjustments in utility ratemaking?

A. Yes. While representing Commission Staff in January of 2005, Mr. Reiker submitted written prefiled testimony on behalf of Staff in a rate case filed by Qwest Corporation and argued in support of the use of book value equity for financial risk adjustments in utility ratemaking (Docket Nos. T-1051B-03-0454 and T-00000D-00-0672).[11] Mr. Reiker's Surrebuttal Testimony from the Qwest rate case is included as Exhibit 1.

Q. Does Staff agree with the testimony and reasoning of Mr. Reiker contained in his Surrebuttal Testimony of January 2005 in regard to the use of book value equity in financial risk adjustments?

A. Yes.

[11] Exhibit 1, pages 1 through 5.

Capital Structure

Q. What are Staff's comments on Mr. Reiker's capital structure?

A. The Company did not include debt related to the Phoenix Interconnection Agreement in its calculation of the capital structure. The reduction of debt present in the capital structure results in a lower weighted average cost of capital. As Arizona-American has financial obligations in the Phoenix Interconnection Agreement it is appropriate to include the obligations in the capital structure as debt.

X. RECOMMENDATIONS

Q. Please summarize Staff's recommendations.

A. Staff recommends a 7.4 percent ROR for Arizona-American. Staff's recommendation is based on a capital structure composed of 62.4 percent debt and 37.6 percent equity and a 10.8 percent ROE as shown Table 7 below.

Table 7

	Weight	Cost	Weighted Cost
Debt	62.4%	5.4%	3.3%
Common Equity	37.6%	10.8%	4.1%
Cost of Capital/ROR			**7.4%**

Staff further recommends that the Commission reject the Company's proposed 8.0 percent ROR. The Company's proxy group includes a water company whose revenues are predominantly from non-utility sales. The ROE used by the Company in support of its ROR includes a financial risk adjustment method that is not appropriate to utility rate making. The Company fails to include all of its debt obligations in its capital structure.

Q. Does this conclude your Direct Testimony?

A. Yes, it does.

Sun City Water District
Capital Structure
And Weighted Average Cost of Capital
Staff Recommended and Company Proposed

[A]	[B]	[C]	[D]
Description	Weight (%)	Cost	Weighted Cost
Staff Recommended Structure[1]			
Debt	62.4%	5.4%	3.3%
Common Equity	37.6%	10.8%	4.1%
Weighted Average Cost of Capital/ROR			**7.4%**
Company Proposed Structure			
Debt	57.6%	5.6%	3.2%
Common Equity	42.4%	11.3%	4.8%
Weighted Average Cost of Capital/ROR			**8.0%**

[D] : [B] x [C]

Supporting Schedule: SPI-3

Sun City Water District
Final Cost of Equity Estimates
Sample Water Utilities

[A]	[B]		[C]		[D]		[E]
DCF Method			D_1/P_0 [1]	+	g [2]	=	k
Constant Growth DCF Estimate			2.8%	+	5.8%	=	8.6%
Multi-Stage DCF Estimate						=	9.5%
Average of DCF Estimates							**9.1%**
CAPM Method	Rf	+	β [5]	x	(Rp)	=	k
Historical Market Risk Premium [3]	4.3%	+	0.85	x	7.6% [6]	=	10.8%
Current Market Risk Premium [4]	4.8%	+	0.85	x	6.7% [7]	=	10.4%
Average of CAPM Estimates							**10.6%**
					Average		**9.9%**
					Financial risk adjustment		0.9%
					Total		**10.8%**

1 MSN Money and Value Line

2 SPI-7

3 Risk-free rate (Rf) for 5, 7, and 10 year Treasury rates from the U.S. Treasury Department at www.ustreas.gov

4 Risk-free rate (Rf) for 30 Year Treasury bond rate from the U.S. Treasury Department at www.ustreas.gov

5 Value Line

6 Historical Market Risk Premium (Rp) from Morningstar's SBBI 2007 Yearbook (formerly published by Ibbotson Associates).

7 Testimony

Sun City Water District
Average Capital Structure of Sample Water Utilities

[A] Company	[B] Debt	[C] Common Equity	[D] Total
American States Water	52.2%	47.83%	100.0%
California Water	45.1%	54.9%	100.0%
Aqua America	54.5%	45.5%	100.0%
Connecticut Water	46.5%	53.5%	100.0%
Middlesex Water	54.7%	45.3%	100.0%
SJW Corp	47.9%	52.1%	100.0%
Average Sample Water Utilities	**50.1%**	**49.9%**	**100.0%**
Arizona-American Water Company	**62.4%**	**37.6%**	**100.0%**

Source:
Sample Water Companies from Value Line

Sun City Water District
Growth in Earnings and Dividends
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]
Company	Dividends Per Share 1996 to 2006 DPS[1]	Dividends Per Share Projected DPS[1]	Earnings Per Share 1996 to 2006 EPS[1]	Earnings Per Share Projected EPS[1]
American States Water	1.0%	4.2%	1.6%	9.6%
California Water	1.0%	0.9%	-1.2%	9.9%
Aqua America	6.7%	9.7%	8.8%	8.4%
Connecticut Water	1.2%	No Projection	-1.8%	No Projection
Middlesex Water	2.1%	No Projection	3.2%	No Projection
SJW Corp	4.4%	No Projection	2.2%	No Projection
Average Sample Water Utilities	**2.8%**	**4.9%**	**4.0%** [2]	**9.3%**

1 Value Line

2 Note that the figures -1.2% and -1.8% have been excluded from the calculation.
This has been done as negative growth is inconsistent with the DCF model.

Sun City Water District
Sustainable Growth
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]
Company	Retention Growth **1997 to 2006** br	Retention Growth Projected br	Stock Financing Growth vs	Sustainable Growth **1997 to 2006** br + vs	Sustainable Growth Projected br + vs
American States Water	2.6%	4.5%	1.5%	4.1%	6.0%
California Water	2.3%	4.5%	4.3%	6.6%	8.8%
Aqua America	4.5%	3.9%	5.7%	10.2%	9.6%
Connecticut Water	2.8%	No Projection	0.6%	3.4%	No Projection
Middlesex Water	1.2%	No Projection	4.0%	5.3%	No Projection
SJW Corp	4.7%	No Projection	0.0%	4.7%	No Projection
Average Sample Water Utilities	**3.0%**	**4.3%**	**2.7%**	**5.7%**	**8.2%**

[B]: Value Line
[C]: Value Line
[D]: *Value Line and MSN Money*
[E]: [B]+[D]
[F]: [C]+[D]

Sun City Water District
Selected Financial Data of Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[G]
Company	Symbol	Spot Price 9/5/2007	Book Value	Mkt To Book	*Value Line* Beta β	Raw Beta βraw
American States Water	AWR	**39.66**	17.11	2.3	**0.80**	0.67
California Water	CWT	**38.92**	18.22	2.1	**0.90**	0.82
Aqua America	WTR	**24.46**	7.15	3.4	**0.90**	0.82
Connecticut Water	CTWS	**23.56**	12.16	1.9	**0.90**	0.82
Middlesex Water	MSEX	**18.83**	9.62	2.0	**0.85**	0.75
SJW Corp	SJW	**32.59**	12.26	2.7	**0.75**	0.60
Average				**2.4**	**0.85**	**0.75**

[C]: Msn Money

[D]: Value Line

[E]: [C] / [D]

[F]: Value Line

[G]: -0.35 + [F] / 0.67

Sun City Water District
Calculation of Expected Infinite Annual Growth in Dividends
Sample Water Utilities

[A]	[B]
Description	g
DPS Growth - Historical[1]	2.8%
DPS Growth - Projected[1]	4.9%
EPS Growth - Historical[1]	4.0%
EPS Growth - Projected[1]	9.3%
Sustainable Growth - Historical[2]	5.7%
Sustainable Growth - Projected[2]	8.2%
Average	**5.8%**

1 Schedule SPI-4

2 Schedule SPI-5

Sun City Water District
Multi-Stage DCF Estimates
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[H]	[I]
Company	Current Mkt. Price (P_o)[1] 9/5/2007	Projected Dividends[2] (Stage 1 growth) (D_t) d_1	d_2	d_3	d_4	Stage 2 growth[3] (g_n)	Equity Cost Estimate (K)[4]
American States Water	39.7	0.98	1.04	1.10	1.16	6.8%	9.2%
California Water	38.9	1.19	1.26	1.34	1.41	6.8%	9.7%
Aqua America	24.5	0.50	0.53	0.56	0.59	6.8%	8.7%
Connecticut Water	23.6	0.87	0.92	0.97	1.03	6.8%	10.4%
Middlesex Water	18.8	0.72	0.76	0.81	0.86	6.8%	10.5%
SJW Corp	32.6	0.62	0.66	0.70	0.74	6.8%	8.6%

Average **9.5%**

$$P_0 = \sum_{t=1}^{n} \frac{D_t}{(1+K)^t} + \frac{D_n(1+g_n)}{K-g_n}\left[\frac{1}{(1+K)}\right]^n$$

Where : P_0 = current stock price
D_t = dividends expected during stage 1
K = cost of equity
n = years of non − constant growth
D_n = dividend expected in year n
g_n = constant rate of growth expected after year n

1 [B] see schedule PMC-6

2 Derived from Value Line Information

3 Average annual growth in GDP 1929 - 2005 in current dollars.

4 Internal Rate of Return of Projected Dividends

BEFORE THE ARIZONA CORPORATION COMMISSION

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

IN THE MATTER OF QWEST CORORATION'S FILING AMENDED RENEWED PRICE REGULATION PLAN) DOCKET NO. T-01051B-03-0454
)

IN THE MATTER OF THE IN THE COST OF TELECOMMU ACCESS) 000D-00-0672

EXHIBIT 1

SENIOR PUBLIC UTILITIES ANALYST

UTILITIES DIVISION

JANUARY 12, 2005

EXECUTIVE SUMMARY
JOEL M. REIKER
DOCKET NOS. T-01051B-03-0454, T-00000D-00-0672

The surrebuttal testimony of Staff witness Joel M. Reiker addresses the following issues:

Response to the rebuttal testimony of Peter C. Cummings

Hamada Methodology – Staff responds to Mr. Cummings' assertion that Staff inappropriately used book-value capital structures when applying the Hamada leverage adjustment methodology.

Staff does not take issue with the prescribed application of the Hamada methodology. Corporate finance states that a firm's weighted average cost of capital ("WACC") is appropriately calculated using the market-value capital structure. However, *regulatory* finance determines a fair rate of return ("ROR") as a weighted average of the embedded cost of debt and the opportunity cost of equity, measured at *book value*. Hence, it is the book value of debt and equity which is of interest to the regulator.

Mr. Cummings' capital structure/financial risk adjustment, which compares market-value capital structures to a book-value capital structure, unnecessarily introduces a known inconsistency to the required return estimate for Qwest. An appropriate adjustment procedure would compare book values to book values rather than market values to book values.

Mr. Cummings' testimony regarding Qwest's market value is inconsistent with the testimony of Company witness Philip Grate, and supports Staff's position that it is appropriate to unlever and relever beta using book-value capital structures in this proceeding.

Adjusted Betas – Staff responds to Mr. Cummings' testimony that published betas should not be unadjusted before they are unlevered and relevered.

The relative effect of unadjusting and readjusting beta is the result of simple mathematics and not an ad hoc attempt to trim Staff's estimate of Qwest's required return, as Mr. Cummings suggests.

The relevered beta provided by the Hamada methodology is an estimate of the OLS slope, or statistical regression, of an adjusted rate of return time series. Accordingly, if the result of unlevering and relevering beta estimates using Hamada's methodology is a classical, or raw estimate, it makes sense to begin with a classical, or raw, estimate rather than a Bayesian estimate.

A reasonableness check on Staff's capital structure/financial risk adjustment based on modern capital structure theory set forth by Franco Modigliani and Merton Miller confirms the reasonableness of Staff's recommendation in this case.

Response to the rebuttal testimony of Philip E. Grate

Fair Value/Earnings Requirement – Staff responds to Mr. Grate's assertion that the ROR must be multiplied by the Company's fair value rate base ("FVRB") to determine dollar earnings, rather than multiplying the ROR by the OCRB and solving for a ROR that, when applied to the FVRB, produces the same dollar level of earnings.

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Schedules

INTRODUCTION

Q. Please state your name and business address.

A. My name is Joel M. Reiker. My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

Q. Are you the same Joel M. Reiker who previously filed direct testimony in this proceeding?

A. Yes.

Q. What is the purpose of your surrebuttal testimony?

A. The purpose of my surrebuttal testimony is to respond to criticisms of Staff's direct testimony contained in the rebuttal testimony of Qwest Corporation ("Qwest" or "Company") witness Mr. Cummings. I also respond to Company witness Philip Grate's rebuttal testimony concerning fair value.

I. RESPONSE TO THE REBUTTAL TESTIMONY OF PETER C. CUMMINGS

Capital Structure/Financial Risk Adjustment

Hamada Methodology

Q. How does Staff respond to Mr. Cummings assertion that the levered and unlevered beta equations developed by Professor Hamada specify the use of market values of debt and equity, rather than the book values used by Staff? (See rebuttal testimony of Peter C. Cummings. p. 6 at 16 – 20 & p. 7 at 1 – 4.)

A. Staff agrees that Hamada indeed specifies the use of market values of debt and equity in his leveraging equations. Staff does not take issue with Hamada's specification. In the realm of unregulated corporate finance the weighted average cost of capital ("WACC") is properly calculated using *market* values of debt and equity. It, therefore, follows that a

leveraging equation such as Hamada's would, in turn, call for market values rather than book values of debt and equity. However, Mr. Cummings' position and statement that Staff "used the wrong input for equity capital... the book value percentage of equity capital instead of the market value..." (see rebuttal testimony of Peter C. Cummings. p. 7 at 13 – 15) ignores the fact that in the realm of *regulatory* public utility finance, a fair rate of return ("ROR") is a weighted average of the embedded cost of debt and the opportunity cost of equity, *measured at book value.*[1] Hence, it is the mix of outstanding debt and equity securities used to finance the utility's original investment, i.e., the *book* value of debt and equity, which is of interest to the regulator when setting rates.

Q. Is it appropriate to compare the capital structure of a utility, measured at book value, with the average capital structure of a sample group, measured at market value, as Mr. Cummings does in his financial risk adjustment and Exhibit PCC-3 of his direct testimony?

A. No. As stated on page 7 (line 13) of Staff's direct testimony, the cost of equity is determined by the market. Therefore, market-based models such as the DCF model and the CAPM are used to estimate the cost of equity. Staff agrees with Mr. Cummings' statement that inherent in rate of return regulation "is the potential for some mismatch in the application of financial theory and models to the construct of rate base regulation." (See rebuttal testimony of Peter C. Cummings. p. 8 at 1 – 3.) However, cost of capital estimation is subject to significant estimation error without introducing additional and unnecessary *known* inconsistencies. Mr. Cummings unnecessarily introduces a known inconsistency to his final cost of capital estimate for Qwest by unlevering beta with a market-value capital structure and relevering it with a book-value capital structure. An

[1] See Myers, Stewart C. "The Application of Finance Theory to Public Utility Rate Cases." *Bell Journal of Economics and Management Science.* Spring 1972. p. 92.

appropriate adjustment procedure would compare book values to book values rather than market values to book values.

Q. Is it normal practice in utility rate cases to compare the book-value capital structure of the subject utility to the market-value capital structures of proxy companies for the purpose of making a financial risk adjustment to the allowed return on equity ("ROE")?

A. No. Staff regularly processes rate applications for utilities of all sizes. It is not normal practice to compare the book-value capital structure of the subject utility to the market-value capital structures of proxy companies. Staff's approach in this case is the same approach previously approved by the Commission. For example, in Decision No. 67093, dated June 30, 2004,[2] the Commission adopted a ROE based on the same relevering methodology used by Staff in this case. Staff's approach in this case is consistent with that of previous cases, and has been approved by the Commission. In contrast, Mr. Cummings' approach is not consistent with prior Commission orders or with his own testimony in prior cases.

Q. Did Mr. Cummings use the same methodology in Qwest's last rate proceeding.

No. Mr. Cummings' testimony before the Commission in Qwest's (then US West) previous rate case[3] made no argument for a capital structure/financial risk adjustment to US West's ROE when the average capital structure of his sample telephone company group, derived from market equity values, exhibited a significantly higher percentage of equity (approximately 82%) than US West's proposed capital structure (52% equity) in that case.

[2] Docket No. WS-01303A-02-0867 *et seq.* Application of Arizona-American Water Company.
[3] Docket No. T-01051B-99-0105

Q. On pages 8 and 9 of his rebuttal testimony Mr. Cummings argues the absence of any inconsistency in his financial risk adjustment by stating that because "[Qwest] – Arizona is not publicly traded and is regulated; we may infer that, under rate of return regulation, the value of the rate base is the best surrogate available for the market value of the entity." (See rebuttal testimony of Peter C. Cummings. p. 8 at 17 – 19.) How does Staff respond?

A. Mr. Cummings' testimony supports Staff's position that it is appropriate to unlever and relever beta using capital structures measured at book value in this proceeding.

Q. How does Mr. Cummings' statement an on page 8 (lines 17 – 23) of his rebuttal testimony support Staff's position that it is appropriate to unlever and relever beta using capital structures measured at book value in this proceeding?

A. Mr. Cummings' statement and related testimony supports Staff's position because carried to its logical conclusion, a market-to-book ratio in excess of 1.0 suggests that a utility is expected to earn more than its cost of equity. Therefore, investors expect the sample companies to earn book/accounting returns in excess of the return they (investors) require. As a result, they have bid the stock prices (market values) of the sample companies up to the value of the expected future cash flows (dividends and capital gains) discounted at the return they (investors) require. James Claus of Barclays Global Investors and Jacob Thomas of Columbia Business School discussed this basic proposition in finance in a recent *Journal of Finance* article:

> This relation indicates that the [market-to-book] ratio is explained by expected future profitability ($roe_t - k$). Firms expected to earn an accounting return on equity equal to the cost of [equity] should trade currently at book values ($p_0/bv_0 = 1$).[4]

[4] Claus, James and Jacob Thomas. "Equity Premia as Low as Three Percent? Evidence from Analysts' Earnings Forecasts for Domestic and International Stock Markets." *The Journal of Finance*. October 2001. pp. 1629 – 1666.

If the market values of the sample companies reflect the expectation that they will over-earn, and the goal of regulation is not satisfied when a regulated utility over-earns, then the market-value capital structures used by Mr. Cummings to unlever beta cannot reasonably be compared to the capital structure of a regulated public utility. As stated previously, an appropriate financial risk adjustment procedure would compare book values to book values rather than market values to book values.

Adjusted Betas

Q. On page 9 (lines 6 – 15) of his rebuttal testimony Mr. Cummings discusses the fact that unadjusting the published betas provided by Merrill Lynch and Value Line has a small effect on the calculation of the average unlevered beta of the proxy group while readjusting beta has a very large effect, and suggests that the procedure "...appears to be the cloaking of an ad hoc downward trimming of the required return for [Qwest]..." How does staff respond?

A. The relative effect of unadjusting and readjusting beta is the result of simple mathematics and not an ad hoc attempt to trim Staff's estimate of Qwest's required return. The Merrill Lynch and Value Line adjustments are averaging techniques – they push high betas (betas in excess of 1.0) down toward 1.0 and low betas (betas below 1.0) up toward 1.0. As a result, the adjustment is smaller for raw betas that are closer to 1.0. For example, if we average the number 200 with the number 100, we get 150, which is a 50 point adjustment to the number 200. However, averaging the number 150 with the number 100 results in 125, which is only a 25 point adjustment.

Q. On page 10 (lines 5 – 16) of his rebuttal testimony Mr. Cummings argues against unadjusting published beta estimates before unlevering them and readjusting them

after they are relevered. Why did Staff unadjust the published beta estimates before unlevering and readjust after relevering?

A. As stated on page 35 (lines 1 – 16) of Staff's direct testimony, the beta estimates published by Value Line and Merrill Lynch are "Bayesian" estimates. Bayesian statistics provide a method of formally taking prior, often subjective, information or belief about a parameter (such as the presumed long-term tendency for betas to converge toward 1.0) into account in the estimation procedure. Unadjusting published beta estimates out of Bayesian mode and back into their classical (and objective) raw estimates gives us the original ordinary least squares ("OLS") slope, or beta. The classical estimate of the raw beta shows us how a particular security moved in relation to the market over some time period. Because the purpose of the Hamada methodology is to estimate how a security *would* have moved in relation to the market given different degrees of leverage, it makes sense to "unadjust" beta estimates out of their published Bayesian mode and back into their classical (and objective) raw beta estimates before unlevering and relevering them. After unlevering and relevering the raw beta estimates, they can then be readjusted back into Bayesian mode for comparison with betas published by Value Line and Merrill Lynch. In contrast, unlevering and relevering Bayesian estimates introduces a distortion that fails to preserve the relative relationship between a security and the market.

Q. In support of his argument against unadjusting published beta estimates before unlevering them Mr. Cummings states "there is no statistical regression or observed data in the calculated relevered beta." (See rebuttal testimony of Peter C. Cummings. p. 10 at 9 – 10.) How does Staff respond?

A. As stated previously, the purpose of the Hamada methodology is to estimate how a security *would* have moved in relation to the market given different degrees of leverage. In other words, the Hamada methodology provides us with the classical raw estimate of the OLS slope, or beta, given different degrees of leverage. Hamada states the following:

> The last approach, which will be used in this study, is to assume the validity of the [Miller & Modigliani] theory from the outset. Then the observed rate of return of a stock can be adjusted to what *it would have been* over the same time period had the firm no debt and preferred stock in its capital structure. The difference between the observed systematic risk, $_B\beta$, and the systematic risk for this *adjusted rate of return time series*, $_A\beta$, can be attributed to leverage, if the [Miller & Modigliani] theory is correct.[5] (latter emphasis added)

The relevered beta provided by Hamada's methodology is an estimate of the OLS slope, or statistical regression, of an adjusted rate of return time series. Accordingly, if the result of unlevering and relevering beta estimates using Hamada's methodology is a classical, or raw estimate, it makes sense to begin with a classical, or raw, estimate rather than a Bayesian estimate.

Reasonableness Check on Staff's Capital Structure/Financial Risk Adjustment

Q. Is there a simplified calculation that can act as a reasonableness check on Staff's capital structure/financial risk adjustment?

A. Yes. Schedule JR-S1 is a simplified estimate of the effect that leverage has on a firm's cost of equity. The basis for the calculation is modern capital structure theory set forth by Franco Modigliani and Merton Miller ("MM") in their now famous 1958 article on the subject.[6] Under MM's proposition, the overall WACC remains constant while the cost of equity increases with financial risk (leverage). This theory is demonstrated in Schedule JR-S1. The top portion of Schedule JR-S1 shows Staff's estimate of the WACC for the sample telcos. The average capital structure of the sample telcos consists of approximately 50 percent debt and 50 percent equity. In its direct testimony, Staff estimated the average cost of equity to the sample telcos to be approximately 10.9 percent.

[5] Hamada, Robert S. "The Effect of the Firm's Capital Structure on the Systematic Risk of Common Stocks." *Journal of Finance*. May 1972. pp. 435 – 452.
[6] Miller, Merton and Franco Modigliani. "The Cost of Capital, Corporation Finance and the Theory of Investment." *American Economic Review*. June 1958. pp. 261 – 297.

The cost of debt shown in the schedule is the average effective cost of debt for the sample telcos reported by Value Line. Based on this information, the average WACC to the sample telcos is approximately 8.86 percent. In the bottom portion of Schedule JR-S1, Staff simply calculated an adjusted WACC to reflect a capital structure representative of Qwest's, consisting of approximately 75 percent debt and 25 percent equity. Holding the overall WACC constant, Staff calculated the resulting adjusted cost of equity estimate to be approximately 14.97 percent.

Staff's recommended ROE for Qwest in this proceeding is 14.6 percent. The 14.97 percent cost of equity calculation shown in Schedule JR-S1 is closer to Staff's recommended 14.6 percent ROE than it is to the Company's proposed 21.4 percent ROE, and therefore confirms the reasonableness of Staff's ROE recommendation in this case.

II. RESPONSE TO THE REBUTTAL TESTIMONY OF COMPANY WITNESS PHILIP E. GRATE

Fair Value

Earnings Requirement

Q. What is Mr. Grate's recommendation regarding the rate base to which the ROR is applied when determining the dollar earnings requirement?

A. Based on a legal argument, Mr. Grate asserts that the ROR must be multiplied by the Company's FVRB to determine dollar earnings, rather than multiplying the ROR by the OCRB and solving for a ROR that, when applied to the FVRB, produces the same dollar level of earnings. (See rebuttal testimony of Philip E. Grate. pp. 132 – 134.)

Q. If Mr. Grate's recommendation was adopted would the Company and its investors receive a windfall gain?

A. Yes. Because Qwest's FVRB is greater than its OCRB, applying the market-based ROR to the FVRB to determine dollar earnings provides the Company and its investors with a windfall gain at the expense of Arizona consumers.

Q. Is Mr. Grate's recommendation consistent with the widely accepted capital attraction standard?

A. No. If Mr. Grate's recommendation was adopted and the FVRB, for whatever reason, was smaller than the OCRB, the Company would expect to earn *less* than the cost of capital on its investment. Mr. Grate's recommendation is therefore confiscatory and violates the widely accepted capital attraction standard when the FVRB is smaller than the OCRB.[7]

Q. Can you give an example demonstrating why OCRB should be used to determine the dollar earnings requirement?

A. Yes. Here is a simple example that reveals the fallacy of Mr. Grate's recommendation: Assume a rate base of $100 that is entirely financed with debt at a cost of 5.0 percent. The OCRB is $100 and the utility's cost of capital/allowed ROR is 5.0 percent. Applying the 5.0 percent ROR to the $100 OCRB yields the $5 in earnings the utility needs to repay its debt – no less and no more. However, if a FVRB were determined, through whatever means, and that FVRB were $200, and dollar earnings were determined by multiplying the ROR by the FVRB, then the utility would be authorized $10 (5.0% times the $200 FVRB) in rates to cover its cost of capital, or twice its need. This is surely unfair to the consumer. If the FVRB happened to be $50, and dollar earnings were determined by multiplying the ROR by the FVRB, then the company would be granted $2.50 (5.0% times the $50 FVRB). This is surely unfair to the utility. Only multiplying the ROR by the OCRB yields the correct earnings.

[7] Myers. 1972. p. 80.

Q. When would a utility expect to be able to earn the cost of capital on its investment if dollar earnings were determined by multiplying the market-based ROR by the FVRB?

A. A utility would expect to be able to earn the cost of capital on its investment if dollar earnings were determined by multiplying the ROR by the FVRB only when the FVRB is equal to the OCRB. Windfall gains (losses) would result whenever the FVRB is greater (less) than the OCRB if the Commission multiplied the ROR by the FVRB to determine dollar earnings.

Q. If Qwest's FVRB was smaller than its OCRB and the market-based ROR was multiplied by the FVRB to determine dollar earnings, would the Company expect to be able to maintain its credit?

A. No. For a utility to expect to maintain its credit there must be a relationship between corporate earning power and the annual revenue requirement imposed by fixed charges on the outstanding securities that were used to finance the OCRB.[8] If a utility's dollar earnings were determined by multiplying a market-based ROR by a FVRB that was less than its OCRB, the utility would be unable to expect to pay fixed charges on the outstanding securities used to finance the OCRB. The utility would thus be unable to maintain its credit.

Q. Have experts commented on this subject?

A. Yes. Recognized experts in regulation including one of Mr. Grate's own authorities, Professor Charles Phillips of Washington and Lee University, agree:

> The use of an original cost rate base enables public utilities to maintain their credit standing and to attract new capital. Investors

[8] Bonbright, James C., Albert L. Danielsen, and David R. Kamerschen. *Principles of Public Utility Rates*. 1988. pp. 225 – 226.

> receive a rate of return on the money that they have invested in the utility.[9]

Q. Does Mr. Grate offer any sound economic reason for applying the market-based ROR to the FVRB of a regulated utility to determine the dollar earnings requirement?

A. No, Mr. Grate does not offer any kind of economic reasoning or theory to support the application of a market-based ROR to the FVRB to determine the dollar earnings requirement of a regulated utility. His assertion is based entirely on legal interpretation of the Arizona Constitution and court decisions.

Q. Has the Commission recently ruled on the subject of which rate base the market-based ROR should be multiplied by when determining dollar earnings?

A. Yes. In Decision No. 67093, dated June 30, 2004, in response to the company's proposal to determine dollar earnings by multiplying the market-based ROR by its estimated reconstruction cost rate base, the Commission stated:

> The rate of return methodology and resulting revenue increase proposed by Arizona-American would produce an excessive return on FVRB. There has been no legitimate basis presented for departing from the traditional ratemaking methodology of applying a fair value rate of return to the Company's FVRB in this proceeding. We find that applying a fair value rate of return to the FVRB is just, reasonable, and in accord with the mandates of the Arizona Constitution, and will adopt it in this case.[10]

Q. Does this conclude your surrebuttal testimony?

A. Yes.

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[9] Phillips, Charles Jr. *The Regulation of Public Utilities*. 3rd ed. 1993. p. 337.
[10] Decision No. 67093, dated June 30, 2004 (Arizona-American Water Company). Page 32, lines 25 – 28 & page 33, line 1.

Qwest Corporation
Resonableness Check on Staff's
Capital Structure/Financial Risk Adjustment
Incorporating Modigliani & Miller Capital Structure Theory

Estimated Weighted Average Cost of Capital ("WACC") for Sample group

	Capitalization Ratio	Cost[1]	Weighted Cost
Debt	0.50	6.83%	3.41%
Equity	0.50	10.90%	5.45%
			8.86%

Adjusted WACC

	Capitalization Ratio	Cost[2]	Weighted Cost
Debt	0.75	6.83%	5.12%
Equity	0.25	14.97%	3.74%
			8.86%

Notes:

[1] Average embedded cost of long-term debt per Value Line, July 2, 2004
Average cost of equtiy estimated by Staff - Reiker direct Schedule JR-1

[2] Assumes no change in debt cost but increases the cost of equity to reflect more financial risk. If lenders demand higher interest payments as the firm borrows more, the rate of increase in the cost of equity will slow down and the capital structure/financial risk adjustment would not be as high

HAINS

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 ARIZONA-AMERICAN WATER COMPANY FOR DETERINATION 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 DISTICT	DOCKET NO. WS-01303A-07-0209

DIRECT

TESTIMONY

OF

DOROTHY HAINS, P. E.

UTILITIES ENGINEER

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

OCTOBER 15, 2007

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EXHIBITS

INTRODUCTION

Q. Please state your name and business address.

A. My name is Dorothy Hains. My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

Q. By whom and in what position are you employed?

A. I am employed by the Arizona Corporation Commission ("Commission" or "ACC") as a Utilities Engineer - Water/Wastewater in the Utilities Division.

Q. How long have you been employed by the Commission?

A. I have been employed by the Commission since January 1998.

Q. What are your responsibilities as a Utilities Engineer - Water/Wastewater?

A. My main responsibilities are to inspect, investigate and evaluate water and wastewater systems. This includes obtaining data, preparing reconstruction cost new and/or original cost studies, cost of service studies and investigative reports, interpreting rules and regulations, and to suggest corrective action and provide technical recommendations on water and wastewater system deficiencies. I also provide written and oral testimony in rate cases and other cases before the Commission.

Q. How many companies have you analyzed for the Utilities Division?

A. I have analyzed more than 90 companies covering these various responsibilities for Utilities Division Staff ("Staff").

Q. Have you previously testified before this Commission?

A. Yes, I have testified on numerous occasions before this Commission.

Q. What is your educational background?

A. I graduated from the University of Alabama in Birmingham in 1987 with a Bachelor of Science degree in Civil Engineering.

Q. Briefly describe your pertinent work experience.

A. Before my employment with the Commission, I was an Environmental Engineer for the Arizona Department of Environmental Quality ("ADEQ") for ten years. Prior to that time, I was an Engineering Technician with C. F. Hains, Hydrology in Northport, Alabama for approximately five years.

Q. Please state your professional membership, registrations, and licenses.

A. I am a registered Civil Engineer in Arizona since 1990. I am a member of the American Society of Civil Engineering ("ASCE"), American Water Works Association ("AWWA") and Arizona Water & Pollution Control Association ("AWPCA").

PURPOSE OF TESTIMONY

Q. What was your assignment in this rate proceeding?

A. My assignment was to provide Staff's engineering evaluation of the subject Arizona-American Water Company ("Company") rate proceeding. In this rate proceeding, only one of the Company's districts, the Sun City Water District ("Sun City District") was included.

Q. What is the purpose of your testimony in this proceeding?

A. To present the findings of Staff's engineering evaluation of operations in the Company's Sun City District. The findings are contained in the Engineering Report that I have

prepared for this proceeding. The report is included as Exhibit-1 in this pre-filed testimony.

ENGINEERING REPORT

Q. Would you briefly describe what was involved in preparing the Engineering Report for the water operation in this rate proceeding?

A. After reviewing the application for the Sun City District, I physically inspected the Sun City Water system to evaluate its operations and to determine which plant items were or were not used and useful. I contacted the Maricopa County Department of Environmental Services ("MCDES") to determine if the system was in compliance with the Safe Drinking Water Act water quality requirements. After I obtained information from the Company regarding plant improvements, chemical testing expense and water usage data, I analyzed that information. Based on the data, I made my evaluations and prepared the Engineering Report included as Exhibit 1.

Q. Please describe the information contained in Exhibit 1.

A. Exhibit 1 is the Engineering Report for the operations for the Company's Sun City District. The Report is divided into three general sections: 1) *Executive Summary*; 2) *Engineering Report Discussion*, and 3) *Engineering Report Exhibits.* The *Discussions* section can be further divided into twelve subsections: A) Location of System; B) Description of System; C) Arsenic, D) MCDES Compliance E) ACC Compliance; F) ADWR compliance; G) Water Testing Expenses, H) Water Usage, I) Growth; J) Depreciation Rates; K) Others. These subsections provide information about the water system serving the Sun City District.

RECOMMENDATIONS AND CONCLUSIONS

Q. What are Staff's conclusions and recommendations regarding the Company's operations?

A. 1) Staff recommends that the depreciation rates for Arizona American Company's Sun City District presented in Figure 6 by National Association of Regulatory Utility Commissioners ("NARUC") account be used for purposes of this proceeding and on a going forward basis.

2) Staff recommends the adoption of the Company's proposed Service Line and Meter Installation Charges.

3) If the Company's request to implement the Youngtown Fire Flow Improvement surcharge is approved, Staff recommends that the surcharge be based on Staff's cost estimate of $2,670,602.

4) Staff recommends existing 3-inch fire hydrants be replaced by a standard size fire hydrants when repairs to the 3-inch hydrants are needed and when it is economical for the Company to do so.

5) Staff recommends that the Company monitor the water system closely and take action to ensure the water loss remains 10 percent or less in the future. If the water loss at any time before the next rate case is greater than 10 percent, the Company shall come up with a plan to reduce water loss to less than 10 percent, or prepare a report containing a detailed analysis and explanation demonstrating why a water loss reduction to 10 percent or less is not feasible or cost effective. Suck a report shall be docketed in this case.

Staff concludes the following regarding the Company's operations:

1) Maricopa County Environmental Services Department ("MCESD") has determined that this system is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

2) The Company's Sun City District is within the Phoenix Active Management Area and is in compliance with the Arizona Department of Water Resource ("ADWR") monitoring and reporting rules.

3) Sun City Water has an approved cross connection tariff.

4) Staff considers the reported water testing expenses and the estimated water testing costs of $9,619 for the Sun City Water District reasonable.

5) The water system serving the Sun City District has adequate production and storage capacity to serve existing customers and a reasonable level of growth.

6) Sun City Water District has an approved curtailment tariff.

7) Staff concludes that $19,085 of well drilling costs reported by the Company were not used and useful.

Q. Does this conclude your Direct Testimony?

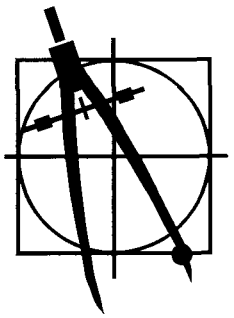
A. Yes, it does.

EXHIBIT 1

ENGINEERING REPORT FOR ARIZONA-AMERICAN WATER COMPANY, INC., SUN CITY WATER DISTRICT

BY DOROTHY HAINS

OCTOBER 15, 2007



Engineering Report
For Arizona-American Water Company's Sun City Water Division
Docket No. W-01303A-07-0209
(Rate Increase Application)

By Dorothy Hains

October 15, 2007

EXECUTIVE SUMMARY

Recommendations:

I. Staff recommends that the depreciation rates for Arizona American Company's Sun City District ("Sun City District") presented in Figure 6 by NARUC account be used for purposes of this proceeding and on a going forward basis. (See §J of report for discussion and details.).

II. Staff recommends the adoption of Sun City Water proposed Service Line and Meter Installation Charges. (See §K of report for discussion and details.)

III. If the Company's request to implement the Fire Flow Improvement surcharge is approved, Staff recommends that the surcharge be based on Staff's cost estimate of $2,670,602. (See §K of report for discussion and details.).

IV. Staff recommends that existing 3-inch fire hydrants be replaced by standard size fire hydrants when repairs to the 3-inch hydrants are needed and when it is economical for the Company to do so. (See §K of report for discussion and details.).

V. Staff recommends that the Company monitor the water system closely and take action to ensure the water loss remains 10 percent or less in the future. If the water loss at any time before the next rate case is greater than 10 percent, the Company shall come up with a plan to reduce water loss to less than 10 percent, or prepare a report containing a detailed analysis and explanation demonstrating why a water loss reduction to 10 percent or less is not feasible or cost effective. Such a report shall be docketed in this case. (See §H of report for discussion and details.).

Conclusions:

I. Maricopa County Environmental Services Department ("MCESD") has determined that this system is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4. (See §D for a discussion of the financing.)

II. Sun City Water is within the Phoenix Active Management Area and is in compliance with the Arizona Department of Water Resource ("ADWR") monitoring and reporting rules. (See §F of report for discussion and details.)

III. Sun City Water has 10 percent water loss which is within acceptable limits. (See §H of report for discussion and details.)

IV. Sun City Water has an approved cross connection tariff. (See §K of report for discussion and details.)

V. Staff considers the reported water testing expenses and the estimated water testing costs of $9,619 for the Sun City Water District reasonable. (See §G of report for discussion and details.)

VI. Sun City Water District has adequate production and storage capacity. (See §B of report for discussion and details.)

VII. Sun City Water District has an approved curtailment tariff. (See §K of report for discussion and details.)

VIII. $19,085 of well drilling is not used and useful. (See §K of report for discussion and details.).

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FIGURES

A. LOCATION OF COMPANY

Arizona-American Water Company Sun City Division ("Sun City" or "Company") serves water to approximately 23,000 customers and is located in the Town of Sun City which is west of the City of Phoenix in Maricopa County. Figure 1 describes the location of Sun City Water, and Figure 2 describes the Certificate of Convenience and Necessity ("CC&N") area of Sun City Water.

B DESCRIPTION OF THE WATER SYSTEM

The plant facilities were visited on June 11, 2007, by Dorothy Hains, Utilities Engineer, accompanied by the Company's representatives, Tom DeYoung, (Company's Operation Superintendent), Brian Biesemeyer (Company's General Manager), Paul Li (Company's attorney) and Sheryl Hubbard (Company's rate analyst).

1. System Analysis

The Company's drinking water system contains seven water plants which consist of nineteen drinking water wells that are capable of producing a total flow of 26,000 gallons per minute ("GPM") and 7.15 million gallons of storage capacity. The Company also operates an irrigation well. The water system has adequate storage and well production. Figures 3A, 3B, 3C, 3D and 3E provide a process schematic showing both the active and inactive components of the water system.

Well Data

Active Drinking Water Wells

New Well #	ADWR No. 55-XXXXXX	Year Drilled (19xx)	Casing Size (inches)	Well Depth (ft)	Well Meter Size (inches)	Pump (HP)	Pump Yield (GPM)
1.1	606529	51	20	900	10	250	1,575
1.2	608176	58	20	1,090	8	200	1,250
2.1	606532	54	20	1,000	12	250	1,025
2.2	606530	48	20	750	12	200	875
2.3	606531	53	16	600	10	125	500
2.4	608177	82	16	1,119	8	250	900
3.1	606528	75	16	1,200	14	400	2,000
4.1	606524	69	16	1,206	10	325	1,250
5.1	606525	48	20	760	12	350	1,340
5.2	606523	54	20	1,000	12	400	1,420
5.3	606522	73	16	1,206	12	400	1,910
5.4	606521	52	20	1,176	12	350	1,320
5.5	606534	74	16	1,215	8	400	1,765

6.1	606526	56	20	1,006	12	350	1,340
6.2	606520	73	16	1,317	12	450	1,820
6.3	574914	99	16	1,200	12	250	1,200
8.1	536983	93	16	1,020	12	250	1,250
8.2	606535	46/52	20	1,000	12	350	1,600
8.3	606536	75	16	1,214	12	500	1,850

Active Irrigation Water Well

Well #	ADWR No.	Year Drilled	Casing Size (inches)	Well Depth (ft)	Well Meter Size (inches)	Pump (HP)	Pump Yield (GPM)
30A-N	55-807594	1998	16	N/A	8	125	650

Inactive or Capped Drinking Water Wells

ADWR #	Casing Size (inches)	Well Depth (ft)	Well Meter Size (inches)	Pump (HP)	Pump Yield (GPM)	Year Drilled	Year disconnected
55-606518	20	910	12	None	N/A	1950	2000
55-608175	14	1,050	10	75	600	1947	2002
55-608177	20	1,090	10	200	1,200	1960	2002
55-606533	20	1,000	8	200	1,100	1946	2000

Note: 1. Well #55-606533 was disconnected due to high nitrate contamination.
2. Well #55-60518 which has a poor production rate has been disconnected and converted to a ground water level monitoring well.

Active Storage, Pumping

Location	Structure or equipment	Capacity
Well #1.1 Site	Booster Pumps	Three 75-HP
	Pressure Tank	One 10,000 gal
	Storage Tank	Two 300,000 gal
Well #2.1 Site	Booster Pumps	Two 75-HP Two 100-HP
	Pressure Tank	One 10,000 gal
	Storage Tank	Three 300,000 gal
Well #3.1 Site	Booster Pumps	One 75-HP Three 100-HP
	Pressure Tank	One 10,000 gal
	Storage Tank	Two 460,000 gal
Well #4.1 Site	Pressure Tank	One 10,000 gal
Plant #5	Booster Pumps	Four 100-HP Four 150-HP
	Pressure Tank	Two 10,000 gal
	Storage Tank	Two 1,250,000 gal

Well #6.1 Site	Booster Pumps	Three 100-HP Three 150-HP
	Pressure Tank	Two 10,000 gal
	Storage Tank	Two 1,250,000 gal
Well #8.1 Site	Booster Pumps	One 75-HP Three 100-HP
	Pressure Tank	One 10,000 gal
	Storage Tank	Two 680,000 gal

Inactive Storage, Pumping

Location	Structure or equipment	Capacity
Well #55-608177Site	Booster Pumps	Two 30-HP One 40-HP
	Pressure Tank	One 10,000 gal
	Storage Tank	One 500,000 gal One 50,000 gal
Well #55-608175 Site	Booster Pumps	Two 30-HP Two 25-HP
	Pressure Tank	One 10,000 gal
	Storage Tank	One 570,000 gal Two 84,000 gal

Distribution Mains

Diameter (inches)	Material	Length (feet)
18	Various	2,473
16	Various	22,238
14	Various	367
12	Various	220,815
10	Various	121,093
8	Various	241,796
6	Various	817,416
4	Various	159,720
undetermined	Various	21,430

Meters

Size (inches)	Quantity
⅝ x ¾	19,456
¾	795
1	423
1½	1,611
2	622
3 (comp)	33
4 (comp)	5
6 (comp)	10

C. ARSENIC

The most recent lab analysis by Sun City Water indicated that the arsenic levels in its source supply vary from 4 µg/l to 9 µg/l except Well No. 6.1[1]. Because Sun City blends water from Well No. 6.1 with water from Well No. 6.2 and Well No. 6.3, the arsenic level in the blended water is below the new arsenic MCL before being delivered to customers, therefore, Sun City Water is in compliance with the new arsenic MCL standard of 10 µg/l.

D. MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT ("MCESD") COMPLIANCE

Based on a memorandum dated August 20, 2007, from Maricopa County Environmental Services Department ("MCESD"), MCESD has determined that Sun City Water is currently in compliance. MCESD also stated that it has determined that the system is currently delivering water that meets water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

E. ARIZONA CORPORATION COMMISSION ("ACC") COMPLIANCE

A check with the Utilities Division Compliance Section showed no outstanding compliance issues.

F. ARIZONA DEPARTMENT OF WATER RESOURCES ("ADWR") COMPLIANCE

Sun City Water is within ADWR's Phoenix Active Management Area ("AMA"), and consequently is subject to reporting and conservation rules (GPCD requirements). The Phoenix AMA reported that Sun City Water is in total compliance with the ADWR reporting and conservation rules.

G. WATER TESTING EXPENSES

The Company reported water testing expenses for Sun City Water of $9,619 for the test year ending December 2006.[2] Staff considers the reported expense reasonable.

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[1] According to 2005 annual Report ("AR"), ground water from Well No. 6.1 contained 12 µg/l of arsenic which exceeds the new arsenic MCL level of 10 µg/l.

[2] Sun City Water provided this information in response to Staff's Data Request #6.3. (See the Exhibit.).

H. WATER USAGE

1. Water Sold

Based on information provided by the Sun City Water, water use for the year 2006 is presented in Figure 4. The high monthly water use was 732 gallons per day ("gpd") per connection in August, and the low monthly water use was 403 gpd per connection in February. The average annual use was 574 gpd per connection.

2. Non-account Water

Non-account water should be 10 percent or less and never more than 15 percent. It is important to be able to reconcile the difference between water sold and the water produced by the source. A water balance will allow a water company to identify water and revenue losses due to leakage, theft, and flushing. Non-account water for Sun City Water was calculated to be 10 percent which is within acceptable limits. Staff recommends that the Company continue to monitor the water system closely and take action to ensure the water loss remains 10 percent or less in the future. If the water loss at any time before the next rate case is greater than 10 percent, the Company shall come up with a plan to reduce water loss to less than 10 percent, or prepare a report containing a detailed analysis and explanation demonstrating why a water loss reduction to 10 percent or less is not feasible or cost effective. Staff further recommends the Company docket such a report with the Commission's Docket Control in this same docket.

I. GROWTH

Figure 5 shows customer growth based on the service connection data contained in the Company's annual reports. The number of customers increased from 21,961 at the end of 2002 to 23,041 by the end of 2006, with an average growth rate of 290 customers per year from 2002 to 2006[3]. Based on the linear regression analysis, Staff estimates that the Company could have approximately 24,600 customers by the end of 2011. The following tables summarize Staff and the Company's projected growth.

Table 2 Actual and Projected Growth

Year	Nos. of Customers	
2002	21,961	Reported
2003	21,899	Reported
2004	22,461	Reported
2005	23,011	Reported
2006	23,041	Reported
2007	23,418	Estimated

[3] Analyzing the monthly growth between 2005 and 2006 per linear regression analysis, Staff found that the growth rate in this area is 17.9 customers per month (equal to 214 customers per year).

2008	23,708	Estimated
2009	23,998	Estimated
2010	24,288	Estimated
2011	24,578	Estimated

The Company has projected a lower growth rate as listed in the table below:

Year	Nos. of Customers	
2005	23,011	Reported
2006	23,041	Reported
2007	23,151	Estimated
2008	23,152	Estimated
2009	23,163	Estimated
2010	23,164	Estimated
2011	23,165	Estimated

J. DEPRECIATION RATES

Decision No. 67093 (dated June 30, 2004) approved the depreciation rates used by Sun City in this rate proceeding except that the Company reorganized the authorized rates utilizing the National Association of Regulatory Commissioners' ("NARUC") latest plant account matrix as presented in Figure 6. Staff's recommended depreciation rates for these accounts are presented in Figure 6. Staff recommends that the depreciation rates presented in Figure 6 by NARUC account be used for purposes of this proceeding and on a going forward basis.

K. OTHERS

1. Service Line and Meter Installation Charges

The Company is proposing to maintain its current meter and service line installation charges that are within Staff's experience of what are reasonable and customary charges. Staff does not object to the Company's proposal.

Table 8 Service Line and Meter Installation Charges

Meter Size	Current Charges (Service line installation)	Current Charge (Meter installation)	Proposed Charges (Service line installation)	Proposed Charge (meter installation)	Staff Recommendation ((Service Line)	Staff Recommendation (meter installation)
5/8 x 3/4-inch	$370	$130	$370	$130	$370	$130
3/4-inch	$370	$205	$370	$205	$370	$205
1-inch	$420	$240	$420	$240	$420	$240
1½-inch	$450	$450	$450	$450	$450	$450

2-inch (Turbo)	$580	$945	$580	$945	$580	$945
2-inch (Compound)	$580	$1,640	$580	$1,640	$580	$1,640
3-inch (Turbo)	$745	$1,420	$745	$1,420	$745	$1,420
3-inch (Compound)	$765	$2,195	$765	$2,195	$765	$2,195
4-inch (Turbo)	$1,090	$2,270	$1,090	$2,270	$1,090	$2,270
4-inch (Compound)	$1,120	$3,145	$1,120	$3,145	$1,120	$3,145
6-inch (Turbo)	$1,610	$4,425	$1,610	$4,425	$1,610	$4,425
6-inch (Compound)	$1,630	$6,120	$1,630	$6,120	$1,630	$6,120
Over 6-inch	Equal to actual total cost of installation	Equal to actual total cost of installation	Equal to actual total cost of installation	Equal to actual total cost of installation	Equal to actual total cost of installation	Equal to actual total cost of installation

2. Curtailment Tariff

In Decision No. 67093 the Commission ordered the Company to file a curtailment tariff for Sun City. The Company filed this curtailment tariff in Docket No. WS-01303A-04-0704 on September 28, 2004.

3. Cross Connection & Backflow Tariff

The Company has an approved Cross Connection & Backflow Tariff.

4. Fire Flow

The Company hired Brown and Caldwell engineering firm to conduct a fire flow study for the Sun City Water District to address the fire flow issue. The study was completed in May 2005. Details of the specific plant improvements recommended by Brown and Caldwell and their associated costs are listed in the table below. In the study, Brown and Caldwell recommended keeping 3-inch fire hydrants in several areas in and around Youngtown, Staff disagrees with this recommendation. Staff recommends that all existing 3-inch fire hydrants be replaced by standard size fire hydrants as needed and when it is economical for the Company to do so. Staff believes that because 3-inch fire hydrants are not standard size hydrants, it will be more costly to repair than to replace the 3-inch hydrants in the future. In addition, replacement parts for the 3-inch non-standard size hydrant will be more difficult to find for needed repairs. The cost to replace the 3-inch hydrants would be covered as a routine maintenance expense. If the Company's request to implement the Fire Flow Improvement surcharge is approved, Staff recommends that the surcharge be based on Staff's cost estimate of $2,670,602 as reflected in the table below.

Table 9 Fire Flow Improvement Project

Timing	Project Description	Company 's estimated Costs ($)	Staff adjusted costs ($)
Year 1	**Sun City/Youngtown Pressure Reducing/Pressure control Valve Modifications**	10,000[1]	10,000[1]
	subtotal	**10,000**	**10,000**
Year 2	**Commercial area piping improvements – 111th Ave south of Youngtown Ave**		
	Install 1,050' of 10" main in Grand Ave West to 111th Ave	76,230	76,230
	Install 272' of 6" main in 113th Ave West to Grand Ave	13,763	13,763
	Connection 6" main to 10" main in 111th Ave	11,000	11,000
	Connection 6" main in 113th Ave and 113th Lane	5,500	5,500
	Install 498' of 6" main in 113th Ave @ Spanish Gardens	25,199	25,199
	Install 775' of 6" main in Tennessee Ave	39,215	39,215
	Install 498' of 6" main in Wisconsin Ave	25,747	25,747
	Install 11 fire hydrants in Youngtown Commercial Area	60,500[2]	33,000[7]
	subtotal	**257,154**	**229,654**
	Neighborhood Commercial Piping Improvements		
	Replace existing 700' of 2"& 4" pipe by 8" pipelines and connects to existing 6" mains	43,120[3]	43,120
	Install four fire hydrants	22,000[2]	12,000[7]
	subtotal	**65,120**	**55,120**
Year 3	**Residential Piping Improvement**		
	Replace 1,400' of 4" with 6" pipelines in Illinois & install 6" connections to existing 6" line in 114th Dr.	70,840	70,840
	Install one fire hydrant	5,000[2]	3,000[3]
	subtotal	**75,840**	**73,840**
Year 4	**Fire Hydrants on Existing Piping**		
	Install 56 fire hydrants	280,000[2]	168,000[7]
	Subtotal	**280,000**	**168,000**
	Fire hydrants with New Piping		
	Install 15,271' of 6" pipelines for fire hydrants	702,466	702,466
	Install 45 fire hydrants	225,000[2]	135,000[3]
	Subtotal	**927,466**	**837,466**
	Sun City Residential Piping Improvement		
	Replace 5,200' of 4" with 6" pipelines in Cherry Hills Dr.	263,120	263,120

	Install 3 fire hydrants in Cherry Hills Dr.	15,000[2]	9,000[3]
	Replace 1,400' of 4" with 6" pipelines in N Pebble Beach Dr.	70,840	70,840
	Install 1 fire hydrant in Pebble Beach Dr.	5,000[2]	3,000[3]
	Subtotal	**353,960**	**345,960**
	Sun City Fire Hydrants on Existing Piping		
	Install 52 fire hydrants on existing pipelines	260,000[2]	156,000[3]
	Subtotal	**260,000**	**156,000**
	Sun City Fire Hydrants with New Piping		
	Install 14,197' of 6" pipelines for fire hydrants	653,062	653,062
	Install 23 fire hydrants	115,000[2]	69,000[3]
	Subtotal	**768,062**	**722,062**
	City of Peoria Piping Improvement		
	Replace 1,250' of 6" pipeline with 8" pipelines connecting Paradise MHP on Union Hills Dr.	77,000[2]	77,000
	Loop 6" pipeline in north part of Paradise MHP	5,500	5,500
	Subtotal	**82,500**	**82,500**
	Total	**3,080,102**	**2,670,602**

Notes 1. This plant improvement project was completed in 2005 and was determined to be used and useful at the time of Staff inspection.
2. The unit cost is $5,000. Staff recommends a unit cost of $3,000.
3. Based on the Main Extension Agreement projects submitted by the Company in 2007, the unit cost of fire hydrant is in the range of $1,200/unit to $3,000/unit. Therefore, Staff believes that the Company's proposal of $5,000/unit is too high, and believes an adjustment to $3,000/unit is warranted.

5. Issues Found In the Field

a. Staff found that four parcels of land purchased in 2004 at a cost of $93,684[4] were not used and useful to the Company's provision of water service at the time of Staff's inspection. Staff understands these parcels were not purchased for use by the Sun City Water District[5] and had been transferred to the Agua Fria Water District.

b. $204,232 of communication equipment purchased in December 2003 is not used and useful to the Company's provision of water service. Staff understands this equipment was purchased and is being utilized for the Sierra Montana booster station in the Agua Fria Water District[6].

[4] Four expenses of $24,725, $309, $12,208 and $56,442 were spent for land purchases in September 2004, October, 2004, November 2004 and December 2004. (See the Exhibit.)
[5] See the Company's Response to DR #DH1.5. (See the Exhibit.)
[6] See the Company's Response to DR #DH1.9. (See the Exhibit.)

c. Staff found that two parcels of land purchased in 2003 and 2005 at a cost of $148,130[7] were not used and useful to the Company's provision of water service at the time of Staff's inspection. Staff understands that this land was purchased for the Sierra Montana booster station which is located in the Agua Fria Water District[8]

d. $19,085[9] paid to Layne Christensen Company for installing Well No. 55-602967 is not used and useful to the Company's provision of water service. Staff understands that Well No. 55-602967 is registered to the US Department of Interior Bureau of Land Development ("BLM") and is located in Santa Cruz County.

[7] Two expenses of $228,968 and $12,846 were spent for land purchased in December 2003 and October 2005. Four expenses of $24,725, $309, $12,208 & $56,442 were bookkeeping errors. (See the Exhibit.)
[8] See the Company's Response to DR #DH1.12 and DR #AII 1.15. (See the Exhibit.)
[9] Refer to invoice # 10814267 from Layne Christensen Company dated March 20, 2006. (See the Exhibit.)

FIGURES

FIGURE 1

SUN CITY WATER DIVISION CERTIFICATED AREA

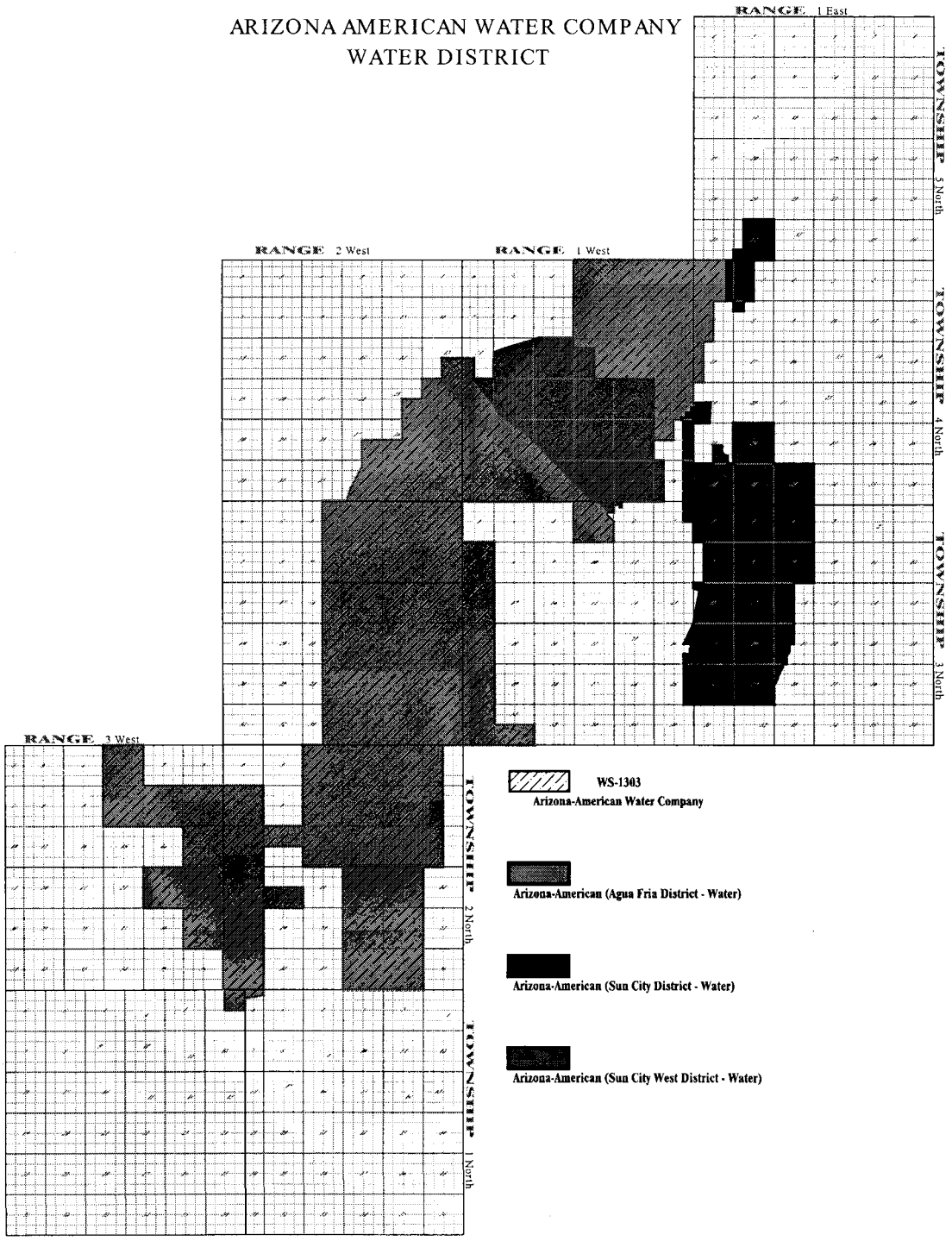
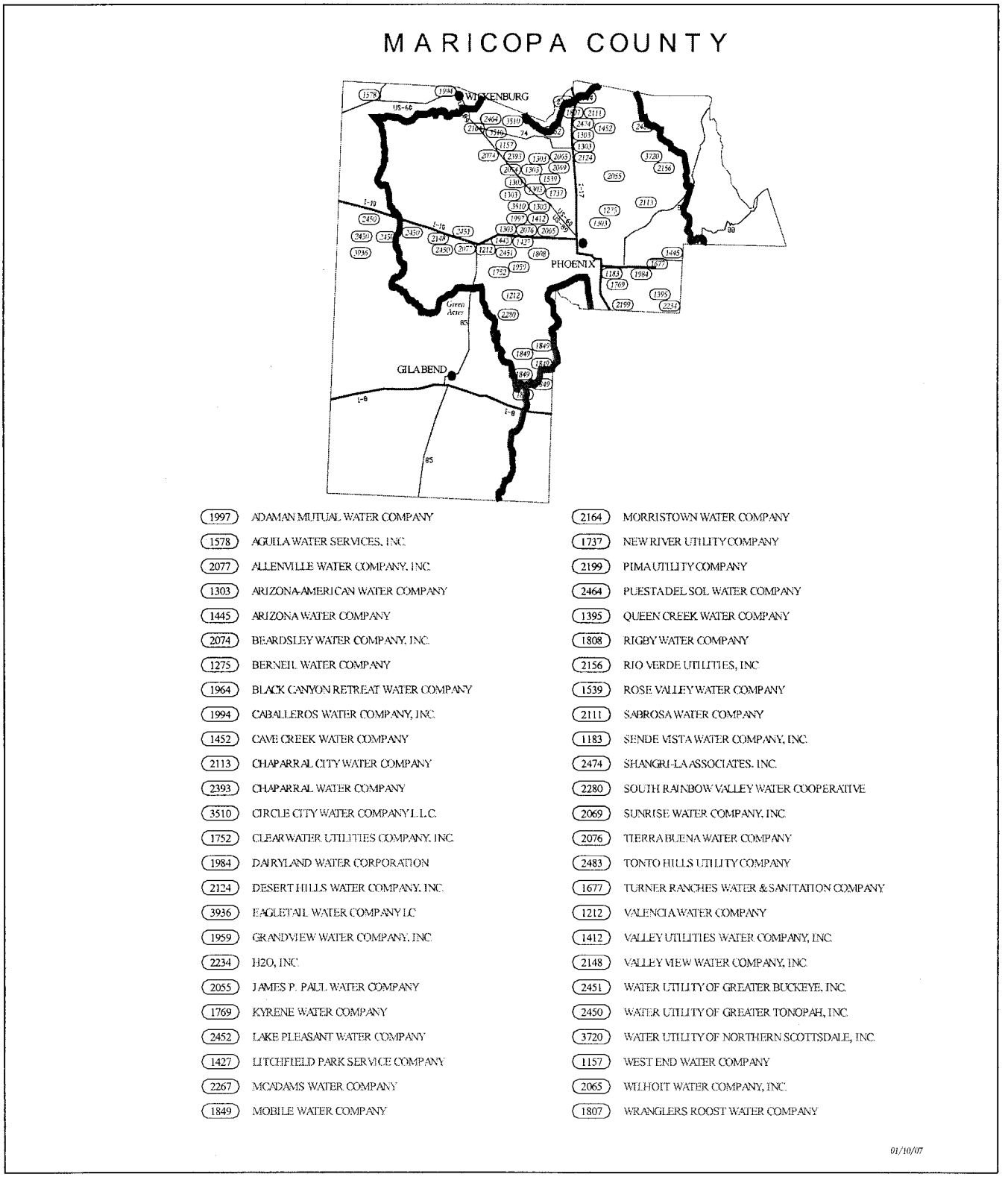


FIGURE 2

LOCATION OF SUN CITY WATER DIVISION



1997	ADAMAN MUTUAL WATER COMPANY
1578	AGUILA WATER SERVICES, INC.
2077	ALLENVILLE WATER COMPANY, INC.
1303	ARIZONA-AMERICAN WATER COMPANY
1445	ARIZONA WATER COMPANY
2074	BEARDSLEY WATER COMPANY, INC.
1275	BERNEIL WATER COMPANY
1964	BLACK CANYON RETREAT WATER COMPANY
1994	CABALLEROS WATER COMPANY, INC.
1452	CAVE CREEK WATER COMPANY
2113	CHAPARRAL CITY WATER COMPANY
2393	CHAPARRAL WATER COMPANY
3510	CIRCLE CITY WATER COMPANY L.L.C.
1752	CLEARWATER UTILITIES COMPANY, INC.
1984	DAIRYLAND WATER CORPORATION
2124	DESERT HILLS WATER COMPANY, INC.
3936	EAGLETAIL WATER COMPANY LC
1959	GRANDVIEW WATER COMPANY, INC.
2234	H2O, INC.
2055	JAMES P. PAUL WATER COMPANY
1769	KYRENE WATER COMPANY
2452	LAKE PLEASANT WATER COMPANY
1427	LITCHFIELD PARK SERVICE COMPANY
2267	MCADAMS WATER COMPANY
1849	MOBILE WATER COMPANY
2164	MORRISTOWN WATER COMPANY
1737	NEW RIVER UTILITY COMPANY
2199	PIMA UTILITY COMPANY
2464	PUESTA DEL SOL WATER COMPANY
1395	QUEEN CREEK WATER COMPANY
1808	RIGBY WATER COMPANY
2156	RIO VERDE UTILITIES, INC.
1539	ROSE VALLEY WATER COMPANY
2111	SABROSA WATER COMPANY
1183	SENDE VISTA WATER COMPANY, INC.
2474	SHANGRI-LA ASSOCIATES, INC.
2280	SOUTH RAINBOW VALLEY WATER COOPERATIVE
2069	SUNRISE WATER COMPANY, INC.
2076	TIERRA BUENA WATER COMPANY
2483	TONTO HILLS UTILITY COMPANY
1677	TURNER RANCHES WATER & SANITATION COMPANY
1212	VALENCIA WATER COMPANY
1412	VALLEY UTILITIES WATER COMPANY, INC.
2148	VALLEY VIEW WATER COMPANY, INC.
2451	WATER UTILITY OF GREATER BUCKEYE, INC.
2450	WATER UTILITY OF GREATER TONOPAH, INC.
3720	WATER UTILITY OF NORTHERN SCOTTSDALE, INC.
1157	WEST END WATER COMPANY
2065	WILHOIT WATER COMPANY, INC.
1807	WRANGLERS ROOST WATER COMPANY

01/10/07

FIGURE 3A

SUN CITY WATER DIVISION SYSTEMATIC DIAGRAM FOR EXISTING SYSTEMS

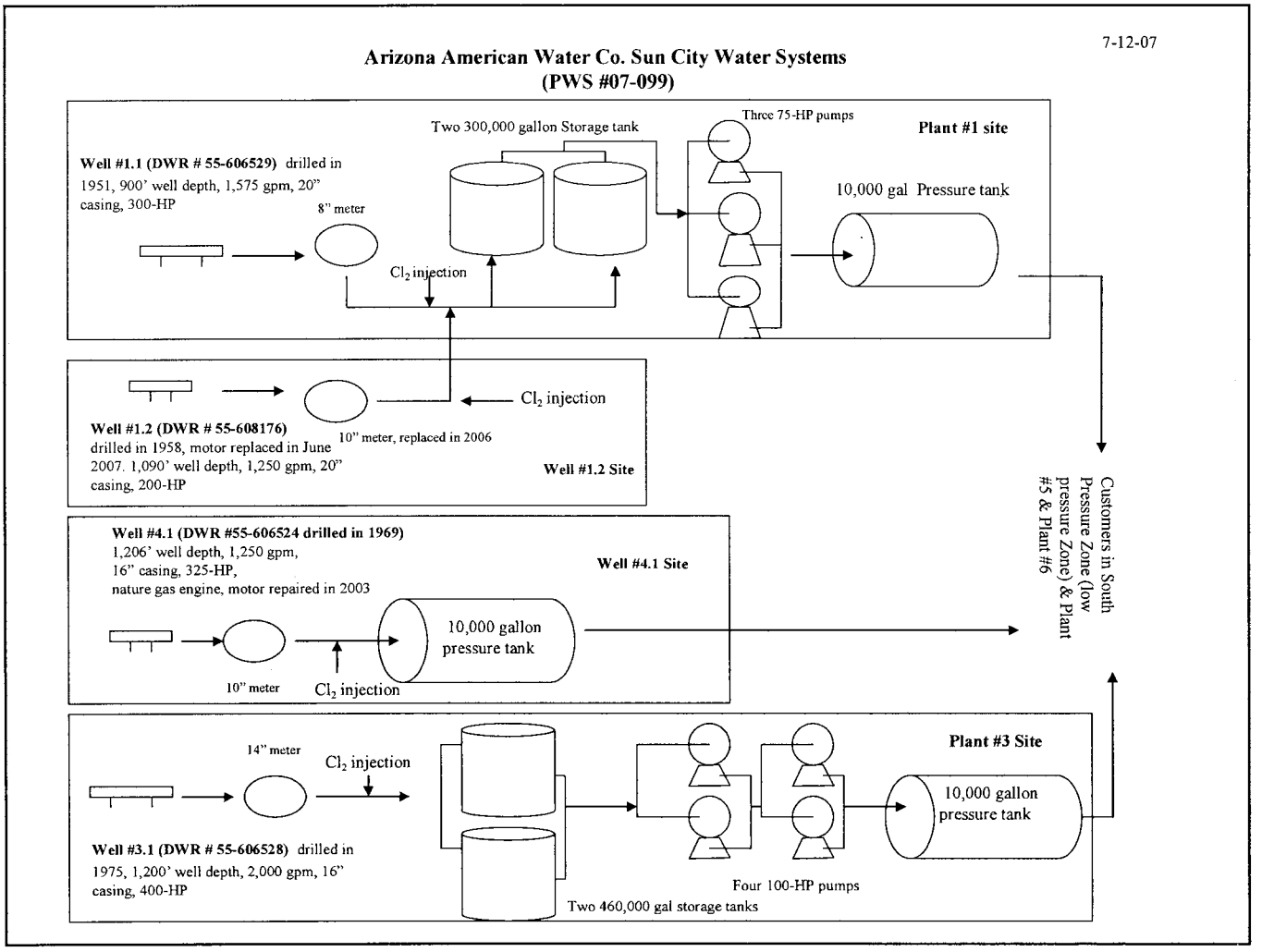


FIGURE 3B

SUN CITY WATER DIVISION SYSTEMATIC DIAGRAM

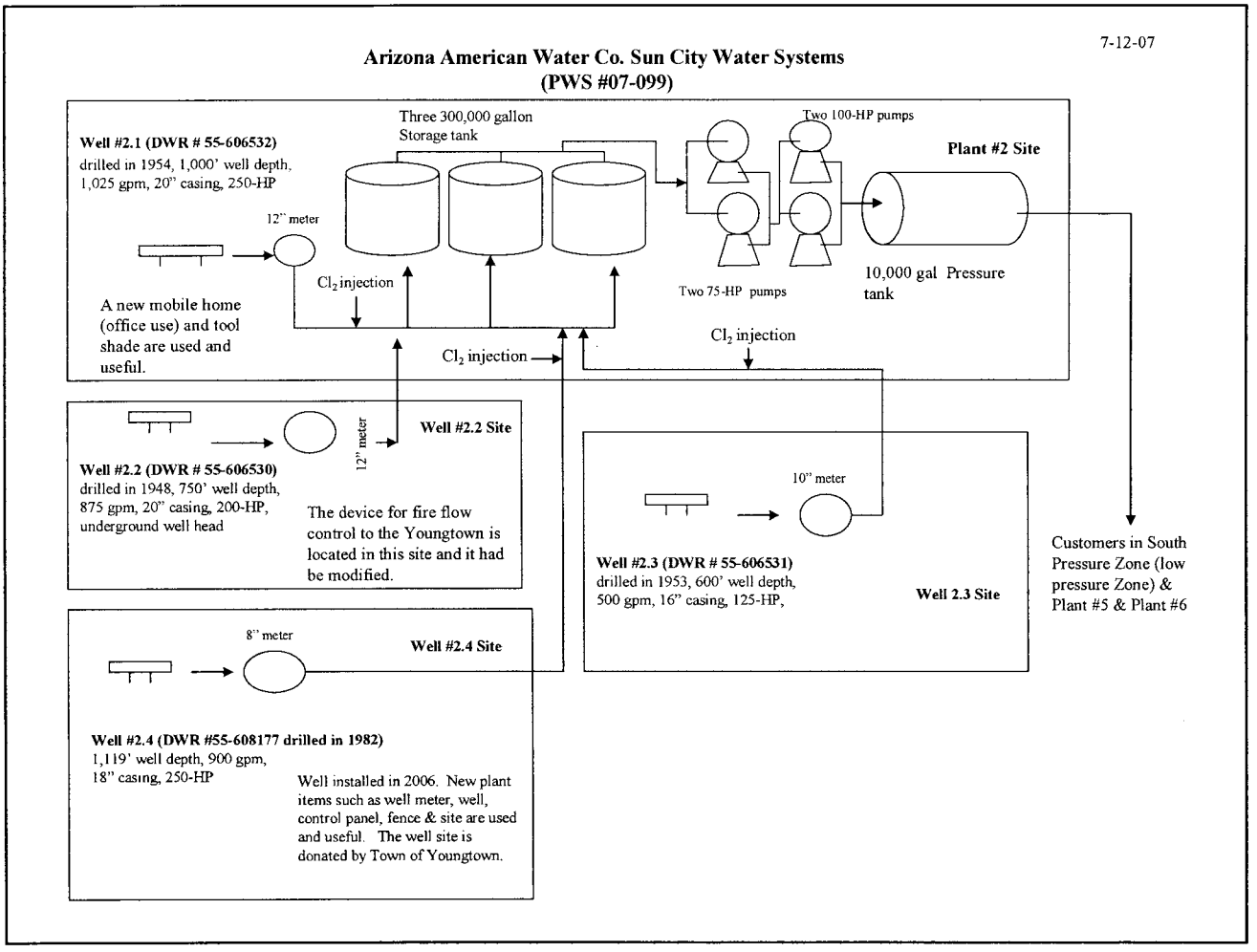


FIGURE 3C

SUN CITY WATER DIVISION SYSTEMATIC DIAGRAM

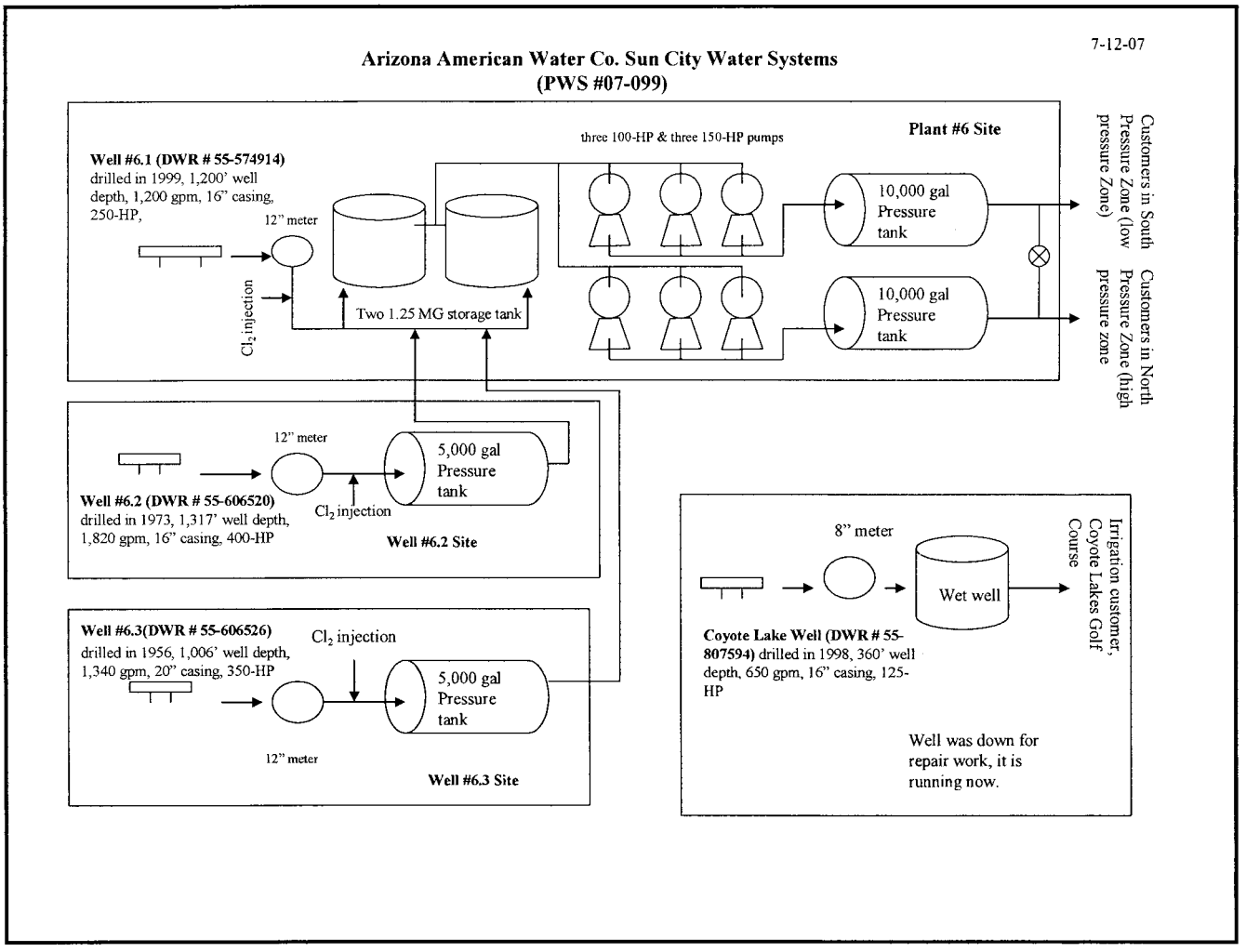


FIGURE 3D

SUN CITY WATER DIVISION SYSTEMATIC DIAGRAM

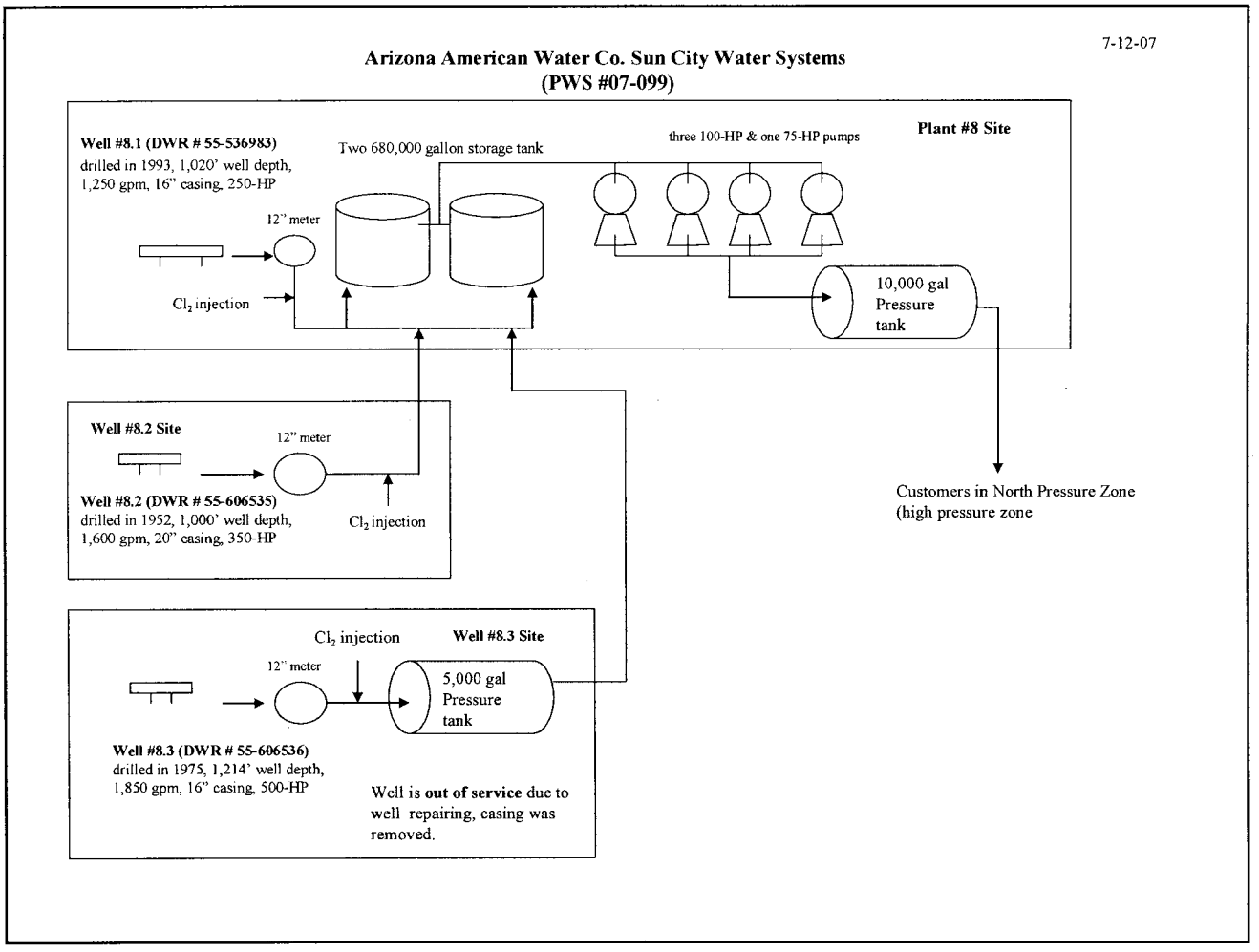


FIGURE 3E

SUN CITY WATER DIVISION SYSTEMATIC DIAGRAM

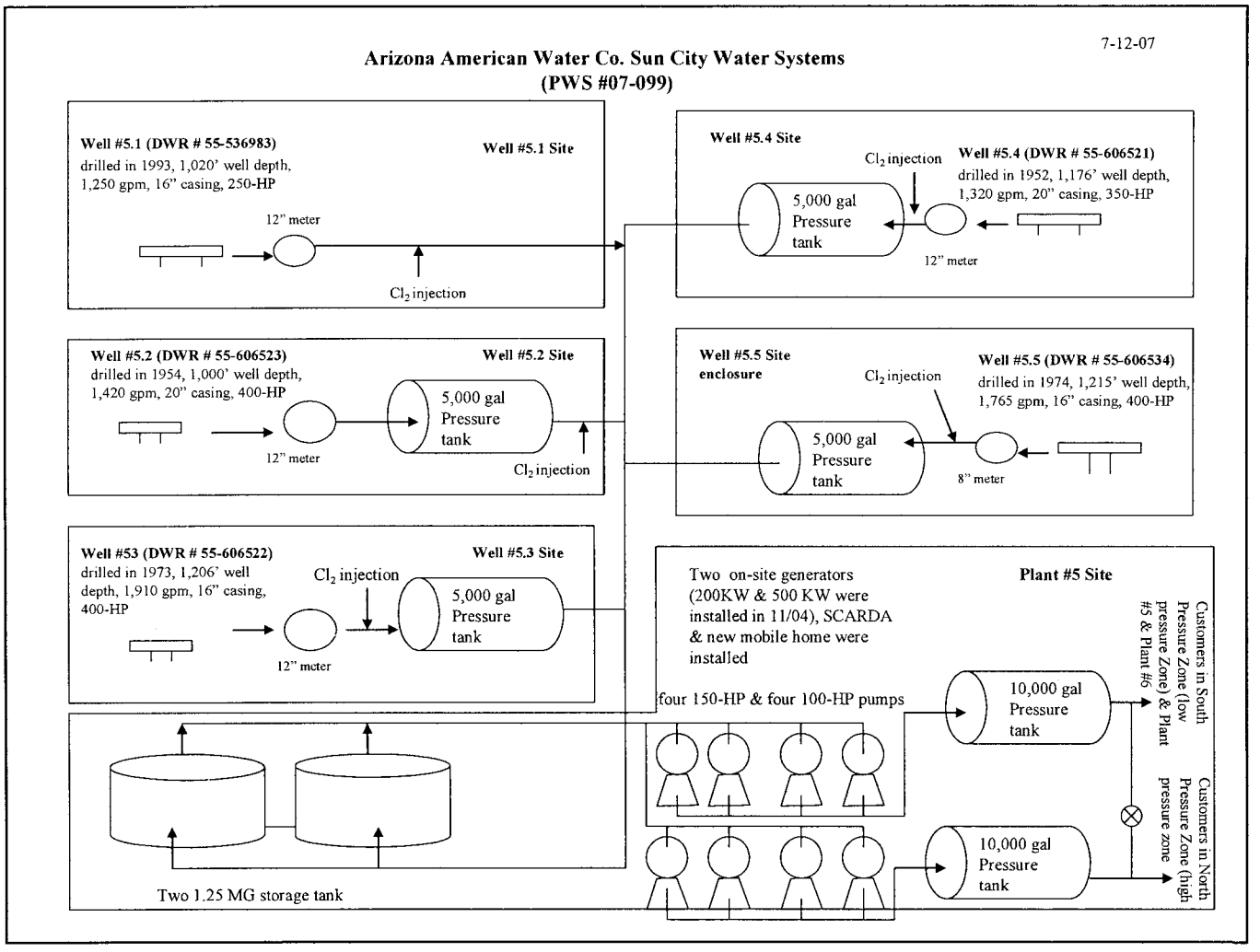


FIGURE 3F

SUN CITY WATER DIVISION INACTIVE SYSTEM PROCESS SCHEMATIC

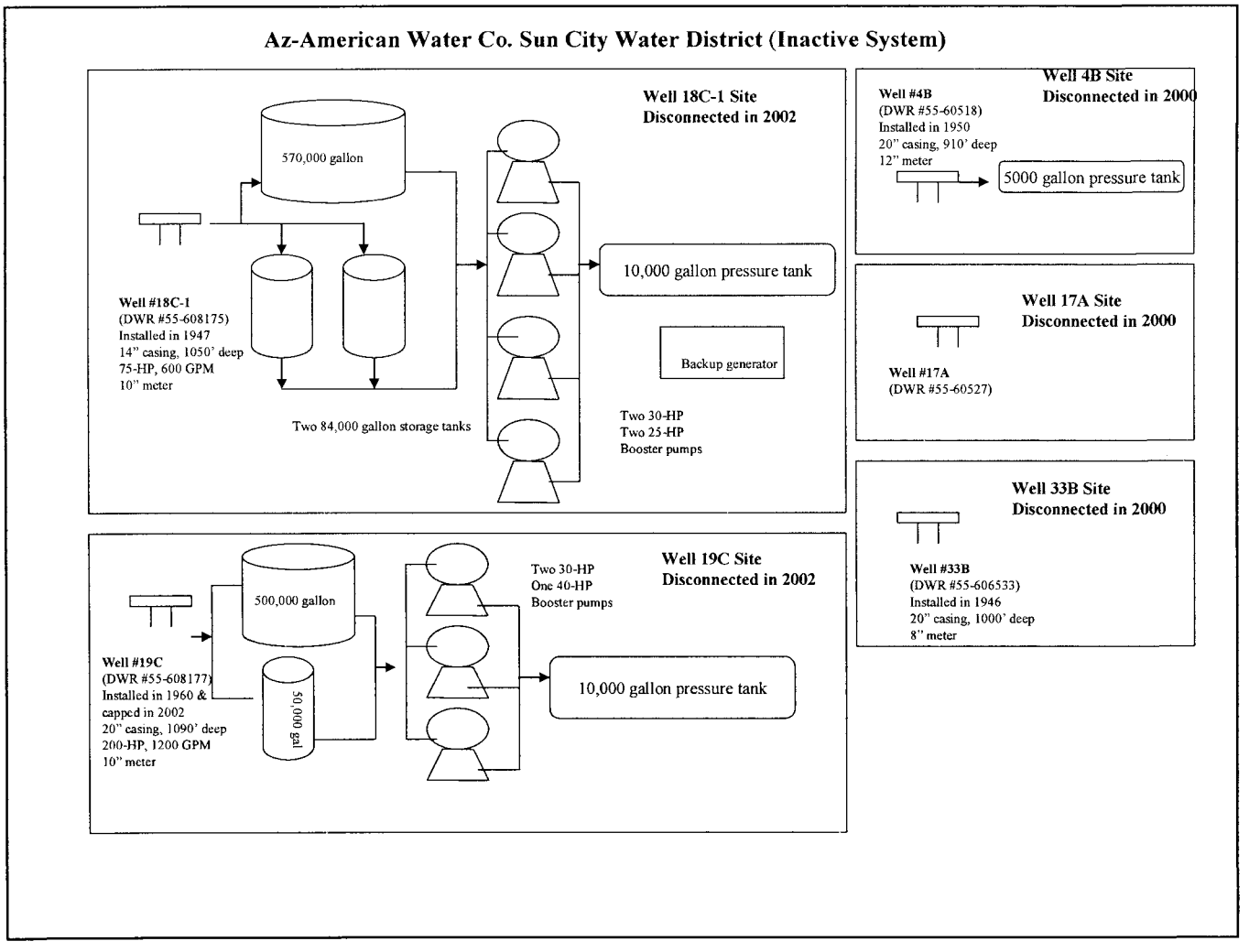


FIGURE 4

SUN CITY WATER DIVISION WATER USAGE

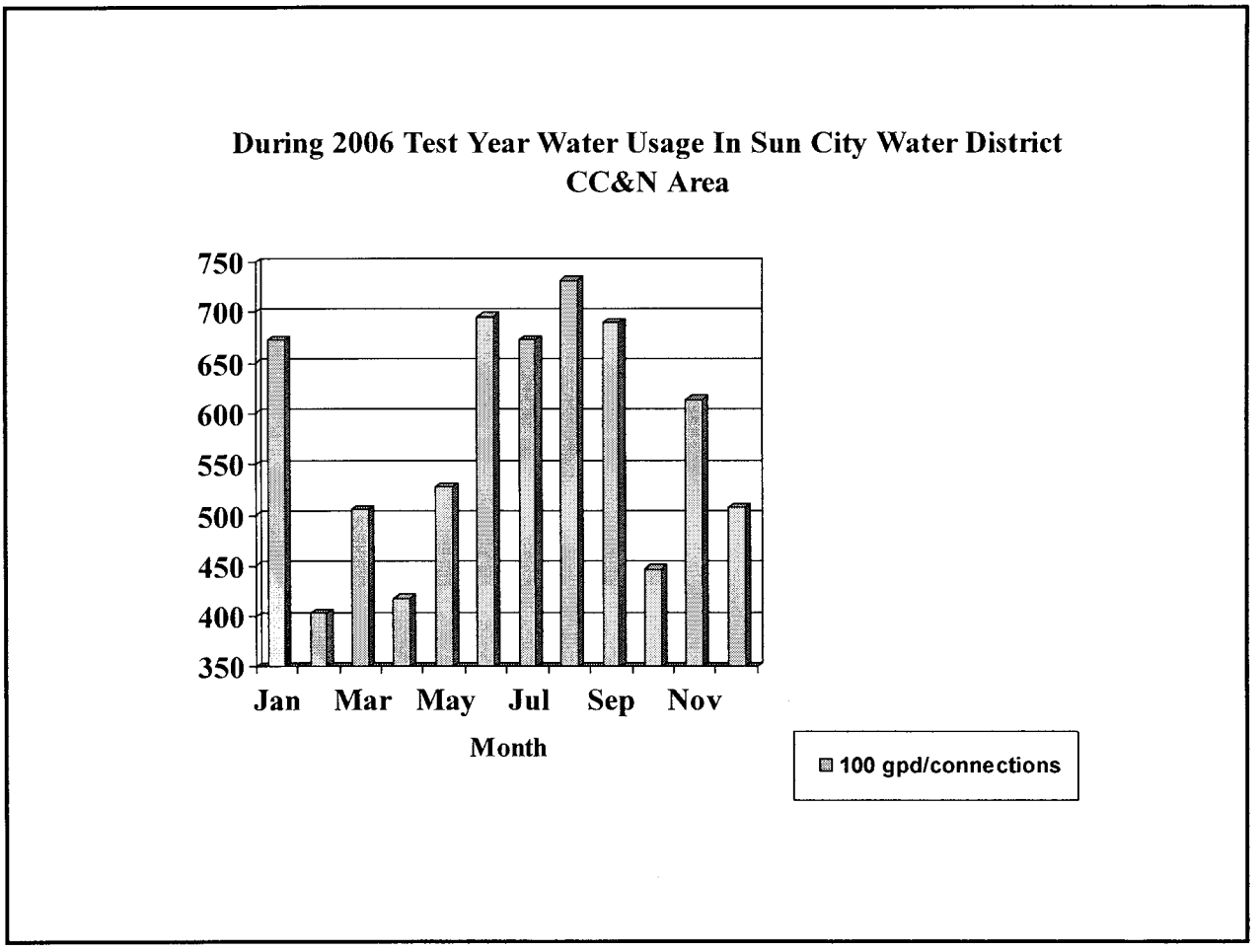


FIGURE 5

GROWTH IN SUN CITY WATER DIVISION

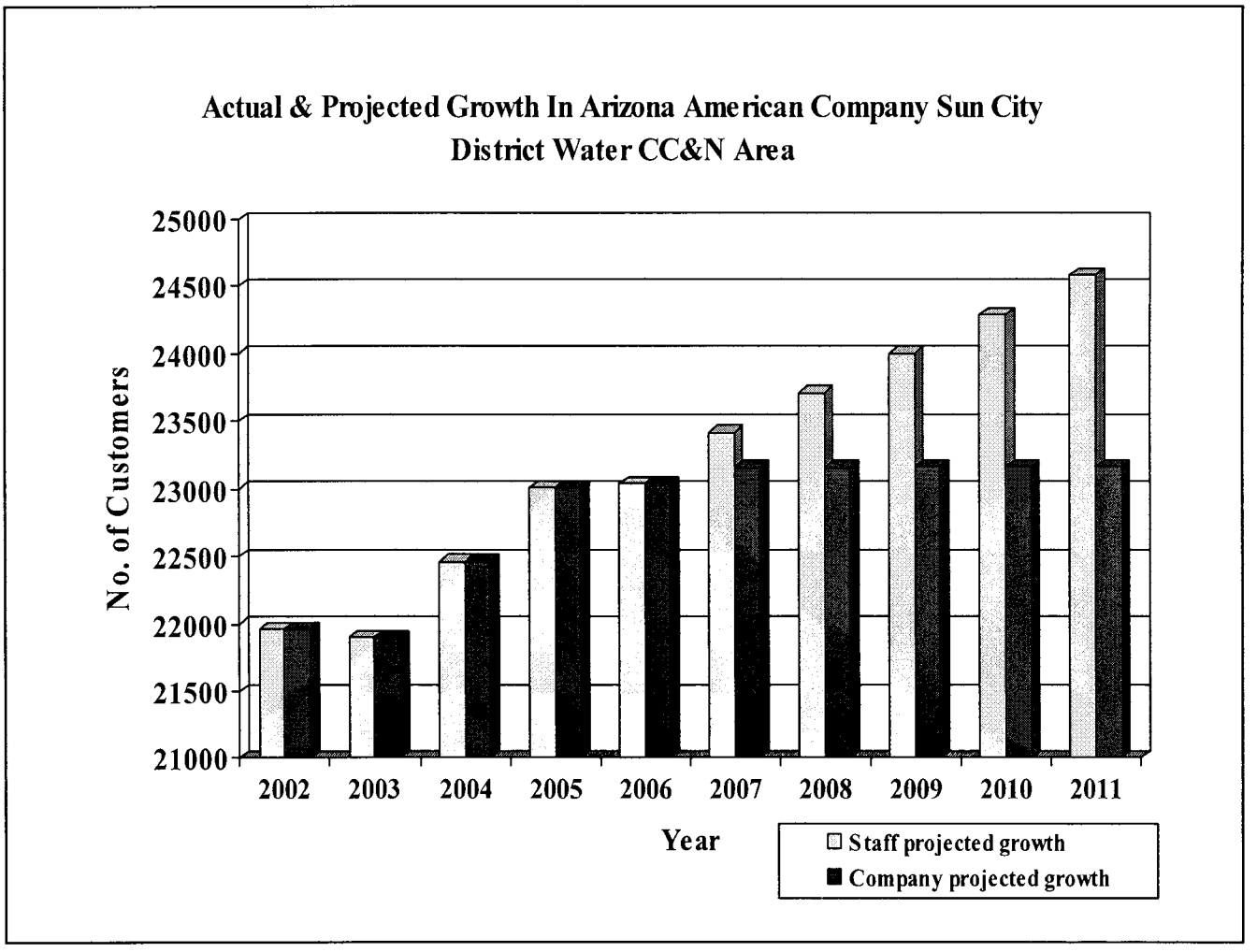


FIGURE 6
DEPRECIATION RATES FOR WATER SYSTEMS

NARUC Acct #	Company's Account #.	Depreciable Plant	Rate (%) Sun City Water proposed	Staff Recommended Rate (%)
301	301000	**Organization**	0	0
302	302000	**Franchises**	0	0
303		**Land & Land Rights**		0
	303200	Land & Land Rights SS	0	
	303300	Land & Land Rights P	0	
	303500	Land & Land Right TD	0	
	303600	Land & Land Right AG	0	
304		**Structures & Improvements**		
	304100	Structure & Improvement SS	2.50	2.50
	304200	Structure & Improvement P	1.67	1.67
	304300	Structures and Improvements WT	1.67	1.67
	304400	Structure & Improvement TD	2.00	2.00
	304600	Structure & Improvement office	4.63	4.63
	304800	Structure & Improvement Misc	1.67	1.67
305	305000	**Collection & Impounding reservoirs**	2.50	2.50
307	307000	**Wells & Springs**	2.52	2.52
310	310100	**Power Generation Equip Other**	4.42	4.42
311		**Pumping Equipment**		
	311200	Pump Equipment Electric	4.42	4.42
	311300	Pump Equipment Diesel	5.00	5.00
	311500	Pump Equipment Other	5.01	5.01
320		**Water Treatment**		
	320100	Water Treatment Equipment Non-Media	4.00	4.00
330		**Distribution Reservoirs & Standpipes**		
	33000	Distribution Reservoirs & Standpipes	1.67	1.67
331		**Transmission and Distribution**		
	331001	TD mains not classified by size	1.53	1.53
	331100	TD mains 4-inch & less	1.53	1.53
	331200	TD mains 6-inch to 8-inch	1.53	1.53
	331300	TD mains 10-inch to 16-inch	1.53	1.53
333	333000	**Services**	2.48	2.48
334		**Meters**		
	334100	Meters	2.51	2.51
	334200	Meter installations	2.51	2.51
335	335000	**Hydrants**	2.00	2.00
336	N/A	**Backflow Prevention Devices**	N/A	6.67
339		**Other Plant & Misc Equipment**		
	339100	Other P/E Intangible	0	0
	339500	Other P/E TD	2.00	2.00
340				
	340100	Office Furniture & Equipments	4.59	4.59
	340200	Computer & periph equipment	4.59	4.59

341		**Transportation Equipment**		
	341100	Transportation Equip, Lt Duty Trucks	25.00	25.00
	341200	Transportation Equip, heavy Duty Trucks	25.00	25.00
342	342000	**Store Equipments**	3.91	3.91
343	343000	**Tools Shop & Garage Equipments**	4.02	4.02
344	344000	**Lab equipments**	3.71	3.71
345	345000	**Power operated equipments**	5.20	5.20
346		**Communication Equipments**		
	346100	Communication Equip non-telephone	10.30	10.30
	346300	Communication Equip Other	4.93	4.93

EXHIBIT

COMPANY: ARIZONA AMERICAN WATER COMPANY
DISTRICT: SUN CITY WATER DISTRICT
DOCKET NO: WS-01303A-07-0209

Response provided by: Linda J. Gutowski

Title: Senior Financial Analyst

Address: 19820 N. 7th Street, Suite 201Phoenix, AZ 85024

Company Response Number: DH 1.5

Q: Reference to Schedule B-2, the Company reported that four parcels of land have been retired: $24,725 (in September 2004), $309 (in October 2004), $12,208 (in November 2004) and $56,442 (in December 2004) and $60 (in December 2006). During the field inspection, the Company's Field Staff could not point out the location of these land parcels. Please provide a description of those parcels and their location.

A: Everything but the $60 December 2006 items are transfers not retirements. The transfers are associated with the Sierra Montana land for Agua Fria Water Plant #8 and Well # 8.1 located between Waddell and Greenway on 179th Avenue. These transfers move land costs from the Sun City Water business unit to the Agua Fria Water business unit.

The retirements that total ($60) are 6 parcels of land around wells at ($10) each. This land was the land around wells that developers donated and the County said was worth $10. The descriptions on the books for the various plots are:

Ret Greenway Rd Plant
Ret Whispering Lake Well
Ret Youngtown Water Plt
Ret Youngtown Well 19C N
Ret Northern Ave Well 35C
Ret Happy Trails Water Plt

COMPANY:	ARIZONA AMERICAN WATER COMPANY
DISTRICT:	SUN CITY WATER DISTRICT
DOCKET NO:	WS-01303A-07-0209

Response provided by: Linda J. Gutowski

Title: Senior Financial Analyst

Address: 19820 N. 7th Street, Suite 201
Phoenix, AZ 85024

Company Response Number: DH 1.9

Q: Reference to Schedule B-2, the Company reported $204,232 (in December 2003) and $45,119 (in December 2006) been spent on communication equipment. The Company's Field Staff indicated that the Company is not equipped with SCADA; the Company still relies on radio transmission to monitor the system. Please provide a copy of your invoices regarding these purchasing.

A: The $204,232 in December 2003 was for the Sierra Montana Booster Station Work order and was transferred to the Agua Fria Water District - first it was transferred to Sun City Water District Generators (09/05) and from there to Agua Fria Water District Communication Equipment (09/05). Almost all of that money was for Cost Allocation and Engineering Overhead. There are no invoices.

The $45,119 was spent on two work orders, #50077113W for the SC Well 2.4 Replacement and #50082620W for Replace Locks in SC System. Attached is a Scan of an invoice from Weber Group, LC for Communication Equipment for Sun City Well 2.4 Replacement for $36,444.60. Also attached are 2 invoices from C & I Show Hardware and Security Systems, Inc. for cyberlocks.

COMPANY: ARIZONA AMERICAN WATER COMPANY
DISTRICT: SUN CITY WATER DISTRICT
DOCKET NO: WS-01303A-07-0209

Response provided by: **Linda Gutowski**

Title: **Senior Financial Analyst**

Address: 19820 N 7th Street, Suite 201
Phoenix, AZ 85024

Company Response Number: All 1.15 – 2nd Response

Q: Staff has highlighted certain plant additions, retirements and adjustments depicted on Company Schedule B-2, pages 5-27. For each plant account identified for each month, please provide the following information:

1. A schedule showing a breakout of plant additions, retirements and adjustments from the aggregate amount for each month for the plant account identified in the attached schedule (on CD).

2. Provide supporting documentations, such as invoices or work order, evidencing the posted transaction for each plant account identified for each month. Please separately provide supporting documentation for additions, retirements and adjustments.

A: The Commission Staff Mr. Alexander Igwe came to the Corporate offices of Arizona-American the week of August 27th for an on-site audit of the supporting documentation on his requested list of additions, retirements, and adjustments. In the course of the audit, the Company and Mr. Igwe agreed to several adjustments to be made to the books, as follows:

Jan 2002 – remove ($408,639.65) from 307000 Wells & Springs and move to Acct 104000 Plant Held for Future Use
Jan 2002 – retire ($19,594) from 320100 Water Treatment Equipment
Jan 2002 – retire ($319,215) from 330000 Distribution Reservoirs & Standpipes

The Sierra Montana Booster Station in Surprise belongs in the Agua Fria Water District. A mistake was made, and the plant was charged to Sun City Water and later moved to Agua Fria Water. The following entries to Sun City Water are the errors that were made involving this one project. All of them need to be reversed:

Acct 101002.303000 – Land & Land Rights Pumping

12/05/03	$228,967.92	
01/21/04	$228,967.92	
01/21/04		($228,967.92)
08/17/04	$228.967.92	
08/17/04		($228,967.92)

V#18511351 JMK

Layne Christensen Company

Remit to 5015 Paysphere Circle Chicago IL 60674

Water Supply/Environmental Division – 12230 East Riggs Road Chandler AZ 85249-3701 ~ PH (480) 895-8484 – FAX (480) 895-8630

INVOICE # 10814267 10814267

Received
MAR 2 4 2006
Shared Services Center

SOLD TO Arsenaw Water Company
ATTN A/P Shared Services
P O Box 5800
Cherry Hill NJ 08034

Client Phone 602 377-6377

INVOICE DATE 03/20/2006 3/20/06
PO# 15073699 15073699
LAYNE ORDER# 814528
CLIENT# 10810097

A23 DOC

TERMS Due Upon Receipt

QUANTITY		DESCRIPTION	PRICE	TOTAL	RUNNING BALANCE
		Well 55-602167 14825 W Grand Avenue			
1	EA	Furnish install and remove Layne Test Pump Equipment (per project estimate proposal)	$15 500 00	$15 500 00	$15 500 00
1	LS	Set up and removal of discharge piping	$585 00	$585 00	$16 085 00
12	HR	Test pumping/Collection of water samples (run time)	$250 00	$3 000 00	$19 085 00
			Invoice Sub Total		$19 085 00
			Tax		$0 00
			Invoice Total		$19,085 00

Please receive in.
Thank you—

Layne Christensen Company will institute a late payment charge at a rate of 18% per annum (unless a lower rate is required under applicable law in which case the lower rate shall apply) for all payments not made on or before the due date It is the policy of Layne Christensen to preserve all lien and payment bond rights where available All notifications are sent strictly for this purpose

Thank you for your business
Layne Christensen is an Equal Opportunity Employer
** ORIGINAL INVOICE **

COMPANY: ARIZONA AMERICAN WATER COMPANY
DISTRICT: SUN CITY WATER DISTRICT
DOCKET NO: WS-01303A-07-0209

Response provided by: Linda J. Gutowski

Title: Senior Financial Analyst

Address: 19820 N. 7th Street, Suite 201
Phoenix, AZ 85024

Company Response Number: DH 1.12

Q: Reference to Schedule B-2, the Company reported $228,968 (in December 2003) and $12,846 (in October 2005) was spent on land purchasing. Please provide a copy of the purchasing invoices and indication of the land locations.

A: All of this land has to do with the Sierra Montana Booster Station in the Agua Fria Water District and will be transferred to that district.

COMPANY:	ARIZONA AMERICAN WATER COMPANY
DISTRICT:	SUN CITY WATER DISTRICT
DOCKET NO:	WS-01303A-07-0209

Response provided by: **Linda Gutowski**

Title: **Senior Financial Analyst**

Address: 19820 N 7th Street, Suite 201
Phoenix, AZ 85024

Company Response Number: All 1.15 – 2nd Response

09/24/04		($ 24,724.56)
10/22/04		($ 309.16)
11/19/04		($ 12,208.43)
12/10/04		($ 56,442.12)
10/06/05	$ 12,846.41	

Post TY Entry made to fix the last several entries:

01/31/07	$ 80,837.86	

The correct balance that should be in 303300 every month is $8,456.29. There were no additions to Land & Land Rights Pumping in Sun City Water in this timeframe.

Account 101002.310100 – Power Generation Equip Other

12/05/03	$421,791.98	
01/21/04	$421,791.98	
01/21/04		($421,791.98)
09/09/05		($421,791.98)
09/09/05		($204,232.27)
9/12/05	$204,232.27	

Net effect is zero; just timing differences.

Account 101002.346300 – Communication Equip Other

12/05/03	$204,232.27	
01/21/04	$204,232.27	
01/21/04		($204,232.27)
09/12/05		($204,232.27)

Net effect is zero; just timing differences.

COMPANY: ARIZONA AMERICAN WATER COMPANY
DISTRICT: SUN CITY WATER DISTRICT
DOCKET NO: WS-01303A-07-0209

Response provided by: Sheryl L. Hubbard

Title: Senior Rate Analyst

Address: 19820 N. 7th Street, Suite 201
Phoenix, AZ 85024

Company Response Number: DH 6.3

Q: In the Company's last rate case (2002), the Company only requested $6,878 chemical analysis expense which was approved. If the proposed chemical test expenses are much higher than $6,878, please explain what caused it.

A: The lab testing fees for 2006 totaled $9,619 for the Sun City Water district. Please see attached spreadsheet for details of tests conducted and associated costs.