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BEFORE THE ARIZONA CORPORATION COMMISSION

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IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WEST WATER AND WASTEWATER DISTRICTS.	DOCKET NO. WS-01303A-02-0867
IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WATER AND WASTEWATER DISTRICTS.	DOCKET NO. WS-01303A-02-0868
IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS MOHAVE WATER DISTRICT AND ITS HAVASU WATER DISTRICT.	DOCKET NO WS-01303A-02-0869
IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS MOHAVE WATER DISTRICT AND ITS ANTHEM WATER DISTRICT, ITS AGUA FRIA WATER DISTRICT, AND ITS ANTHEM/AGUA FRIA WASTEWATER DISTRICT.	DOCKET NO. WS-01303A-02-0870 **NOTICE OF FILING DIRECT TESTIMONY**

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

DOCKET NO. W-01303A-02-0908

NOTICE OF FILING DIRECT TESTIMONY

Staff of the Arizona Corporation Commission hereby files the Direct Testimony of Darron W. Carlson, Brian K. Bozzo, Alexander Ibhade Igwe, Dennis R. Rogers, Joel M. Reiker, Marlin Scott, Jr., John A. Chelus, Lyndon R. Hammon and Dorothy Hains of the Utilities Division, in the above-referenced matter.

RESPECTFULLY SUBMITTED this 5th day of September 2003.

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The original and twenty-one (21) copies of the foregoing were filed this 5th day of September 2003 with:

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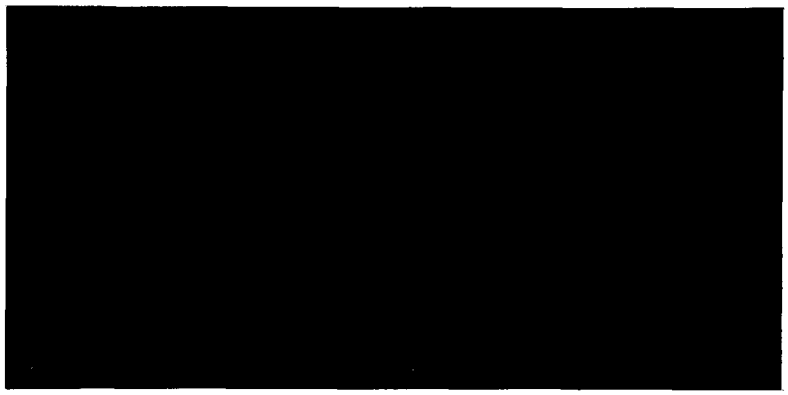

ARIZONA CORPORATION COMMISSION
UTILITIES DIVISION

DIRECT

TESTIMONY

OF

DARRON W. CARLSON
BRIAN K. BOZZO
ALEX IBHADE IGWE
DENNIS R. ROGERS
JOEL M. REIKER

(VOLUME 1 OF 3)

DOCKET NOS. WS-01303A-02-0867
WS-01303A-02-0868
W-01303A-02-0869
WS-01303A-02-0870
W-01303A-02-0908

IN THE MATTER OF THE APPLICATIONS OF
ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A
DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY
PLANT AND PROPERTY AND FOR INCREASES IN ITS
RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY
ITS SUN CITY WEST WATER AND WASTEWATER DISTRICTS,
SUN CITY WATER AND WASTEWATER DISTRICTS, MOHAVE
AND HAVASU WATER DISTRICTS, ANTHEM AND AGUA FRIA
WATER AND WASTEWATER DISTRICTS, AND TUBAC WATER DISTRICT

SEPTEMBER 5, 2003

CARLSON

BEFORE THE ARIZONA CORPORATION COMMISSION

MARC SPITZER
Chairman
JIM IRVIN
Commissioner
WILLIAM A. MUNDELL
Commissioner
JEFF HATCH-MILLER
Commissioner
MIKE GLEASON
Commissioner

IN THE MATTER OF THE APPLICATIONS OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WEST WATER AND WASTEWATER DISTRICTS, SUN CITY WATER AND WASTEWATER DISTRICTS, MOHAVE AND HAVASU WATER DISTRICTS, AGUA FRIA AND ANTHEM WATER AND WASTEWATER DISTRICTS, AND TUBAC WATER DISTRICT	DOCKET NOS. WS-01303A-02-0867 WS-01303A-02-0868 W-01303A-02-0869 WS-01303A-02-0870 W-01303A-02-0908

DIRECT

TESTIMONY

OF

DARRON W. CARLSON

PUBLIC UTILITIES ANALYST V

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

SEPTEMBER 5, 2003

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SCHEDULES

EXECUTIVE SUMMARY
ARIZONA-AMERICAN WATER COMPANY, INC.
DOCKET NOS. WS-01303A-02-0867 ET AL.

Pursuant to Decision No. 63584 (April 4,2001), Arizona-American Water Company, Inc. ("AAWC") completed its acquisition of all the Citizens Communications Company's ("Citizens") water and wastewater systems in Arizona on January 15, 2002. AAWC is now the largest private water and wastewater provider in Arizona serving approximately 115,000 customers.

AAWC filed the instant rate cases (five filings covering ten systems from the Citizens acquisition) in November and December 2002. In the aggregate, AAWC is proposing an increase of $11,660,912 (or 32.99 percent) over its Test Year revenues as filed of $35,351,457. The proposed increase for each of the ten systems varies from 6.80 percent to 86.74 percent.

In the aggregate, Staff is recommending an increase of $476,721 (or 1.35 percent) over adjusted Test Year revenues of $35,351,457. Six systems would receive rate reductions ranging from 3.94 percent to 15.86 percent. Four systems would receive rate increases ranging from 11.50 percent to 34.74 percent.

In the aggregate, AAWC is proposing recognition of an acquisition adjustment of the Citizens systems in the amount of $71,240,169. Staff recommends denial of the acquisition adjustment. Decision No. 63584 established criteria that must be met before recovery of any portion of the acquisition adjustment can be considered. AAWC has not even attempted to fulfill that criteria.

In the aggregate, AAWC is proposing a fair value rate base of $148,996,589 based on reproduction cost new less depreciation ("RCND") plant valuations, not original cost less depreciation ("OCLD") valuations.

In the aggregate, Staff recommends a fair value rate base of $91,719,544 based on OCLD plant valuations. Staff has determined that AAWC did not conduct a proper RCND analysis and that its RCND valuations are unacceptable. Typically, this Commission uses OCLD for fair value in the absence of valid RCND valuations.

INTRODUCTION

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

A. My name is Darron W. Carlson. I am a Public Utilities Analyst V employed by the Arizona Corporation Commission ("ACC" or "Commission") in the Utilities Division ("Staff"). My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

Q. Briefly describe your responsibilities as a Public Utilities Analyst V.

A. In my capacity as a Public Utilities Analyst V, I examine, verify, and analyze utilities' statistical, financial, and other information and write reports based on my analyses that present Staff recommendations to the Commission on mergers, acquisitions, asset sales, financings, rate cases, and other matters. I also provide expert testimony in formal hearings before the Commission on all of the aforementioned matters.

Q. Please describe your educational background and professional experience.

A. I hold a Bachelor of Arts degree in both Accounting and Business Management from Northeastern Illinois University in Chicago, Illinois. I have participated in a number of seminars and workshops related to utility rate-making, cost of capital and similar issues, sponsored by the National Association of Regulatory Utility Commissioners ("NARUC"), Duke University, Florida State University, Michigan State University, New Mexico State University, and others. I have led or actively participated in over 120 cases before this Commission in my twelve years as a Staff rate analyst.

Q. Please briefly describe the applications that are the subject of this proceeding.

A. On November 22, 2002, Arizona-American Water Company, Inc. ("AAWC" or "Company") filed separate applications for permanent rates in four of its districts. On

December 13, 2002, the Company filed another application for permanent rates in a fifth district. The Docket Numbers and districts are as follows:

Docket No. WS-01303A-02-0867, Sun City West water and wastewater
" " WS-01303A-02-0868, Sun City water and wastewater
" " W-01303A-02-0869, Mohave and Havasu water
" " WS-01303A-02-0870, Agua Fria and Anthem water and wastewater
" " W-01303A-02-0908, Tubac water

Pursuant to Staff's request, these filings were consolidated by a Procedural Order dated March 14, 2003.

Initially, Staff found all five applications to be insufficient. Subsequently, the Company filed amendments to its applications and Staff found all five applications sufficient on January 30, 2003.

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

A. I am the lead Staff witness. The purpose of my testimony in this proceeding is to present Staff's position and recommendations regarding rate base and revenue requirements for each of the ten utility systems in AAWC's five permanent rate applications. I also sponsor the income tax calculations included in Mr. Igwe's operating expense analysis.

Q. What other Staff witnesses are involved in the presentation of Staff's recommendations or have provided substantial relevant information that you relied upon?

A. Mr. Alexander I. Igwe is presenting Staff's pre-filed direct testimony regarding the Test Year operating revenue and expenses. Mr. Brian K. Bozzo is presenting Staff's pre-filed direct testimony regarding the historic and Test Year plant and accumulated depreciation. Mr. Dennis R. Rogers is presenting Staff's pre-filed direct testimony regarding rate design. Mr. Joel M. Reiker is presenting Staff's pre-filed direct testimony regarding the financial analysis, cost of capital, and capital structure. Mr. John A. Chelus is presenting Staff's pre-filed direct testimony regarding the technical and engineering analysis of the Sun City West water and wastewater districts. Ms. Dorothy M. Hains is presenting Staff's pre-filed direct testimony regarding the technical and engineering analysis of the Sun City water and wastewater districts. Mr. Marlin Scott, Jr. is presenting Staff's pre-filed direct testimony regarding the technical and engineering analysis of the Mohave, Havasu, and Tubac water districts. Mr. Lyndon R. Hammon is presenting Staff's pre-filed direct testimony regarding the technical and engineering analysis of the Agua Fria and Anthem water and wastewater districts.

Staff has received assistance from the Commission's Consumer Services section and any input from that section will be reflected in Mr. Igwe's and my testimony.

Q. How is the remainder of your testimony organized?

A. First, I discuss the summary of revenue requirements for each district. Second, I discuss the fair value determinations. Third, I discuss Staff's recommended adjustments to rate base regarding post-Test Year plant additions, the Company's allowance for funds used during construction ("AFUDC") adjustment, the acquisition adjustment, and deferred

taxes and investment credits. For each recommended rate base adjustment, I first discuss the reason(s) an adjustment is appropriate. Then, I present the adjustment amount by system in the following order: Sun City West Water, Sun City West Wastewater, Sun City Water, Sun City Wastewater, Mohave Water, Havasu Water, Agua Fria Water, Anthem Water, Anthem/Agua Fria Wastewater, and Tubac Water. Finally, I discuss issues related to the Sun City Wastewater Tolleson Agreement.

Q. Did Staff prepare separate schedules for each system?

A. Yes. Staff prepared a complete and separate set of schedules for each of the ten systems that include revenue requirement, rate base, operating income, and rate design.

Q. Did Staff number adjustments for uniformity among the systems?

A. Yes. Adjustments for the same purpose are numbered uniformly in the schedules for all systems. For example the adjustments to remove the excess cost over book value paid to acquire the properties from original plant are reflected as rate base adjustment number 7 in each of the systems. Since not all adjustments apply to all systems, this uniform numbering means that nothing is shown for adjustments in the systems where they do not apply.

SUMMARY OF REVENUE REQUIREMENTS

Q. Please review AAWC's proposed revenue requirements.

A. In the aggregate, AAWC's five rate filings propose annual revenues of $47,012,369. This represents an increase of $11,660,912 (or 32.99 percent) over Test Year as filed revenues of $35,351,457. The following table reflects AAWC's proposed revenue requirements by system and as reflected on Staff Schedule DWC-1 for each of the ten systems.

TABLE I

System	TY Revn.	Co.Propsosed Revn.Incr.	Total Revn.	Percent Incr.
Sun City West Water	$3,380,774	$1,482,505	$4,863,279	43.85
Sun City West Wastewater	3,535,680	1,966,103	5,501,783	55.61
Sun City Water	6,193,090	5,371,957	11,565,047	86.74
Sun City Wastewater	5,088,340	639,529	5,727,869	12.57
Mohave Water	4,394,775	623,628	5,018,403	14.19
Havasu Water	440,924	199,376	640,300	45.22
Agua Fria Water	6,186,037	420,573	6,606,610	6.80
Anthem Water	4,010,805	300,964	4,311,769	7.50
Anthem/Agua Fria Wastewater	1,866,546	439,755	2,306,301	23.56
Tubac Water	254,486	216,523	471,009	85.08

Q. Please review Staff's recommended revenue requirements.

A. In the aggregate, Staff recommends annual revenues of $35,828,178. This represents an increase of $476,721 (or 1.35 percent) over adjusted Test Year revenues of $35,351,457. The following table reflects Staff's recommended revenue requirements by system and as reflected on Staff Schedule DWC-1 for each of the ten systems.

TABLE II

System	Adj.TY Revn.	Staff Rec.Revn.Incr/Decr.	Total Revn.	Percent Inc/Dec
Sun City West Water	$3,380,774	$388,828	$3,769,602	11.50
Sun City West Wastewater	3,535,680	1,128,063	4,663,743	31.91
Sun City Water	6,193,090	1,928,691	8,121,781	31.14
Sun City Wastewater	5,088,340	(807,038)	4,281,302	(15.86)
Mohave Water	4,394,775	(684,727)	3,710,048	(15.58)

Havasu Water	440,924	(31,197)	409,727	(7.08)
Agua Fria Water	6,186,037	(872,320)	5,313,717	(14.10)
Anthem Water	4,010,805	(588,512)	3,422,293	(14.67)
Anthem/Agua Fria Wastewater	1,865,546	(73,484)	1,793,062	(3.94)
Tubac Water	254,486	88,417	342,903	34.74

BASIS FOR OPERATING INCOME DETERMINATION

Q. How does AAWC calculate its required operating income in its filings?

A. AAWC calculates operating income as the product of multiplying its Reproduction Cost New Less Depreciation ("RCND") rate base times its cost of capital (rate of return). The Company refers to reproduction cost as reconstruction cost in its testimony.

Q. What reason did AAWC state for proposing to calculate required operating income based solely on RCND rate base?

A. AAWC witness, Mr. Thomas J. Bourassa states in his testimonies, at various pages between 9 and 13 depending on the system, "...As I understand the concept of "fair value", which is used in setting rates in Arizona, the value of the plant and property on which the Company is entitled to earn a fair return should be its current value, as opposed to its book or original cost."

Additionally, AAWC witness, Dr. Thomas M. Zepp states in his testimonies, at pages 8 and 9, that he generally agrees with Mr. Bourassa that the fair value should reflect current value.

Q. Is it the Commission's normal practice to calculate required operating income by multiplying the cost of capital times the RCND rate base?

A. No. On the contrary, most utilities do not even submit RCND valuations. In fact, in AAWC's prior rate case, it waived the use of RCND valuation and accepted its required operating income as the product of its original cost less depreciation ("OCLD") rate base times its cost of capital. When utilities do submit RCND valuation, fair value rate base ("FVRB") has been calculated using a 50/50 weighting of OCLD and RCND valuations and the fair value rate of return multiplied by the FVRB results in the same required operating income as multiplying the cost of capital times the OCLD rate base.

Q. Did the Company's method of calculating its required operating income impact its proposed revenue requirements?

A. Yes. The Company's proposed RCND rate base is $148,996,589 and its OCLD rate base is $162,938,016. As previously discussed, the Company applied its proposed cost of capital to its RCND rate base to determine its required operating income. Revenue requirement is the aggregation of operating income, operating and maintenance expenses, depreciation expense, and income tax expense. Therefore, an overstatement of required operating income results in an overstatement of revenue requirement.

Q. Did the Company's application of its cost of capital to its RCND rate base instead of its OCLD rate base result in an overstatement of its revenue requirement?

A. Yes. The Company inflated its revenue requirement by applying its cost of capital to its RCND rate base instead of its OCLD rate base.

Q. How can AAWC's use of an RCND rate base result in an overstatement of its revenue requirement in the instant case, since its OCLD rate base is actually greater than its RCND rate base?

A. On a consolidated basis, AAWC's proposed RCND rate base is $148,996,589 and its OCLD rate base is $162,938,016. However, AAWC's OCLD rate base includes a $71,240,169 acquisition adjustment. Acquisition adjustments, by nature, are not original costs and should be excluded from OCLD rate base. AAWC's RCND rate base exceeds its OCLD rate base because the latter is artificially overstated by $71,240,169. Removing the acquisition adjustment results in an OCLD rate base of $91,697,847. AAWC overstated its proposed revenue requirement by applying its cost of capital to an RCND rate base of $148,996,589 instead of an OCLD rate base of $91,697,847.

Q. How should AAWC's required operating income and revenue requirement be determined?

A. Operating income should be calculated by applying the recommended cost of capital to the OCLD rate base. Revenue requirement is equal to the sum of operating income, operating and maintenance expenses, depreciation expense, and income tax expense.

Q. What is the appropriate rate of return on fair value rate base?

A. The appropriate rate of return on fair value rate base is the one that results in the revenue requirement. As discussed in the testimony of Staff witness Mr. Joel M. Reiker (page 65), if a utility expects to earn its cost of capital, the revenue requirement should be determined using an operating income that is the product of multiplying the recommended cost of capital by the OCLD rate base.

SUMMARY OF RATE BASE ADJUSTMENTS NOS. FIVE THROUGH SEVEN

Q. Please summarize the adjustments addressed in Staff's rate base testimony.

A. Staff witness Mr. Brian K. Bozzo discusses rate base adjustments nos. one through four in his testimony. This testimony addresses the following adjustments:

Post-Test Year Plant Additions – Adjustment No. Five

In aggregate for the ten systems, this adjustment increases rate base by $432,882. In aggregate for the ten systems, AAWC's filing has pro forma adjustments to include in rate base $5,067,635 of post-Test Year plant additions. Staff recommends including, in aggregate $5,500,517 of post-Test Year plant additions in rate base. This adjustment reflects updated and more accurate information.

AFUDC Adjustment 3/95 – Adjustment No. Six

In aggregate for the ten systems, this adjustment increases rate base by $1,088,573. In aggregate for the ten systems, AAWC's filing included pro forma adjustments to reduce plant by $1,438,248 and the associated accumulated depreciation by $349,675 resulting in a net rate base reduction of $1,088,573. AAWC's pro forma adjustments had already been recorded on the books. The pro forma adjustments resulted in a double count. Accordingly, Staff recommends a reversal of the Company's pro forma adjustments.

Acquisition Adjustment – Adjustment No. Seven

In aggregate for the ten systems, this adjustment decreases rate base by $71,240,169. In aggregate for the ten systems, AAWC made pro forma adjustments to increase rate base by $71,240,169 to include the acquisition premium paid for the purchase of the Citizens' water and wastewater properties in Arizona. Due to AAWC's failure to meet the criteria established by the Commission in the acquisition case for consideration of the recovery of

the acquisition adjustment (Decision No. 63584), Staff recommends a reversal of the Company's pro forma adjustments.

RATE BASE

Q. Please review AAWC's proposed rate bases.

A. For the ten systems in AAWC's five rate filings, the aggregate proposed rate base is $148,996,589. As already discussed in this testimony, the Company's proposed rate base is based on RCND, not OCLD, plant valuations. The following table reflects AAWC's proposed rate bases by system and as reflected on Staff Schedule DWC-3 for each of the ten systems.

TABLE III

System	Proposed Rate Base
Sun City West Water	$16,407,508
Sun City West Wastewater	13,455,978
Sun City Water	48,703,466
Sun City Wastewater	20,233,577
Mohave Water	15,212,896
Havasu Water	1,369,042
Agua Fria Water	19,019,624
Anthem Water	9,837,108
Anthem/Agua Fria Wastewater	2,853,742
Tubac Water	1,903,647

Q. Please review Staff's recommended rate bases.

A. For the ten systems, Staff recommends an aggregate rate base of $91,719,544. As already discussed in this testimony, Staff's recommended rate base is based on OCLD plant valuations. The following table reflects Staff's recommended rate bases by system and as reflected on Staff Schedule DWC-3 for each of the ten systems.

TABLE IV

System	Recommended Rate Base
Sun City West Water	$12,063,516
Sun City West Wastewater	9,004,156
Sun City Water	21,433,625
Sun City Wastewater	8,838,548
Mohave Water	9,649,461
Havasu Water	822,117
Agua Fria Water	16,742,164
Anthem Water	9,288,446
Anthem/Agua Fria Wastewater	2,746,928
Tubac Water	1,130,583

Q. How many rate base adjustments is Staff recommending?

A. Staff recommends seven adjustments to rate base as shown on Schedule DWC-4 for each of the ten systems. Staff witness Mr. Brian K Bozzo is sponsoring rate base adjustment nos. one through four, and I discuss rate base adjustment nos. five through seven.

Rate Base Adjustment No. 5 – Post-Test Year Plant Additions

Q. What is AAWC proposing for plant?

A. AAWC is proposing to include in rate base all plant recorded at the end of the Test Year plus all non-revenue producing plant additions from January 01, 2002, through December 31, 2002, one full year beyond the end of the Test Year, December 31, 2001.

Q. Has the Commission established any guidelines regarding rate base treatment for AAWC's plant additions that occur after the Test Year (post-Test Year plant)?

A. Yes. In AAWC's prior rate case (Paradise Valley Water), the Company sought to include plant additions made beyond the hearing date. In response to that, the Commission ordered AAWC to limit post-Test Year plant additions to those in service within 90 days of the sufficiency date in future rate cases. AAWC witness Mr. Stephenson refers to this prior case in his direct testimony at page 7, stating that the instant rate filings fall within that guideline.

Q. Is Mr. Stephenson correct?

A. Technically, yes. However, the circumstances in this case are different than in the Paradise Valley case. In the prior rate case (on which the 90 day period is based), the Company filed its rate case with the Commission within 44 days of the end of the Test Year and sufficiency occurred within 30 days of filing. In the instant cases, the Company filed its applications 326 days (348 days for Tubac Water) after the end of the Test Year and sufficiency occurred 70 days after the filing. This demonstrates that using the sufficiency date as a criterion for including post-Test Year plant in rate base provides an opportunity for the Company to skew the factors of regulatory lag for its own benefit.

Q. Why did Staff accept and find sufficient a rate filing that was based on a stale Test Year?

A. The answer to this question involves several aspects which Staff will briefly attempt to summarize here. In July of 2002, representatives of AAWC contacted Staff telephonically to express concern over Staff's recommendation for a rate case moratorium in Docket No. W-01303A-01-0983, regarding the acquisition of American Water Works ("AWW") (AAWC's parent) by RWE of Germany. Staff had recommended a rate increase moratorium upon completion of the acquisition. AAWC inquired as to whether Staff would consider the moratorium to apply to any rate increase requests filed prior to the acquisition closing date. The Company stated that they were preparing rate filings for all of the Citizens properties that it had agreed to acquire in 2002. Staff informed AAWC that it did not intend the moratorium to become effective for filings made before the acquisition was expected to occur in early 2003. Upon Staff's inquiry, AAWC advised Staff that the Test Year ending for the cases being prepared was June 30, 2002, was based on six months each of Citizens' and AAWC's records, that the filing would include no post-Test Year plant additions, and would be filed in August 2002. Further, Staff was advised by AAWC that all of the Citizens properties acquired were losing money. All of the aforementioned information that AAWC provided to Staff turned out to be erroneous.

Just prior to the actual filing of the instant rate cases in November and December 2002, AAWC and AWW officers and representatives met at the Commission with Staff. At the meeting, AAWC asserted that the RWE acquisition was imminent, that all of the Citizens acquired properties were losing money and that the Company's financial health would be seriously damaged if the Company was forced to wait for rate increases until after any rate moratorium. Accordingly, the Company promised Staff complete cooperation during the rate case, requested that Staff complete its sufficiency review as soon as possible so that

the rate cases could be found sufficient prior to the acquisition closing. However, when the instant rate cases were filed, the Test Year and other information asserted by AAWC was incorrect. In response to Staff's inquiry, AAWC explained that it had been working with the Citizens' records for a year and had many problems correlating Citizens' information with its own records. As a result, AAWC changed its plans and decided to file based on a Test Year ending December 31, 2001, using only Citizens' records for the Test Year and using pro forma adjustments to impute AAWC's costs onto the Citizens' Test Year.

At that time, Staff was concerned that rejection of the filings due to the stale Test Year could have a negative impact to AAWC's financial health. Staff was also aware that AAWC was already claiming rate case expense of $700,000.

Q. What other factors did Staff consider in regard to post-Test Year plant additions?

A. First, Staff determined that the post-Test Year plant additions were used and useful and that they were non-revenue producing repairs or replacements. Second, the Commission imposed a three-year rate case moratorium on the Company in the RWE acquisition. Third, the post-Test Year plant additions are largely security related, and Staff believes that at this time these particular additions may deserve some special consideration.

Q. Please review AAWC's proposed post-Test Year plant additions.

A. In the aggregate for the ten systems in AAWC's five rate filings, the Company proposes to include $5,067,635 of post-Test Year plant additions in rate base. The following table reflects AAWC's proposed post-Test Year plant additions by system and as included in the totals reflected in Column "A" of Staff Schedule DWC-4 for each system.

TABLE V

System	Post-Test Year Plant Additions
Sun City West Water	$610,000
Sun City West Wastewater	213,100
Sun City Water	2,002,900
Sun City Wastewater	216,300
Mohave Water	984,000
Havasu Water	212,200
Agua Fria Water	559,081
Anthem Water	182,500
Anthem/Agua Fria Wastewater	43,054
Tubac Water	44,500

Q. Please review Staff's recommended adjustments to post-Test Year plant additions.

A. In recognition of the issues previously discussed, Staff recommends including in rate base non-revenue producing post-Test Year plant additions for the period January 1, 2002 through December 31, 2002, in this case only. In response to Staff data request DWC 12-2, AAWC provided post-Test Year plant information that is more current than that provided in its filing. Staff's recommendation is based on the updated information. In the aggregate for the ten systems, Staff's adjustment increases post-Test Year plant included in rate base by $432,882 from $5,067,635 to $5,500,517. The following table reflects Staff's recommended adjustments to post-Test Year plant additions by system and as reflected on Staff Schedule DWC-4 for each system.

Q. Why is Staff restricting its recommendation to include non-revenue producing post-Test Year plant additions in rate base to only this case?

A. Including post-Test Year plant additions in rate base introduces a mismatch between plant and other components of the revenue requirement. Creating a mismatch is undesirable in most situations. However due to the unique circumstances in this case as discussed above, recognizing this limited amount of non-revenue producing post-Test Year plant in rate base is appropriate.

TABLE VI

System	Staff adjustment to Post-Test Year Plant Additions	Recommended Post-Test Year Plant Additions
Sun City West Water	$(76,200)	$533,800
Sun City West Wastewater	(6,984)	206,117
Sun City Water	93,200	2,096,100
Sun City Wastewater	(12,426)	203,874
Mohave Water	205,354	1,189,356
Havasu Water	(17,922)	194,278
Agua Fria Water	83,603	642,683
Anthem Water	120,074	302,574
Anthem/Agua Fria Wastewater	32	43,086
Tubac Water	44,151	88,651

Rate Base Adjustment No. 6 – AFUDC Adjustment 3/95

Q. What is AAWC proposing in its filings regarding its AFUDC Adjustment 3/95?

A. In aggregate for the ten systems, AAWC included an adjustment reducing plant by $1,438,248 and reducing the associated accumulated depreciation by $349,675. The net effect of these adjustments is to reduce rate base by $1,088,573.

Q. Why did AAWC include this adjustment in its rate filings?

A. The Commission ordered Citizens to make this adjustment to its books in the prior rate case. While preparing the filing, AAWC could not identify the required adjustment in Citizens' records and made the adjustment to comply with the Commission's order.

Q. Why is Staff making an adjustment to AAWC's AFUDC adjustment?

A. When Staff inquired, via data request DWC 6-10, as to why the adjustment was being made, AAWC discovered that Citizens had, in fact, booked the adjustment when ordered to do so by this Commission. This nullified the need for the additional adjustment. After Staff determined that the adjustment had been correctly booked by Citizens, Staff removed the Company's pro forma adjustment to restore the balances to the correctly booked amounts. The following table reflects AAWC's proposed AFUDC adjustments to plant and accumulated depreciation and Staff's reversal of those adjustments. Staff's adjustment is reflected on Staff Schedule DWC-4 for each of the ten systems.

TABLE VII

System	AAWC Plant Adj.	AAWC Acc. Depr. Adj.	Staff Plant Adj.	Staff Acc. Depr. Adj.
Sun City West Water	$(431,998)	$(92,681)	$431,998	$92,681
Sun City West Wastewater	(242,717)	(73,969)	242,717	73,969
Sun City Water	(450,822)	(111,822)	450,822	111,822
Sun City Wastewater	(93,075)	(18,330)	93,075	18,330
Mohave Water	N/A	N/A	N/A	N/A
Havasu Water	N/A	N/A	N/A	N/A
Agua Fria Water	(217,801)	(52,460)	217,801	52,460
Anthem Water	N/A	N/A	N/A	N/A

Anthem/Agua Fria Wastewater	N/A	N/A	N/A	N/A
Tubac Water	(1,835)	(413)	1,835	413

Rate Base Adjustment No. 7 – Acquisition Adjustment

Q. What is an acquisition adjustment?

A. An acquisition adjustment is an accounting entry representing the difference between the purchase price paid by an acquiring utility and the book value of assets being purchased.

Q. Did AAWC propose recovery of an acquisition adjustment in this case?

A. Yes.

Q. What is the source of the acquisition adjustment?

A. AAWC acquired all of the water and wastewater systems owned by Citizens Communications Company ("Citizens") in Arizona, as authorized in Decision No. 63584.

Q. Did Decision No. 63584 establish the rate-making treatment for the acquisition adjustment?

A. No. The rate-making treatment was deferred to a future rate case. However, Decision No. 63584 did establish criteria that the Company must meet before recovery of any acquisition adjustment can be considered.

Q. According to Decision No. 63584, if any acquisition adjustment is to be recovered in rates, what would be the basis of that recovery?

A. Decision No. 63584 states (page 11), "Arizona-American is cautioned that the Commission will require Arizona-American to demonstrate that clear, quantifiable and substantial net benefits to ratepayers have resulted from the acquisition of Citizens'

systems that would not have been realized had the transaction not occurred before the Commission will consider recovery of any acquisition adjustment in a future rate proceeding."

Q. Did AAWC attempt to demonstrate net benefits realized by ratepayers from the acquisition in its filing?

A. No. AAWC did not even attempt to demonstrate any net benefits from the acquisition. AAWC witness Mr. David P. Stephenson stated in his direct testimony (page 22), "It is my recommendation to delay the demonstration of the clear, quantifiable, and substantial net benefits for ratepayers resulting from the purchase of the Citizens' assets by Arizona-American until a later date, after which time Arizona-American will have greater operating experience and be better able to demonstrate the tremendous net ratepayer benefits that result from this transaction."

Q. Is the Company's proposed treatment of the acquisition adjustment in this application consistent with the acquisition recovery provisions of Decision No. 63584?

A. No. Decision No. 63584 required that AAWC demonstrate clear, quantifiable, and substantial net benefits to ratepayers from the acquisition before the Commission will even consider recovery of any acquisition adjustment. Despite the Company's failure to make such a demonstration, it is proposing to recover the acquisition adjustment.

Q. In what manner does the Company's filing provide for recovery of the acquisition adjustment?

A. AAWC is proposing to recover the acquisition adjustment in two ways. First. AAWC included in original cost rate bases of the various districts that are the subject of the

consolidated rate case, $71,240,169 that represents the excess over book value that AAWC paid to Citizens to purchase these properties. Second, AAWC included, as an operating expense for recovery in rates, amortization of the acquisition adjustment over forty years.

Q. Assuming AAWC could demonstrate ratepayer benefits from the acquisition, what are some issues to consider in determining the amount, if any, of the acquisition adjustment that should be allowed for recovery?

A. There are several issues to consider. First, Citizens' gain of $71,240,169 due to the acquisition by AAWC was not shared with ratepayers. As an issue of equity, if ratepayers did not share in the gain, then they should not have to pay an acquisition cost. The effect would be to force ratepayers to pay twice for the plant equal to the amount of any acquisition adjustment allowed for recovery. Second, the mere event of a change in ownership is not sufficient justification for increasing rates. As previously discussed, Decision No. 63584 addressed this by requiring AAWC to demonstrate net benefits to ratepayers before recovery of an acquisition adjustment is even considered.

A calculation of net benefits includes consideration of detrimental impacts to ratepayers. The acquisition harmed ratepayers due to the elimination of accumulated deferred income taxes ("ADITs") of $4,674,819, and investment tax credits ("ITCs") of $1,910,600. These items had, under Citizens' books, reduced rate base, so their elimination raises rate base. There may be other detrimental items as well. For example, AAWC's pro forma adjustments to substitute its overhead costs for Citizens' costs suggests that AAWC has higher overhead costs. These are among the issues that should be used as an offset to any benefits the Company may demonstrate in support of a request to recover the acquisition adjustment. Further, the net benefits demonstrated should also have been unobtainable by

Citizens, because ratepayers should not have to bear the burden of the acquisition adjustment if the net benefit could have been implemented by Citizens without the burden of a $71 million increase to rate base.

Q. Please review AAWC's proposed acquisition adjustment.

A. In the aggregate, AAWC's five rate filings propose acquisition adjustments of $71,240,169.

Q. What is Staff's position on the proposed acquisition adjustment?

A. Staff believes that the acquisition adjustment should receive no recognition in the instant rate cases for all the aforementioned reasons. The following table reflects AAWC's requested acquisition adjustments and Staff's reversal of these adjustments as reflected in Schedules DWC3 and DWC-4 for each of the ten systems.

TABLE VIII

System	AAWC adjustment	Staff adjustment
Sun City West Water	$8,164,652	$(8,164,652)
Sun City West Wastewater	10,401,376	(10,401,376)
Sun City Water	9,746,553	(9,746,553)
Sun City Wastewater	5,264,640	(5,264,640)
Mohave Water	6,121,931	(6,121,931)
Havasu Water	523,302	(523,302)
Agua Fria Water	13,305,699	(13,305,699)
Anthem Water	11,045,860	(11,045,860)
Anthem/Agua Fria Wastewater	6,134,972	(6,134,972)
Tubac Water	531,184	(531,184)

Deferred Taxes and Income Tax Credits – Acquisition Net Benefit Components

Q. What treatment did Decision No. 63584 specify for the eliminated ADITs and ITCs carried on Citizens' books?

A. That Decision states (page 11), "Under the Agreement, any decision on the treatment of ADITs and ITCs will be deferred until Arizona-American seeks new rates in a future proceeding."

Q. How are the ADITs, excess deferred income taxes, and ITCs that were on Citizens' books reflected in AAWC's filing?

A. AAWC witness, Mr. Stephenson (pages 22 and/or 23) states, "It is my recommendation that the deferred taxes, excess deferred taxes, and the investment tax credit not be considered for any ratemaking purpose."

Q. What were the book amounts carried by Citizens at the time of the asset sale?

A. The amounts on Citizens' books were deferred taxes, $4,674,819; excess deferred taxes, $0; and investment tax credits, $1,910,600.

Q. Would Staff summarize the reasons AAWC opposes any rate-making treatment of deferred taxes and investment credits?

A. Yes. First, AAWC notes that these items represent a source of funds for Citizens, but not AAWC. These taxes/credits will be used by Citizens in calculating its taxable gain or loss from the sale of the assets and the related deferred tax will become due. The deferred taxes and ITCs are eliminated when the related taxes are paid. Second, the Internal Revenue Service has declared that continued rate-making recognition of deferred income taxes and income tax credits will result in the utility losing the option to use accelerated depreciation on its Federal income tax return.

Q. Does Staff agree that these are good reasons to eliminate the deferred taxes and ITCs, that were on the books of Citizens at the time of the sale of assets, from the calculation of rate base in this and future rate cases?

A. Yes. This is necessary to comply with U.S. Treasury normalization rules.

Q. Does Staff agree that these deferred taxes and ITCs should not be considered for <u>any</u> rate-making purpose?

A. No. As previously discussed, Decision No. 63584 requires AAWC to demonstrate net benefits to ratepayers to be eligible for consideration of recovery of any acquisition adjustment. The loss of deferred income taxes and ITCs increases rate base and subsequently revenue requirement. This incremental cost to ratepayers is an offsetting component to any benefits that AAWC may be able to demonstrate in calculating net benefit.

Q. What is Staff's recommendation regarding deferred taxes and investment credits that were on Citizens' books at the time of the sale of assets that were the subject of Decision No. 63584?

A. Staff recommends that these amounts not be included in the calculation of rate base in the current or any future rate case; however, these amounts should be included in the determination of any net benefit to ratepayers that AAWC may claim to support a request for recovery of any portion of its acquisition adjustment.

Q. What is Staff's recommendation regarding the acquisition adjustment?

A. Staff recommends that the Commission authorize no acquisition adjustment in the current proceeding. Staff further recommends that AAWC be ordered to exclude from future rate filings all components of the acquisition adjustment that affect revenue requirement until

AAWC demonstrates clear, quantifiable, and substantial net benefits to the affected ratepayers, in the same rate filing. Staff further recommends that AAWC be placed on notice that comparisons between its operations and those of Citizens' for the purpose of demonstrating net benefits becomes less reliable, and therefore more difficult to demonstrate, as time lapses.

OTHER ISSUES

Sun City Wastewater – Tolleson Agreement

Q. Briefly, what is the Tolleson Agreement?

A. The Sun City wastewater system does not treat its own wastewater but delivers it to the City of Tolleson wastewater treatment plant under an agreement originally signed in June 1985. The Third Amendment to this agreement was executed April 22, 2003. The Third Amendment provides for funding a five-year capital project for the City of Tolleson wastewater plant, of which, AAWC will be providing approximately $10,000,000 of the total $40,000,000 project. Additionally, the Third Amendment increases AAWC's funding for a replacement and contingency reserve to a maximum of $20,000 per month and an aggregate balance of $200,000.

Q. What is AAWC's proposed treatment of the five-year capital project and the replacement and contingency reserve payments in the instant rate case?

A. AAWC proposes to place these costs in a balancing account and recover them through a surcharge. AAWC witness Mr. Bourassa discusses the issue in his direct testimony at pages six through nine. In addition, on June 15, 2003, AAWC filed an application for an accounting order authorizing it to defer these costs (Docket No. SW-01303A-03-0375).

Q. What is the status of the accounting order docket?

A. On August 20, 2003, the Company, Staff, the Residential Utility Consumer Office, and the City of Youngtown stipulated to an agreement that allows AAWC to defer costs as amended by the Third Amendment related to the five-year capital project and the replacement and contingency reserve.

Q. What concerns does Staff have regarding the Company's proposal to place capital and reserve costs related to the Third Amendment of the Tolleson agreement in a balancing account and recover them through a surcharge?

A. It is premature to recommend treatment of the capital and reserve costs related to the Third Amendment of the Tolleson agreement until the Commission renders a decision in the accounting order case.

Surcharges are administratively inefficient. Assuming the Commission adopts the provision of the stipulated agreement regarding the accounting order that allows AAWC to defer the capital and reserve costs, Staff recommends that these costs be deferred until its next rate case. At that time, at least a good portion of these costs would be known. Deferring these costs to the next rate case places the Company in the same position as if it owned the new plant and replacements. That is, prudently incurred plant additions would be recognized in the next rate case. Therefore, deferring the capital and reserve cost related to the Third Amendment of the Tolleson agreement is the most appropriate treatment.

Q. Does this conclude your direct testimony?

A. Yes, it does.

BOZZO

BEFORE THE ARIZONA CORPORATION COMMISSION

MARC SPITZER
Chairman
JIM IRVIN
Commissioner
WILLIAM A. MUNDELL
Commissioner
JEFF HATCH-MILLER
Commissioner
MIKE GLEASON
Commissioner

IN THE MATTER OF THE APPLICATIONS OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WEST WATER AND WASTEWATER DISTRICTS, SUN CITY WATER AND WASTEWATER DISTRICTS, MOHAVE AND HAVASU WATER DISTRICTS, ANTHEM AND AGUA FRIA WATER AND WASTEWATER DISTRICTS, AND TUBAC WATER DISTRICT.	)	DOCKET NOS. WS-01303A-02-0867 WS-01303A-02-0868 W-01303A-02-0869 WS-01303A-02-0870 W-01303A-02-0908

DIRECT

TESTIMONY

OF

BRIAN K. BOZZO

ADMINISTRATIVE SERVICES OFFICER II

UTILITIES DIVISION

SEPTEMBER 5, 2003

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EXECUTIVE SUMMARY
ARIZONA-AMERICAN WATER COMPANY, INC.
DOCKET NOS. WS-01303A-02-0867, et al.

Arizona-American Water Company, Inc. ("AAWC") is a public service corporation engaged in the business of providing public utility water and wastewater service to approximately 115,000 Arizona customers.

The purpose of Mr. Bozzo's testimony is to present Staff's analysis and recommendations concerning the Company's Test Year plant and accumulated depreciation balances for the ten systems in the five rate applications consolidated in this docket. Mr. Bozzo's testimony discusses four Staff adjustments made to AAWC's recorded plant at Test Year end, December 31, 2001.

In aggregate, Staff recommends a $2,270,531 disallowance of AAWC's plant recorded at December 31, 2001, as shown in Table 1 on page 5 of this testimony. Detail of the adjustment is shown on Schedule DWC-4 for each of the ten systems.

An overview of Staff's four adjustments to recorded Test Year end plant is provided below.

Not Used and Useful Plant - In aggregate, Staff removed $1,737,746 of plant that was not used and useful in the provision of utility service.

Unidentified Plant - In aggregate, Staff removed $272,649 of plant that AAWC could not identify or locate.

Accounting Error - Misclassified Plant - This adjustment removes $171,390 from plant in the Sun City Water system to correct a misclassification of Central Arizona Project ("CAP") study costs.

Plant Removed per Decision No. 60172 - This adjustment removes $88,746 from the plant in service in the Sun City Water system to comply with Commission Decision No. 60172.

In aggregate for the ten systems, Staff reduced Accumulated Depreciation by $769,101. Detail of the adjustments are shown on Staff Schedule DWC-4 for each of the ten systems.

INTRODUCTION

Q. Please state your name and business address.

A. My name is Brian K. Bozzo. My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

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

A. I am employed by the Arizona Corporation Commission ("Commission" or "A.C.C.") in the Utilities Division ("Staff") as an Administrative Services Officer II. Until July 2003, I was employed by Staff as a Public Utilities Analyst V.

Q. Please describe your education and work experience.

A. I obtained a Bachelor of Science degree in Business Administration from the University of Arizona located in Tucson, Arizona. In 1991, I joined Staff as a rate analyst. I have been responsible for conducting case preparation/analysis and serving as a Commission witness in rate proceedings, finance authorizations and Certificate of Convenience and Necessity ("CC&N") proceedings, among others. During the course of these duties, I attended numerous seminars on utility rate-making including courses presented by the National Association of Regulatory Utility Commissioners and New Mexico State University.

Q. What Test Year was used by the Company in this filing?

A. AAWC applied a historical Test Year covering the twelve months ending December 31, 2001.

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

A. The purpose of my testimony is to present Staff's analysis and recommendations concerning the Test Year plant and accumulated depreciation balances for the ten systems

included in the five rate applications filed by Arizona-American Water Company, Inc. ("AAWC" or "Company") on November 22, 2002, and December 13, 2002, and consolidated in this docket. My testimony sets forth Staff's adjustments to plant in service and accumulated depreciation as recommended at the end of the Test Year.

Q. How is your testimony organized?

A. This introduction is followed by a summary of the general nature of Staff's adjustments to plant recorded at Test Year end. Next, I discuss each plant adjustment. Finally, I discuss Staff's adjustments to the accumulated depreciation account which correspond to Staff's plant adjustments.

Q. What other Staff members present direct testimony that incorporate your plant recommendations?

A. Mr. Darron W. Carlson incorporates my recommendations and testifies to Staff's original cost rate base ("OCRB"), revenue requirement, income taxes and other items for each of the ten systems.

Q. Did you rely on the testimony of any Staff members in formulating the plant recommendations shown in your direct testimony?

A. Yes. I relied on the direct testimony of the various Utilities Division engineering members, including Mr. Marlin Scott, Jr., Mr. John A. Chelus, Mr. Lyndon R. Hammon and Ms. Dorothy M. Hains ("Staff Engineering"). These individuals were responsible for the preparation of direct testimony and engineering reports for the various Company systems. These testimonies provide detail on recommendations for removal of "not used and useful plant" and "unidentified plant" from plant in service. These recommendations are incorporated into my plant analysis.

SUMMARY OF PLANT ADJUSTMENTS

Q. Provide a brief summary of the adjustments outlined in this testimony.

A. This testimony presents various adjustments to Test Year plant. These adjustments relate only to plant recorded at Test Year end and are separate from the post Test Year plant and rate base adjustments presented in the testimony of Mr. Darron W. Carlson. Staff's adjustments to both of these sets of plant and rate base figures are shown on Staff Schedule DWC-4 – Summary of Original Cost Rate Base Adjustments. I am sponsoring rate base adjustment nos. 1 through 4 on Schedule DWC-4 for each of the ten systems. Mr. Carlson is sponsoring rate base adjustment nos. 5 through 7. Not all adjustments affect all ten systems; therefore, nothing is shown in the systems where they do not apply.

Not Used and Useful Plant

In aggregate for the ten systems, Staff removed $1,737,746 of plant because it was not used and useful in the provision of utility services.

Unidentified Plant

In aggregate for the ten systems, Staff removed $272,649 of plant because the Company could not physically identify the plant which was reported on its list of assets.

Accounting Error - Misclassified Plant

This adjustment removes $171,390 from plant in the Sun City Water system that the Company admitted in response to a Staff data request was an accounting error and should be removed from rate base.

Plant Removed per Decision No. 60172

This adjustment removes $88,746 from the plant in service in the Sun City Water system to comply with Commission Decision No. 60172.

PLANT IN SERVICE

Q. Please summarize the Staff adjustments to Test Year Plant in Service as shown in the first four columns of Staff Schedule DWC-4.

A. In aggregate for the ten systems, Staff removed $2,270,531 from plant recorded at the end of the Test Year. Detail of the effect on specific plant accounts is shown on the Schedule DWC-4 for each of the ten systems. Table 1 below shows the aggregate amount removed for (1) not used and useful plant, (2) unidentified plant, (3) plant misclassified due to accounting error, and (4) plant removed to comply with Decision No. 60172.

TABLE 1

STAFF'S ADJUSTMENTS TO PLANT RECORDED AT TEST YEAR END

LINE NO.	TYPE OF ADJUSTMENT	AMOUNT
1.	NOT USED AND USEFUL	$ 1,737,746
2.	UNIDENTIFIED PLANT	$ 272,649
3.	ACCOUNTING ERROR - MIS-CLASSIFIED PLANT	$ 171,390
4.	PLANT REMOVED PER PRIOR DECISION	$ 88,746
5.	TOTAL	$ 2,270,531

Q. Do any of your adjustments, reflected on Schedule DWC-4, affect multiple systems?

A. Yes. The $1,737,746 adjustment related to not used and useful plant, as well as the $272,649 adjustment related to unidentified plant both affect multiple systems. The $171,390 accounting error and the $88,746 item relating to compliance with a prior decision impact the Sun City Water system only.

Rate Base Adjustment No. 1 – Not Used and Useful Plant

Q. Did Staff conduct inspections to determine whether the plant claimed in the Company's filing is used and useful for the provision of utility service.

A. Yes. These inspections revealed that not all of the plant claimed in the filing is used and useful. Staff Engineering witnesses are presenting testimonies explaining the items that were found to be not used and useful. Please see their testimonies for a description of the plant items determined to be not used and useful.

Q. Why is Staff removing plant that is not used and useful?

A. Only plant that is used and useful for the provision of utility service should be included in the cost of service.

Q. What adjustment is Staff recommending?

A. Staff recommends removing the amount shown in Table 2 below from plant. In addition, Staff recommends a $543,880 reduction to Accumulated Depreciation to correspond with the reduction to plant. These adjustments are shown on Schedule DWC-4 for each of the ten systems.

TABLE 2

NOT USED AND USEFUL PLANT

LINE NO.	TYPE OF ADJUSTMENT	AMOUNT
1.	SUN CITY WEST WATER	$ -
2.	SUN CITY WEST WASTEWATER	$ 212,082
3.	SUN CITY WATER	$ 1,370,218
4.	SUN CITY WASTEWATER	$ -
5.	MOHAVE	$ -
6.	HAVASU	$ 77,319
7.	AGUA FRIA	$ 76,503
8.	ANTHEM	$ -
9.	AA WASTEWATER	$ -
10.	TUBAC	$ 1,624
11.	TOTAL	$ 1,737,746

Rate Base Adjustment No. 2 – Unidentified Plant

Q. Did Staff's analysis identify amounts included on the Company's list of assets that it could not locate or identify?

A. Yes. Staff's analysis revealed, in aggregate for the ten systems, $272,649 of plant that the Company could not identify. Staff Engineering witnesses are presenting testimonies explaining the unidentified items.

Q. What is Staff recommending for Unidentified Plant?

A. Staff recommends removing the unidentified plant from the cost of service. Staff's adjustment would remove the amounts shown in Table 3 below from plant. In addition, Staff recommends a $109,792 reduction to Accumulated Depreciation to correspond with the reduction to plant. These adjustments are shown on Schedule DWC-4 for each of the ten systems.

TABLE 3

UNIDENTIFIED PLANT

LINE NO.	TYPE OF ADJUSTMENT	AMOUNT
1.	SUN CITY WEST WATER	$ 19,743
2.	SUN CITY WEST WASTEWATER	$ 3,367
3.	SUN CITY WATER	$ -
4.	SUN CITY WASTEWATER	$ 15,547
5.	MOHAVE	$ 233,992
6.	HAVASU	$ -
7.	AGUA FRIA	$ -
8.	ANTHEM	$ -
9.	AA WASTEWATER	$ -
10.	TUBAC	$ -
11.	TOTAL	$ 272,649

Rate Base Adjustment No. 3 – Accounting Error, Mis-Classified Plant

Q. Did Staff's review reveal an accounting error that resulted in an overstatement of plant in the Sun City Water system?

A. Yes. Staff decreased plant by $171,390 to reflect the removal of Central Arizona Project ("CAP") costs that the Company admitted were misclassified. Staff conducted discovery to determine the reasonableness of the plant amounts the Company included in the applications. This process included the composition and review of a number of data requests between Staff and the Company. In response to Staff data request BKB 26-3, a question designed to gather information about a $171,390 cost element which was included in a 1995 plant addition for Sun City Water, the Company stated the following:

> "These charges appear to have been mis-posted to capital projects and should be removed from rate base."

The Company's response identifies that the cost was not properly classified as plant and should be excluded from plant and rate base.

Q. What adjustment is Staff recommending?

A. Staff recommends a $171,390 decrease to plant in the Sun City Water system, as shown in Table 4 below, to remove CAP study costs that were misclassified. In addition, Staff recommends a $41,665 reduction to Accumulated Depreciation to correspond with the reduction in plant. This adjustment is shown on Schedule DWC-4 for the Sun City Water system.

TABLE 4

ACCOUNTING ERROR - MISCLASSIFIED PLANT

LINE NO.	TYPE OF ADJUSTMENT	AMOUNT
1.	SUN CITY WEST WATER	$ -
2.	SUN CITY WEST WASTEWATER	$ -
3.	SUN CITY WATER	$ 171,390
4.	SUN CITY WASTEWATER	$ -
5.	MOHAVE	$ -
6.	HAVASU	$ -
7.	AGUA FRIA	$ -
8.	ANTHEM	$ -
9.	AA WASTEWATER	$ -
10.	TUBAC	$ -
11.	TOTAL	$ 171,390

Rate Base Adjustment No. 4 – Plant removed to comply with Decision No. 60172

Q. Did the Company's filing reflect previous Commission disallowances of plant?

A. Yes. Decision No. 60172 removed $88,746 from Account #314, Wells and Springs, related to an observation well. An $88,746 reduction was recorded in the plant records but reinstated in a later year.

Q. What adjustment is Staff recommending?

A. As shown on Table 5 below, Staff recommends an $88,746 decrease to plant in the Sun City Water system to comply with Decision No. 60172. In addition, Staff recommends a $33,764 reduction to Accumulated Depreciation to correspond with the reduction to plant. This adjustment is shown on Schedule DWC-4 for the Sun City Water system.

TABLE 5

PLANT REMOVED PER DECISION NO. 60172

LINE NO.	TYPE OF ADJUSTMENT	AMOUNT
1.	SUN CITY WEST WATER	$ -
2.	SUN CITY WEST WASTEWATER	$ -
3.	SUN CITY WATER	$ 88,746
5.	MOHAVE	$ -
6.	HAVASU	$ -
7.	AGUA FRIA	$ -
8.	ANTHEM	$ -
9.	AA WASTEWATER	$ -
10.	TUBAC	$ -
11.	TOTAL	$ 88,746

Q. Does this conclude your direct testimony regarding plant and accumulated depreciation?

A. Yes, it does.

IGWE

BEFORE THE ARIZONA CORPORATION COMMISSION

MARC SPITZER
Chairman
JIM IRVIN
Commissioner
WILLIAM A. MUNDELL
Commissioner
JEFF HATCH-MILLER
Commissioner
MIKE GLEASON
Commissioner

IN THE MATTER OF THE APPLICATIONS OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WEST WATER AND WASTEWATER DISTRICTS, SUN CITY WATER AND WASTEWATER DISTRICTS, MOHAVE AND HAVASU WATER DISTRICTS, AGUA FRIA AND ANTHEM WATER AND WASTEWATER DISTRICTS, AND TUBAC WATER DISTRICT	)	DOCKET NOS. WS-01303A-02-0867 WS-01303A-02-0868 W-01303A-02-0869 WS-01303A-02-0870 W-01303A-02-0908

DIRECT

TESTIMONY

OF

ALEXANDER IBHADE IGWE, CPA

PUBLIC UTILITIES ANALYST IV

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

SEPTEMBER 5, 2003

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ARIZONA-AMERICAN WATER COMPANY, INC.
DOCKET NOS. WS-01303-02-0867, ET AL.

For the ten systems consolidated in this proceeding, Arizona-American Water Company, Inc.'s ("AAWC" or "Company") seeks to eliminate $3,181,235 of Citizens recorded test year corporate overhead expenses. The Company claims that Citizens' costs no longer represent the overhead expenses necessary to operate the ten systems on a going-forward basis. In its place, the Company proposes to substitute $4,624,940 of Service Company charges and $3,136,118 of projected additional expenses, a total of $7,761,058, for Citizens' test year overhead expenses. The Company's proposal is based on extrapolation from costs incurred between April and July 2002, a period outside of the test year. Staff recommends rejecting the Company's proposed pro forma adjustment because the projected overhead expenses are not known and measurable, create a mismatch between test year revenues, expenses and rate base and increase corporate overhead by $4,579,823 without commensurate benefits to ratepayers.

Similarly, in aggregate for the ten systems, AAWC proposes to substitute $3,736,791 of its projected salaries, wages and related expenses for $4,312,389 of Citizens' recorded test year expenses. Although AAWC's proposal results in a decrease of $575,598 to operating expenses, Staff recommends denying the adjustment because the Company's projected costs are not known and measurable and create a mismatch with test year revenues, other expenses and rate base.

For the Anthem and Agua Fria water systems, the Company proposes to substitute its projected purchased water expenses for Citizens' recorded costs. The Company derived its proposed purchased water expenses for Anthem and Agua Fria by multiplying the projected quantity for each system by 2002 costs per acre-foot. The Company's proposal creates a mismatch between revenues and expenses because it only reflects the increase in purchased water expense without a corresponding increase in revenues for the additional projected quantity sold. Staff recommends purchased water expense which recognizes 2001 volume at 2002 rates, since 2002 rates are a known and measurable change.

Staff also recommends adjustments to depreciation expense, property taxes and income taxes.

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. By whom are you employed and in what capacity?

A. I am employed by the Utilities Division of the Arizona Corporation Commission ("Commission") as a Public Utilities Analyst IV.

Q. Briefly summarize your educational and professional qualifications related to your responsibility in the field of utility regulation.

A. I hold 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 am a Certified Public Accountant and a member of the American Institute of Certified Public Accountants ("AICPA"). I have attended training classes and courses regarding regulatory audits, rate-making, and other utility related matters. In addition, in my five years working for the Utilities Division of the Commission ("Staff"), I have prepared Staff Reports and prefiled testimonies and presented oral testimonies in water, gas and electric utility rate and finance proceedings before the Commission.

PURPOSE OF TESTIMONY

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

A. I am presenting the Utilities Division Staff's analysis and recommendations for test year operating revenues and expenses regarding each of the ten utility systems in the five

divisions of Arizona-American Water Company, Inc.'s ("AAWC" or "Company") consolidated application for a permanent change in rates.

Q. What are Staff's adjusted test year, and the Company's reported test year, operating income results in aggregate for the ten systems?

A. In aggregate for the ten systems, Staff's adjusted test year results show revenues of $35,351,457, expenses of $29,609,024, and an operating income of $5,742,433 for a 6.26 percent rate of return on an original cost rate base ("OCRB") of $91,719,544. The Company's test year results for the ten systems, as filed, show revenues of $35,351,457, expenses of $30,964,305 and operating income of $4,387,152 for a 2.69 percent rate of return on test year original cost rate base ("OCRB") of $162,938,016.

SUMMARY OF ADJUSTMENTS

Q. Please summarize the adjustments addressed in Staff's revenue and expense testimony.

A. Staff's analysis addresses the following adjustments:

Corporate Cost Allocations

In aggregate for the ten systems, Staff's corporate cost allocation adjustment decreases operating expenses by $4,579,823. It reverses AAWC's pro forma adjustment to remove $3,181,235 of Citizens' recorded test year corporate cost allocations to the ten systems and replaces them with $4,624,940 of projected Service Company charges and $3,136,118 of projected additional expenses. AAWC's projected overhead expenses are not known and measurable. They were derived by an extrapolation from costs incurred outside the test year for the period April through July 2002 creating a mismatch between test year revenues, expenses and rate base. The Company proposal is also inappropriate because it

increases total operating expenses by $4,579,823 without a commensurate benefit to ratepayers.

Salaries, Wages and Related Expenses

In aggregate for the ten systems, this adjustment decreases operating expenses by $575,598. It eliminates the Company's pro forma adjustment to substitute $3,736,791 of its projected salaries, wages and related expenses for $4,312,389 of Citizens' recorded test year expenses. AAWC's proposal is based on an extrapolation of costs incurred outside the test year. It is not known and measurable and creates a mismatch between revenues, expenses and rate base.

Depreciation Expense

For the ten systems, this adjustment results from Staff's application of Commission approved depreciation rates to Staff's recommended plant in service. It adjusts for amortization of contributions-in-aid-of-construction ("CIAC") and the amortization of deferred regulatory assets. It eliminates AAWC's pro forma adjustment to recognize amortization of the acquisition adjustment related to the purchase of the ten systems from Citizens Communications, Inc. ("Citizens").

Property Taxes

For each of the ten systems, this adjustment reflects Staff's recomputation of property taxes based on an adaptation of the Arizona Department of Revenue's ("ADOR)" Centrally Valued Properties methodology. This adjustment results mainly from Staff's calculation of average revenues for the historical period based on two times the adjusted test year revenues and Staff's recommended revenues instead of the Company's use of its

test year revenues, adjusted test year revenues and proposed revenues for calculation of average revenues.

Income Taxes

This adjustment reflects the impact of Staff's other adjustments to test year expenses.

Purchased Water Expense

This adjustment was made to remove a mismatch between quantity of water purchased and sold in the Company's pro forma adjustment for the Anthem and Agua Fria systems.

OPERATING INCOME

Q. How is Staff's testimony on operating income organized?

A. Staff's testimony on operating income discusses each issue for which an adjustment is recommended collectively for the ten systems. Additionally, interrelated adjustments are discussed together under the same heading to present a more cohesive understanding of the net effect. For example, AAWC's proposal to replace Citizens' corporate cost allocation with its proposed Service Company Charges and projected additional expenses are discussed under the heading corporate cost allocations. Similarly, Staff's adjustment to the Company's proposal to substitute its projected salaries, wages and related expenses for Citizens' test year salaries, wages and related expenses are discussed under a common heading titled salaries and wages. Although, related adjustments are discussed collectively, each adjustment is shown separately on Staff's schedules. Staff's schedules are organized so that all schedules related to any one of the ten systems are presented together as a set. Thus, the operating income schedules for each system are presented along with revenue requirement, rate base and rate design schedules for each of the ten

respective systems so that all of the schedules pertaining to a particular system are in succession.

REVENUES

Q. Did Staff review AAWC's proposed test year revenue for each of the ten systems?

A. Yes. For each of the ten systems, Staff reviewed AAWC's test year revenues and Staff has adopted them.

EXPENSES

CORPORATE COST ALLOCATIONS

Summary of Corporate Cost Allocations

Q. Would Staff please provide an overview explaining AAWC's multiple pro forma adjustments pertaining to corporate cost allocations for the ten systems in its filings?

A. Yes. In aggregate for the ten systems, AAWC proposes to remove $3,181,235 of corporate costs recorded by Citizens in the test year and replace these costs with $4,624,940 of estimated costs from its affiliate ("Service Company") and $3,138,118 of projected overhead expenses. The Company's proposal results in a $4,579,823 net increase to corporate expenses, as shown on Table I, line 11 below.

TABLE I

AAWC's PRO FORMA ADJUSTMENTS FOR CORPORATE COST ALLOCATIONS

	SYSTEM	CITIZENS[1] RECORDED	SERVICE[2] COMPANY	PROJECTED[3] OVERHEAD	TOTAL
1	SUN CITY WATER	($741,540)	$ 926,122	$ 860,980	$ 1,045,562
2	SUN CITY WASTE WATER	($437,588)	$ 522,586	$ 320,555	$ 405,553
3	SUN CITY WEST WATER	($366,251)	$ 515,886	$ 300,468	$ 450,103
4	SUNCITY WEST WASTE WATER	($448,109)	$ 552,478	$ 332,507	$ 436,876
5	ANTHEM/AGUA FRIA WASTE WATER	($83,978)	$ 287,577	$ 146,553	$ 350,152
6	AGUA FRIA WATER	($385,897)	$ 713,274	$ 324,638	$ 652,015
7	ANTHEM WATER	($188,806)	$ 472,080	$ 300,995	$ 584,269
8	MOHAVE WATER	($436,643)	$ 521,040	$ 445,434	$ 529,831
9	HAVASU WATER	($64,494)	$ 75,244	$ 70,882	$ 81,632
10	TUBAC WATER	($27,929)	$ 38,653	$ 33,106	$ 43,830
11	AAWC's PRO FORMA ADJUSTMENTS TO OPERATING EXPENSES	**($3,181,235)**	**$4,624,940**	**$3,136,118**	**$4,579,823**
12	OPERATING EXPENSES CAPITALIZED	**($500,000)**	$0	$0	**($500,000)**
13	TOTAL AAWC PRO FORMA ADJUSTMENTS	($3,681,235)	$4,624,940	$3,136,118	$4,079,823

(1) AAWC's pro forma adjustment No. 1
(2) AAWC's pro forma adjustment No. 3
(3) AAWC's pro forma adjustment No. 10

Operating Income Adjustment Nos. 1, 2 and 3 – Corporate Cost Allocations, Service Company Charges & Projected Additional Expenses

Q. Please explain why AAWC's $3,681,235 of pro forma adjustments to reduce Citizens' test year corporate cost allocations only resulted in a $3,181,235 reduction to operating expenses?

A. As shown on Table I, AAWC's proposed adjustment includes a $3,181,235 removal of Citizens' recorded test year overhead expenses and a $500,000 reclassification from operating expense to rate base. The $500,000 reclassification pertains to an expenditure in the Sun City wastewater system for the Tolleson trickling filter. Thus, AAWC's proposed adjustment to remove $3,681,235 of Citizens' test year corporate overhead expenses

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11	**AAWC's PRO FORMA ADJUSTMENTS TO OPERATING EXPENSES**	**($3,181,235)**	**$4,624,940**	**$3,136,118**	**$4,579,823**
12	OPERATING EXPENSES CAPITALIZED	($500,000)	$0	$0	($500,000)
13	TOTAL AAWC PRO FORMA ADJUSTMENTS	($3,681,235)	$4,624,940	$3,136,118	$4,079,823

(1) AAWC's pro forma adjustment No. 1
(2) AAWC's pro forma adjustment No. 3
(3) AAWC's pro forma adjustment No. 10

Operating Income Adjustment Nos. 1, 2 and 3 – Corporate Cost Allocations, Service Company Charges & Projected Additional Expenses

Q. Please explain why AAWC's $3,681,235 of pro forma adjustments to reduce Citizens' test year corporate cost allocations only resulted in a $3,181,235 reduction to operating expenses?

A. As shown on Table I, AAWC's proposed adjustment includes a $3,181,235 removal of Citizens' recorded test year overhead expenses and a $500,000 reclassification from operating expense to rate base. The $500,000 reclassification pertains to an expenditure in the Sun City wastewater system for the Tolleson trickling filter. Thus, AAWC's proposed adjustment to remove $3,681,235 of Citizens' test year corporate overhead expenses

consists of a $500,000 reclassification from expense to rate base and a $3,181,235 elimination of Citizens recorded test year corporate overhead expense.

Q. What is AAWC's explanation for its pro forma adjustments to eliminate Citizens' recorded test year overhead expenses from the operating expenses of its ten systems?

A. The Company's witness, Mr. Bourassa, claims in his testimony that with the transfer of Citizens' systems to AAWC, Citizens' corporate expenses do not reflect the expenses of AAWC on a going-forward basis. In addition, the Company's witness, Mr. Stephenson, states in his testimony that "...these expenses pertain to Citizens' management fees of Citizens' assets in Arizona, not expenses that will be incurred under the ownership and management of Arizona-American." See Stephenson's Direct Testimony, page 15, lines 5 through 7.

Q. Are the Company's justifications for its pro forma adjustments to eliminate Citizens' corporate cost allocations consistent with sound rate-making principles?

A. No. The Company's pro forma adjustments eliminate actual test year corporate costs. The Company has not shown that the recorded test year corporate overhead amounts are insufficient with efficient management. In addition, the Company has not demonstrated that its proposal would result in a normal or more realistic relationship between revenues, expenses and rate base. Unless the Company can demonstrate otherwise, its pro forma adjustment to eliminate Citizens' corporate cost allocations is inconsistent with the historical test year convention and it creates a mismatch between test year revenues, expenses and rate base for each system. Therefore, the Company's corporate cost allocation is inconsistent with sound rate-making principles.

Q. Is the Company reclassification to capitalize costs for the Tolleson trickling filter in the Sun City wastewater system from operating expenses to rate base consistent with generally accepted accounting principles ("GAAP")?

A. Yes. The Company asserts that, "Because these payments have already been made for a capital item, the total $500,000 should be considered a capitalized investment and spread over the remaining term of the Agreement with Tolleson. This payment to Tolleson is for the benefit of present and future ratepayers and as such these present and future ratepayers should share in the costs." Under GAAP, a cost should be attributed to the periods benefited. Therefore, the Company's justification for capitalizing and method of amortizing the Tolleson trickling filter costs is consistent with GAAP and should be accepted. Staff recommends approval of the Company's proposal to capitalize $500,000 of Tolleson trickling filter cost.

Q. What does Staff recommend for AAWC's corporate cost?

A. As shown on Schedule AII-3 for each system, Staff recommends denial of AAWC's pro forma adjustment to eliminate $3,181,235 of Citizens' test year corporate cost allocations from this proceeding. Staff recommends actual test year expenses.

Q. What is AAWC's proposal regarding Service Company charges?

A. As shown on Schedule C-2, Adjustment 3, of AAWC's filings, the Company proposes to substitute its estimated Service Company charges for Citizens' test year corporate cost allocations. The Company's proposed Service Company charges for the ten systems total $4,624,940.

Q. How did AAWC derive its proposed Service Company charges?

A. Mr. Stephenson testifies that the proposed Service Company charges were derived by using AAWC's actual recorded costs incurred between April and July of 2002, a period outside of the test year. The Company states that its average monthly charge for the period between April and July 2002 was $429,476. Its proposed annual Service Company charges of $5,153,711 were derived by multiplying the average monthly Service Company charge of $429,476 (for the period April through July of 2002) by 12 months. The Company claims that it excluded the months of January through March from its monthly average Service Company charge because they either were not full months, due to finalization of the acquisition (January), or they do not accurately reflect normal cost allocations from the Service Company (February and March).

Q. Did the Company explain how it allocated Service Company charges to the ten systems?

A. Yes. The Company allocated its total proposed Service Company charges based on a four-factor method. The four-factor method consists of plant in service, general metered customers, salaries and wages and direct operating and maintenance expenses. AAWC claims that the four factors used in this allocation are representative and produce the benefits that each system would receive from its Service Company.

Q. Did the Company provide any justification for its proposal to substitute estimated Service Company charges for Citizens' test year corporate cost allocations?

A. Yes. The Company claims that Citizens' test year corporate cost allocations must be removed and substituted with AAWC's projected Service Company charges because Citizens' costs are no longer representative of its overheads, on a going-forward basis. Mr. Stephenson contends in his testimony that, "These expenses must be removed and

replaced by current annualization of Service Company charges in order to provide an accurate presentation of known and measurable expenses that are occurring now and will occur on a going-forward basis in the future."

Q. Are AAWC's reasons for substituting its projected Service Company charges for Citizens' actual test year corporate cost allocations consistent with sound rate-making principles?

A. No. First, AAWC's Service Company charges are extrapolations based on expenses incurred between April and July 2002, a period outside of the test year. The annual estimate is not an actual cost and the Company did not demonstrate that the expenses incurred in these four months are representative of AAWC's average costs for the year. Second, these costs were not incurred in the test year, thus creating a mismatch between test year revenues, operating expenses and rate base.

Third, AAWC's proposal to substitute $4,624,940 of its Service Company charges and $3,136,118 of its projected overheads, for $3,181,235 of Citizens' Corporate cost allocations, increases total corporate cost allocations for the ten systems by $4,579,823. Ratepayers should not be burdened with additional overhead simply due to change in ownership. AAWC has not demonstrated that its proposed increase in overheads provides any commensurate benefits to ratepayers. Ratepayers should be held harmless if AAWC overhead costs are greater than Citizens due to less efficient operation.

Q. What is Staff's recommendation regarding AAWC's pro forma adjustments to substitute its Service Company charges for Citizen's corporate cost allocations?

A. As shown on Schedule AII-4, for each system, Staff recommends rejecting AAWC's pro forma adjustments to substitute AAWC's Service Company charges for Citizen's corporate cost allocations. Staff recommends using Citizens' actual test year figure.

Q. What is AAWC requesting in its filings regarding projected additional expenses?

A. As shown on AAWC's Schedule C-2, adjustment 10, the Company proposes to include projected additional expenses in its revenue requirement. The projected expenses consist of general insurance, employee group insurance, 401(K) costs, employee incentives, customer notifications, training, bank service charges, etc. In aggregate for the ten systems, AAWC proposes to include in its revenue requirement $3,136,118 of these projected expenses over the amount recorded in the test year.

Q. How did AAWC derive its proposed amount for projected expenses?

A. AAWC derived the amount for projected expenses by extrapolating its monthly average costs incurred between April and July 2002 over a 12-month period. The method used to derive its projected additional expenses is similar to that utilized in determining its proposed Service Company charges.

Q. Has the Company demonstrated benefits to ratepayers commensurate with the amount of its projected expenses?

A. No.

Q. What is AAWC's justification for its projected additional expenses?

A. The Company claims that its projected expenses consist of new corporate overhead expenses that are necessary to operate the ten systems filed in this proceeding. AAWC contends that its projected additional expenses as well as its projected Service Company charges are more representative of the overheads necessary to operate the tens systems, on a going-forward basis.

Q. Is the Company's justification for its request to increase overheads by $3,136,118 consistent with sound rate-making principles.

A. No. As previously explained above, AAWC's projected expenses were derived by extrapolating the average costs incurred between April and July 2002 to a 12-month period to provide an annualized amount. It is not known that these costs are representative of average costs over a 12-month period. These projected expenses were derived from costs incurred outside the test year, creating a mismatch. In addition, the Company has not demonstrated benefits commensurate with its $3,136,118 projected incremental expenses.

Q. What is Staff recommending regarding the Company's projected additional expenses?

A. Staff recommends denying the Company's pro forma adjustments to include $3,136,116 of projected overhead expenses not incurred in the test year in its revenue requirement. As shown on Schedule AII-5, for each system, Staff removed AAWC's pro forma adjustment for projected additional expenses.

Q. Please summarize Staff's recommendations regarding corporate cost allocations.

A. Staff recommends denying the Company's proposal to increase its total corporate costs allocations by $4,579,823. Staff recommends rejecting AAWC's pro forma adjustments

to eliminate Citizens' test year recorded corporate overhead cost of $3,181,325 and to replace it with $4,624,940 of extrapolated Service Company charges and $3,136,118 of extrapolated projected additional overhead costs, resulting in a $4,579,823 net increase to corporate overhead expenses. For each of the ten systems, Staff's adjustments to remove AAWC's pro forma adjustments are shown on Schedules AII-3. AII-4 and AII-5 as adjustment numbers 1, 2 and 3, respectively.

SALARIES, WAGES AND RELATED EXPENSES

Operating Income Adjustment Nos. 4 and 5

Q. Please provide an overview of AAWC's two pro forma adjustments pertaining to salaries, wages, and related expenses for the ten systems in this filing?

A. AAWC proposes to remove across the ten systems $4,312,389 of test year salaries, wages and related expenses recorded by Citizens and replace it with $3,312,791 of salaries, wages and related expenses AAWC projects to incur. The Company's proposal results in $575,598 net decrease in salary, wages, and related expenses as shown on Table II.

TABLE II

AAWC'S PRO FORMA ADJUSTMENTS FOR SALARIES, WAGES AND RELATED EXPENSES

	SYSTEM	CITIZENS[1] RECORDED	AAWC[2] PROJECTED	TOTAL
1	SUN CITY WATER	($948,649)	$796,513	**($152,136)**
2	SUN CITY WASTE WATER	($357,570)	$96,303	**($261,267)**
3	SUN CITY WEST WATER	($396,788)	$375,805	**($20,983)**
4	SUNCITY WEST WASTE WATER	($740,226)	$481,323	**($258,903)**
5	ANTHEM/AGUA FRIA WATSE WATER	($152,759)	$227,320	**$74,561**
6	AGUA FRIA WATER	($459,186)	$546,577	**$87,391**
7	ANTHEM WATER	($450,680)	$400,165	**($50,515)**
8	MOHAVE WATER	($652,224)	$621,259	**($30,965)**
9	HAVASU WATER	($67,795)	$127,053	**$59,258**
10	TUBAC WATER	($86,512)	$64,473	**($22,039)**
	TOTAL	**$(4,312,389)**	**$3,736,791**	**($575,598)**

(1) AAWC's pro forma adjustment No. 2
(2) AAWC's pro forma adjustment No. 4

Q. How did AAWC derive its projected salaries, wages and related expenses?

A. AAWC derived its projected salaries, wages, and related expenses by extrapolating its average monthly costs incurred between April and July 2002 to the 12-month period of January to December of 2002.

Q. Are AAWC's projected salaries, wages, and related expenses known and measurable?

A. No. AAWC's projected salaries, wages, and related expenses are not known and measurable because they are based on costs incurred between April and July 2002. These

projected expenses were derived from costs incurred outside the test year creating a mismatch. Further, the Company has not shown that the costs incurred for April through July 2002 are representative of the true costs over the 12-month period.

Q. Are the Company's proposed pro forma adjustments to salaries, wages and related expenses consistent with sound rate-making principles?

A. No. The Arizona Administrative Code ("AAC") requires the use of a historic test year for establishing revenues, operating expenses and rate base in a rate proceeding, with allowance for pro forma adjustments to obtain a normal or more realistic relationship between revenues, expenses and rate base. A normal or more realistic adjustment includes one that is known and measurable. The Company's proposal is not based on known and measurable changes.

In its response to Staff's data request AII 11-1, the Company stated that there have been no changes to employee salary structure since it acquired Citizens' water and wastewater assets in Arizona. The Company stated that all employees were hired by AAWC at the same wage rate that Citizens paid them, except for an increase of $35,152 relating to higher pay rates for Messrs Jones, Kuta and Biesemeyer. Also, AAWC stated in its response to Staff data request AII 21-7, that it capitalizes 15 percent - 20 percent of Messrs Jones, Kuta and Biesemeyer's salaries, wages and related expenses and allocates the balance to the ten systems based on three-factors.

Q. Could the portion of $35,152 increase to salaries, wages and related expenses that was not capitalized reasonably be considered a known and measurable pro forma adjustment?

A. Yes. Assuming there is no change in the employees' duties and the compensation is reasonable, the portion of the $35,152 increase to salaries, wages and related expenses that was not capitalized could reasonably be considered a known and measurable change to test year results. However, Staff did not make this adjustment since the amount is not significant when distributed over the ten systems.

Q. What is Staff recommending?

A. Staff recommends rejecting AAWC's pro forma adjustments to substitute its projected salaries, wages, and related expenses for Citizens' recorded test year expenses, as shown on Schedules AII-6 and AII-7, adjustment nos. 4 and 5, for each of the ten systems.

Operating Income Adjustment No. 6 - Depreciation Expense

Q. What are the components of the Company's proposed depreciation expense?

A. As shown on Schedule C-2, page 6, of each of the ten systems, the Company's proposed depreciation expense consists of test year depreciation expense plus pro forma adjustments to recognize depreciation on post test year plant additions, amortization of the acquisition adjustment related to the purchase of the ten systems from Citizens Communications, Inc. ("Citizens"), the amortization of contributions in aid of construction ("CIAC") and the amortization of deferred regulatory assets.

Q. How did AAWC calculate each component of its proposed depreciation expense for each of the ten systems?

A. AAWC calculated test year depreciation expense by multiplying the original cost of its depreciable test year plant in service by the depreciation rates approved in the prior rate proceeding. The Company calculated pro forma depreciation expense on post test year plant additions by multiplying the total value of its post test year plant additions by the composite depreciation rate on test year plant in service. Similarly, the Company calculated amortization of Citizens' acquisition adjustment and amortization of deferred regulatory assets based on the composite depreciation rate of test year plant in service. The amortization of CIAC was derived by multiplying the original cost by 10 percent, consistent with Decision No. 63584. The Company correctly deducted the amortization of CIAC from the sum of the other components to derive the depreciation expense included in its cost of service.

Q. Did Staff recompute the Company's depreciation expense for each of the ten systems?

A. Yes. Staff recomputed depreciation expense based on Staff's recommended total plant in service and Commission approved depreciation rates. Staff used the same methodology as AAWC to calculate depreciation expense. Staff's calculation differs from the Company's due to the use of Staff's recommended plant in service, which is different than the Company's, and excludes any amount related to the amortization of Citizens' acquisition adjustment.

Q. Why did Staff remove all amounts related to the amortization of Citizens' acquisition adjustment from depreciation expense?

A. Excluding amortization of Citizens' acquisition adjustment from depreciation expense conforms to Staff's recommendation, as discussed in the testimony of Staff witness Mr. Darron Carlson, that the Company has not met the criteria established in Decision No. 63584 for recovery of the acquisition adjustment.

Q. What is Staff's recommendation regarding depreciation expense?

A. Staff recommends depreciation expense shown on Schedule AII-8, for each of the ten systems, consistent with Staff's recommended plant and Staff's recommendation to reject AAWC's proposal to recognize Citizens acquisition adjustment.

Operating Income Adjustment No. 7 – Property Taxes

Q. What is the Company proposing regarding property taxes?

A. The Company is proposing property taxes derived by employing an adaptation of the Arizona Department of Revenue's ("ADOR)" Centrally Valued Properties method. The Company's proposed property taxes are shown on AAWC's Schedule C-2, page 7 for each of the ten systems.

Q. Does the ADOR's Centrally Valued Properties Method provide an acceptable basis for determining property taxes in Arizona?

A. Yes. Staff has developed and used an acceptable adaptation of this method for determining property tax expense. Staff agrees with the Company's description of the method.

Q. Please comment on the computation of property taxes using the ADOR method.

A. The ADOR method begins with the calculation of the average revenue for three historical years. The calculated average revenue is a major component used in the determination of property taxes in the ADOR methodology. For rate-making purposes, using only historical revenues to calculate property taxes to include in the cost of service fails to capture the effects of future revenue from new rates and it results in an understatement/(overstatement) of property tax expense for going-forward property taxes.

Staff uses adjusted test year revenues twice and Staff's recommended revenues once to calculate the three-year average for use in the ADOR method. Staff's method provides a better estimate of property taxes. The Company's method is different from Staff's in that it uses actual and adjusted test year revenues combined with proposed revenues to calculate a three-year average revenue. Thus, to the extent actual and adjusted test year revenues are different, there is a difference in Staff's and the Company's property tax calculation. Similarly, the difference between Staff's recommended revenue and the Company's proposed revenue will result in a difference in the property tax calculation.

Q. Please explain Staff's computation of test year property taxes.

A. Staff used the ADOR method in determining property taxes. Staff derived a three-year average for each system by multiplying Staff's adjusted test year revenues by two (2) and adding the result to Staff's recommended revenues and then dividing the total by three. The three-year average was multiplied by a factor of two to yield an income value indicator for each system. Then, Staff derived the cash assessed valued by adding 10 percent of CWIP and subtracting the net book value of licensed vehicles. Finally, Staff multiplied the cash assessed value by the assessment ratio and then by the composite

property tax rate for each system. Staff's property tax calculation are shown on Schedule AII-9 for each system

Operating Income Adjustment No. 8 - Income Taxes

Q. What is the Company proposing for test year incomes taxes?

A. Schedule C-1 of the Company's filings show test year incomes taxes for each of the ten systems.

Q. Did the Company provide a schedule depicting its computation of income taxes?

A. Yes. Schedule C-3, page 1, of the Company's filing shows the federal tax rate as 34 percent, state tax rate as 6.97 percent and an effective combined tax rate of 38.5989 percent.

Q. Does Staff agree with the Company's calculated tax rate of 38.5989 percent as the applicable combined federal and state tax rate?

A. Yes. As shown on Schedule DWC-2, line 17, Staff confirmed that the combined effective federal and state income tax rate is 38.5989 percent.

Q. Did Staff prepare a schedule showing the computation of income taxes?

A. Yes. Staff's computation of income taxes is shown on Schedule DWC-2 for each of the ten systems.

Q. What is Staff recommending for test year income taxes?

A. Staff is recommending test year income taxes shown on Schedules DWC-2 and AII-1, for each of the ten systems consistent with Staff's adjusted test year taxable income.

Operating Income Adjustment No. 9 - Purchased Water

Q. What purchased water expense is AAWC proposing in its filings for Anthem Water Company ("Anthem") and Agua Fria Water Company ("Agua Fria")?

A. AAWC proposes $211,055 of purchased water expense for Anthem and $382,700 for Agua Fria.

Q. How did AAWC derive its proposed purchased water expenses for Anthem and Agua Fria?

A. The Company derived its proposed purchased water expense for both systems by applying a 2002 cost per acre-foot to the quantity ordered for 2002. For example, the Company derived its proposed purchased water expense for Anthem, in the amount of $211,055, by multiplying the quantity ordered for 2002, (3,247 acre-feet) by $65, the projected cost per acre-foot for 2002. Similarly, the proposed purchased water expense for Agua Fria, in the amount of $382,700 was derived by multiplying the quantity ordered for 2002 (4,300 acre-feet) by $89, the projected net cost per acre-foot for 2002.

Q. Does AAWC's calculation of purchased water expense for Anthem and Agua Fria provide a fair matching of revenues and expenses?

A. No. The Company is proposing a purchased water expense based on the 2002 purchase quantity, causing a mismatch with the 2001 test year revenues. The Company purchased a greater quantity of water in 2002 than in the test year. The greater purchase quantity and cost for 2002 can only be properly matched with the corresponding greater volume of sales in 2002. In order words, the Company's proposal does not recognize the additional water purchases in sales revenue. Adjusting test year purchased water expense for current price is appropriate to reflect a known and measurable change in the unit cost. Adjusting purchased water expense for 2002 purchase volumes results in an overstatement of the

cost of service. The proper calculation applies the current cost per acre-foot to the test year purchased volume.

Q. Did Staff recalculate purchased water expense for Anthem and Agua Fria?

A. Yes. Staff recalculated purchased water expense for both systems by applying the 2001 test year quantity to the 2002 cost per acre-foot. Staff's recomputed purchased water expense reflects a known and measurable change in the unit cost of purchased water and removes the mismatch between the test year and 2002 volumes.

Q. What is Staff recommending?

A. As shown on Schedule AII-11, Staff recommends purchased water expense for Anthem and Agua Fria based on test year quantities purchased adjusted for a known and measurable change in the cost per acre-foot.

Q. Does this conclude your direct testimony?

A. Yes, it does.

ROGERS

BEFORE THE ARIZONA CORPORATION COMMISSION

MARC SPITZER
Chairman
JIM IRVIN
Commissioner
WILLIAM A. MUNDELL
Commissioner
JEFF HATCH-MILLER
Commissioner
MIKE GLEASON
Commissioner

IN THE MATTER OF THE APPLICATIONS OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WEST WATER AND WASTEWATER DISTRICTS, SUN CITY WATER AND WASTEWATER DISTRICTS, MOHAVE AND HAVASU WATER DISTRICTS, AGUA FRIA AND ANTHEM WATER AND WASTEWATER DISTRICTS, AND TUBAC WATER DISTRICT	DOCKET NOS. WS-01303A-02-0867 WS-01303A-02-0868 W-01303A-02-0869 WS-01303A-02-0870 W-01303A-02-0908

DIRECT

TESTIMONY

OF

DENNIS R. ROGERS

PUBLIC UTILITIES ANALYST IV

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

SEPTEMBER 5, 2003

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ARIZONA-AMERICAN WATER COMPANY, INC.
DOCKET NO. WS-01303-02-0867 ET AL.

On November 22 and December 13, 2002, Arizona-American Water Company, Inc. ("AWWC" or "Company") filed general rate applications for five of its districts that included seven water systems and three wastewater systems. AAWC provides potable water, irrigation water, and wastewater services to approximately 115,000 customers in Arizona. The testimony of Mr. Dennis R. Rogers presents Staff's recommended rate designs for each of the seven water and three wastewater systems.

Water

All of the present water system rate designs are based on minimum monthly charges that increase by meter size. Four systems have a separate customer class for private fire protection and one system has a separate irrigation class. Five systems include no gallons in the minimum charge, one system includes 1,000 gallons, and one system includes 1,000 gallons for some customers and 2,000 gallons for others. Three systems have flat commodity rates and four systems have an inverted two-tier commodity rate structure with a break over point between tiers at 8,000 gallons. One system has summer and winter rates. In two systems multi-unit housing customers are billed a monthly minimum charge equal to the monthly minimum charge for a 5/8 x 3/4 –inch meter times the number of housing units. The multi-unit rates are the subject of customer complaints.

AWWC proposes to increase rates uniformly so that all customers for a particular water system, regardless of class or use, receive the same percentage increase in their monthly bill. The Company also proposes a two-step phase in of its proposed rates to mitigate the impact of its proposed revenue increase. Phase one would become effective immediately following a Commission decision and phase two, 12 months later. The first phase increase would be the lesser of the total proposed increase or 40 percent over current rates. For those systems with proposed increases exceeding 40 percent, the phase two increase would be for the balance. AWWC proposed a low income tariff for two systems.

Staff recommends an inverted three-tier commodity rate structure with monthly minimum charges that increase by meter size and no gallons included. Staff's rate design recognizes the growing importance of managing water as a finite resource and promotes a reduction in average use in the long term. Staff's rate structure provides a low income assistance benefit to customers that limit consumption. The two-step phase in of rates is unnecessary with Staff's substantially lower recommended revenue requirement for each system. Staff's three-tier rate structure renders seasonal rates unnecessary. The 5/8" meter median monthly residential bills and dollar and percent change by water system are as follows:

Sun City Water: Median Residential Bill is $13.22, an increase of $3.11, (30.81 percent)

Sun City West Water: Median Residential Bill is $12.05, an increase of $1.47, (13.94 percent)

Mohave Water: Median Residential Bill is $14.20, a decrease of $3.33, (19.00 percent)

Havasu Water: Median Residential Bill is $13.69, a decrease of $1.99, (12.69 percent)

Anthem Water: Median Residential Bill is $18.93, a decrease of $11.07, (36.90 percent)

Agua Fria Water: Median Residential Bill is $15.12, a decrease of $3.78, (20.00 percent)

Tubac Water: Median Residential Bill is $38.92, an increase of $10.29, (35.94 percent)

Wastewater

In the present rates, all three wastewater systems have separate classes for Residential, Commercial, and Large Commercial customers. Each customer class in each system has its own flat monthly rate. In addition to the flat monthly rate, some customers pay a volumetric rate based on water use. In addition, there are flat monthly fees applicable to certain commercial customers for additional toilets, dishwashers, garbage grinders, washing machines and wash racks, and annual fees for industrial discharge.

AAWC proposes to increase the rates uniformly so that all customers for a particular wastewater system, regardless of class, receive the same percentage increase in their monthly bill. A uniform increase would be accomplished by increasing the existing applicable flat monthly charges for each customer class by the same percentage and, also, increasing the applicable volumetric rates by that same percentage.

Staff recommends maintaining the existing rate structure and adjusting rates uniformly to generate Staff's recommended revenue requirement. The median monthly residential bills and dollar and percent change by wastewater system are as follows:

Sun City Waste Water: Median Residential Bill is $10.82, a decrease of $2.05 (15.93 percent)

Sun City West Wastewater: Median Residential Bill is $21.48, an increase of $5.24 (32.27 percent)

Anthem/Agua Fria Wastewater: Median Residential Bill is $27.53, a decrease of $2.47 (8.23 percent)

INTRODUCTION

Q. Please state your name, occupation and business address for the record.

A. My name is Dennis R. Rogers. I am a Public Utilities Analyst IV employed by the Arizona Corporation Commission ("Commission") in the Utilities Division ("Staff"). My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

Q. Please provide a brief description of your responsibilities as a Public Utilities Analyst IV.

A. I examine and analyze accounting, finance, statistical, and other information and prepare reports based on my analyses that present Staff's recommendations to the Commission on utility revenue requirement, financing, rate design, and other matters.

Q. Please describe your educational background and professional experience.

A. I received a Bachelor of Business Administration with an emphasis in Accounting from Arizona State University.

I have participated in multiple rate, financing, and other regulatory proceedings including the unbundling of rates for an electric distribution utility. I attended the National Association of Regulatory Utility Commissioners Utilities Rate School, and have attended seminars and courses in utility regulation and utility accounting and finance.

I began employment with the Commission as a utilities regulatory analyst in May 2001. Prior to joining the Commission, I worked at the Department of Revenue in the Taxpayer Assistance Section. I was the Production Budget Coordinator for the Arizona Republic prior to my employment in state government.

Purpose of Testimony

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

A. The purpose of my testimony in this proceeding is to present Staff's recommended rate designs for each of the seven water and three wastewater systems in Arizona-American Water Company, Inc.'s ("AAWC" or "Company") five permanent rate applications filed on November 22, 2002, and December 13, 2002.

Organization of Testimony

Q. How is Staff's rate design testimony organized?

A. Staff's rate design testimony is organized to present a discussion of the present rates, the Company proposed rates, and Staff's recommended rates for the seven water systems and the three wastewater systems.

WATER RATE DESIGN

Present Water Rate Design

Q. Please provide an overview of the existing rates for the seven water systems.

A. Although, the water systems have similar rate structures, each has its own unique variation. The following is a general description of their primary features. Details of the rate designs are presented on Staff Schedule DRR-1 for each system.

All seven systems have a monthly minimum charge that increases with meter size. In the Tubac and Havasu systems a general service class applies to residential, commercial, irrigation, private fire protection, and miscellaneous other customers. In the Sun City West, Sun City, Mohave, Anthem and Agua Fria systems, private fire protection is segregated as a separate customer class. In the Sun City system, irrigation customers are also a separate customer class. In the Sun City West, Sun City, Anthem, Agua Fria and

Tubac systems, no gallons are included in the minimum charge. In the Mohave system, 1,000 gallons are included in the minimum charge. The Havasu system has two sets of rates. Most Havasu customers receive 1,000 gallons in the minimum charge; the other (Rio Verde area) customers receive 2,000 gallons in the minimum charge. In the Mohave and Havasu systems, multi-unit housing customers are billed a monthly minimum charge equal to the 5/8-inch meter times the number of housing units.

The Mohave, Havasu and Anthem systems have a flat commodity charge. The Sun City West, Sun City, Agua Fria, and Tubac systems have inverted two-tier commodity rates with a break over point between the tiers at 8,000 gallons.

The Company's Proposed Water Rate Design

Q. Please explain how AAWC proposes to implement rates in two phases.

A. The Company proposes to implement new rates in two phases to mitigate the impact of its proposed revenue increase. The Company proposes to implement phase one rates immediately upon issuance of an order by the Commission in this proceeding and phase two rates twelve (12) months later. Under the Company's phase in proposal, if its proposed revenue increase for a particular system is less than 40 percent, rates would increase by the total proposed increase in phase one. In systems that the Company proposes a revenue increase exceeding 40 percent, rates would increase by 40 percent in phase one and by the balance of the total increase in phase two.

Q. Please provide an overview of the Company's proposed rate designs for the water systems.

A. The proposed rate designs are essentially the same as the current designs but with an equal percentage increase in all rates and monthly charges. AAWC proposes to increase its

current rates uniformly so that all customers for a particular water system, regardless of class or use, receive the same percentage increase in their monthly bill. This would be accomplished by increasing the monthly minimum charges and all commodity rates by the same percentage and maintaining the existing rate structure in terms of gallons included and break over points between tiers.

Q. Please provide a brief explanation of AAWC's low income program.

A. Decision No. 65655, dated February 20, 2003, ordered AAWC to file a low income program in this proceeding by April 21, 2003. The Company filed its low income program on July 22, 2003. The Company's program pertains only to the Sun City West and Sun City water districts. In those two districts, AAWC has a Groundwater Savings Monthly Residential Surcharge that provides funds for a Groundwater Savings Program. Revenues and expenses associated with the Groundwater Savings Program are recorded in a balancing account, and over- and under-collections from one year are carried forward and included in the estimated costs of the following year to determine the surcharge going forward.

AAWC's proposed low income program would relieve qualifying customers from paying the surcharge. The surcharge revenues credited to these qualifying customers would be added to the balance to be collected from the remaining customers that pay the surcharge. The effect is to increase the surcharge to non-qualifying customers to pay for the low income qualifying customers. Residential customers with 5/8 x 3/4-inch and 3/4-inch meters in the Sun City West and Sun City water districts with incomes below 150 percent of federal poverty guidelines that file with the Arizona Department of Economic Security would qualify for the low income program. Customers would have to make annual filings to remain qualified.

Staff's Recommended Water Rate Design

Q. In addition to developing non-discriminatory rates that provide Staff's recommended revenue and other issues such as gradualism, revenue stability, and customer affordability, what policy objectives are reflected in Staff's recommended rates?

A. Staff's rate design recognizes the growing importance of managing water as a finite resource and its increasing cost. The quantity of water resources available to Arizona and in AAWC's service territories does not grow with population and customer base and the cost of developing, treating, and delivering it increases with diminishing supply and increased health and safety regulations. Staff recommends a rate design that encourages planners to design growth to efficiently use water, to promote a reduction in average use in the long term, and to reduce the incremental cost of future growth consistent with its increasing cost.

Q. Please provide a description of Staff's recommended rate structure for the water systems.

A. Staff recommends a three-tier inverted block rate structure with break over points at 4,000 gallons, and at 100,000 gallons of use for each system across all meter sizes. The monthly minimum rates, as recommended by Staff, would keep the existing minimum-to-commodity revenue generation ratio, thus, preserving this aspect of revenue stability from the existing rate structure. Staff recommends including no gallons in the minimum charge to eliminate the implication that any water is free and to send an appropriate economic signal to customers for all consumption.

Q. What is the basis for Staff's recommendation for a commodity break over point at 4,000 gallons for each water system?

A. Placing 4,000 gallons in the first commodity tier serves two purposes. First, it supports the state-wide effort to improve water use efficiency. Customers are rewarded monetarily by restricting their use to this level which reflects Staff's view of efficient water use. Second, although this is not strictly a life-line tariff, it effectively serves as a supplementary life-line rate providing affordable water to customers willing to limit consumption to their basic needs. Providing affordable water in limited amounts is appropriate because water is the only utility commodity that is necessary for sustaining life.

Q. What is the basis for Staff's recommendation for a commodity break over point at 100,000 gallons of use for each water system?

A. Placing the break over point at 100,000 gallons of use sends an economic signal to potential new customers that consumption at this level is high compared to other customers on the system and is being discouraged. Thus, prospective customers can make appropriate choices regarding landscaping and other planned water uses. A relatively high break over point is desirable to limit the effect of tiered rates on the vast majority of existing customers.

Q. Is Staff recommending a three-tier inverted block rate structure for all customer classes?

A. No. Staff recommends the three-tier inverted block rate structure for general service customers and a flat commodity rate for construction/irrigation and fire protection customers. Staff sees no significant long-term benefit to having multiple tiers for construction/irrigation and fire protection. Staff's recommended commodity rates for

construction/irrigation and fire protection are percentage increases/decreases consistent with its overall recommended increase/decrease in revenue requirement by system.

Q. Other than the inverted three-tier rate structure recommended by Staff, how does its recommended rate structure otherwise modify the existing rate structure?

A. Staff's recommended rates make additional changes to the present rate structures in the Mohave and Havasu water systems. Currently, the Havasu system has seasonal summer and winter rates. The only difference is that the commodity rate per thousand gallons is $1.42 in the summer and $1.31 in the winter. The inverted three-tier rate structure recommended by Staff should provide equal or greater economic signals to customers than this nominal seasonal difference. Therefore, Staff's recommended rates are uniform throughout the year.

The Mohave system currently has a group of residential customers (Rio Verde) that pay slightly different rates than other residential customers. The Rio Verde customers pay a monthly minimum charge of $7.75 versus $8.65, have 2,000 gallons versus 1,000 gallons included in the minimum and pay a commodity charge per thousand gallons of $1.75 versus $1.48. Under present rates a customer using 10,815 gallons would have the same bill with either set of rates. The average and median 5/8 x 3/4-inch residential customer uses are 11,942 and 7,000, respectively. Customer bills are not significantly different under Havasu's two sets of rates. Accordingly, Staff recommends consolidation of Havasu's rates.

Q. Did Staff prepare schedules showing the present, Company proposed, and Staff recommended monthly minimums and commodity rates for each of the water systems?

A. Yes. Staff Schedule DRR-1 for each water system shows the present monthly minimum charges and commodity rates, the Company's proposed monthly minimum charges and commodity rates, and Staff's recommended monthly minimum charges and commodity rates.

Q. Did Staff prepare a schedule showing the average and median monthly bill under present rates, the Company's proposed rates, and Staff's recommended rates for each of the water systems?

A. Yes. Staff Schedule DRR-2 for each of the water systems presents the average and median monthly bill using present rates, the Company's proposed rates, and Staff's recommended rates.

Q. Did AAWC propose any changes to its water system service charges?

A. No.

Q. What water system service charges does Staff recommend?

A. Staff recommends maintaining the existing water system service charges since the Company did not request any changes and Staff has no compelling reason to adjust them.

Q. Did AAWC propose any changes to its water system service line and meter installation charges?

A. Yes. The Company's proposed service line and meter installation charges are shown on Schedule H-3 of each water system application.

Q. What is Staff's recommendation for water system service line and meter installation charges?

A. Staff recommends accepting the Company's proposed service line and meter installation charges because they are within the guidelines established by Staff as reasonable.

Q. Does Staff have any system-specific comments regarding water rate design?

A. Yes. The current Mohave water system rate design is excessively cumbersome and has been the subject of complaints from multi-unit mmercial customers, e.g., trailer parks. Multi-unit housing commercial customers are currently billed a monthly minimum charge equal to the 5/8-inch meter charge times the number of housing units. Commercial customers complain that they are charged for housing units that are unused or vacant. In a typical rate design that is more efficient to administer, multi-unit commercial customers are charged a monthly minimum based on the meter size that serves the multi-unit complex regardless of the number of housing units served. Staff would be recommending such a rate design in this case if sufficient information and resources were available to provide a reasonable assurance that a new rate structure would not have significantly detrimental impacts for customers.

The current Mohave rate structure is also cumbersome for Staff. Due to the large variation in meter sizes and housing units, verification of Test Year revenue and design of recommended rates requires 125 separate bill counts/bill frequency analyses. Staff recommends that the Company study potential simplified rate designs and offer a solution in its next Mohave rate filing.

Q. What is Staff's recommendation regarding AAWC's proposed low income program?

A. Staff recommends approval of the low income program as proposed by the Company. In addition, as stated earlier, Staff's recommended three tiered rate design will also provide assistance to low income customers.

Q. What is Staff's position regarding the Company's proposal for a two-step phase in of rates?

A. Staff sees no compelling reason to use steps to phase in its recommended rates. The primary purpose of using steps to phase in rates is to ease the economic impact on customers due to a sudden increase that might be burdensome to some customers. This potential burden to customers is substantially less under Staff's recommended rates than with AAWC's proposed rates. Staff does not oppose using steps to phase in rates, however there should be no future revenue claims due to the phase in process in the event that the Commission rejects Staff's recommended revenue requirement and authorizes a revenue requirement substantially higher.

WASTEWATER RATE DESIGN

Present Wastewater Rate Design

Q. Please provide an overview of the existing rate designs for the three wastewater systems?

A. Although there are differences in the rate designs for each of the wastewater systems, they are similar. All three wastewater systems (Sun City West, Sun City and Anthem/Agua Fria) have separate classes for Residential, Commercial, and Large Commercial customers. Each customer class in each system has its own flat monthly rate. In addition to the flat monthly rate, some customers pay a volumetric rate based on their water use.

In Anthem/Agua Fria, a volumetric rate of $2.00 per 1,000 gallons of water applies to all customers. The volumetric rate is only applicable up to a designated water use level that varies by customer class (e.g., residential, first 7,000 gallons).

In Sun City West and Sun City, only customers in the large commercial class pay a volumetric rate. The exception is that the volumetric rate also applies to Paradise Resort Park in Sun City. The volumetric rates in Sun City West and Sun City are, respectively, $1.24 and $0.98 per 1,000 gallons of water consumption in excess of 20,000 gallons per month.

Sun City West and Sun City, but not Anthem/Agua Fria, commercial customers also pay a flat monthly fee for each additional toilet. Similarly, commercial restaurants pay a flat monthly fee for each dishwasher or garbage grinder. Commercial Laundromats also pay a flat monthly fee for each washing machine and commercial customers pay a flat monthly fee for each wash rack.

All three wastewater systems have an Annual Fee for Industrial Discharge Service. The annual fee is $500 for those customers consuming an amount of water less than or equal to 50,000 gallons per month through one or more water meters to the same facility, inclusive of meters used for irrigation and $1,000 for those customers consuming an amount of water greater than 50,000 gallons per month.

The Company's Proposed Wastewater Rate Design

Q. Please provide an overview of the Company's proposed rate designs for the three wastewater systems.

A. AAWC proposes to increase the rates uniformly so that all customers for a particular wastewater system, regardless of class, receive the same percentage increase in their monthly bill. A uniform increase would be accomplished by increasing the existing applicable flat monthly charges for each customer class by the same percentage, and also increasing the applicable volumetric rates by that same percentage.

Staff's Recommended Wastewater Rate Design

Q. Please provide a description of Staff's recommended rate structure for the three wastewater systems.

A. Staff agrees with the Company's proposed rate design for the three wastewater systems. Staff recommends adjusting rates uniformly by a system-specific percentage to generate Staff's recommended revenue requirement for each wastewater system.

Q. Did Staff prepare schedules showing the present, Company proposed, and Staff recommended monthly minimum and commodity rates for each of the wastewater systems?

A. Yes. Staff Schedule DRR-1 for each system presents the system specific present, Company proposed, and Staff recommended monthly minimums and commodity rates for all customer classes.

Q. Did Staff prepare a schedule showing the average and median monthly bills using present, Company proposed, and Staff recommended rates for each of the wastewater systems?

A. Yes. Staff Schedule DRR-2 for each of the wastewater systems presents the system specific average and median monthly bills using present, Company proposed, and Staff recommended rates for all customer classes.

Q. Did AAWC propose any changes to its wastewater system service charges?

A. No.

Q. What wastewater service charges does Staff recommend?

A. Staff recommends maintaining the existing wastewater service charges.

Q. Does this conclude your direct testimony?

A. Yes, it does.

REIKER

BEFORE THE ARIZONA CORPORATION COMMISSION

MARC SPITZER
Chairman
JIM IRVIN
Commissioner
WILLIAM A. MUNDELL
Commissioner
JEFF HATCH-MILLER
Commissioner
MIKE GLEASON
Commissioner

IN THE MATTER OF THE APPLICATOIN OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WEST WATER AND WASTEWATER DISTRICTS.	)	DOCKET NO. WS-01303A-02-0867
IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WATER AND WASTEWATER DISTRICTS.	)	DOCKET NO. WS-01303A-02-0868
IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS MOHAVE WATER DISTRICT AND ITS HAVASU WATER DISTRICT	)	DOCKET NO. WS-01303A-02-0869

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS ANTHEM WATER DISTRICT, ITS AGUA FRIA WATER DISTRICT, AND ITS ANTHEM/AGUA FRIA WASTEWATER DISTRICT.	)	DOCKET NO. WS-01303A-02-0870

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS TUBAC WATER DISTRICT	)	DOCKET NO. WS-01303A-02-0908

DIRECT

TESTIMONY

OF

JOEL M. REIKER

PUBLIC UTILITIES ANALYST V

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

SEPTEMBER 5, 2003

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

Capital Structure – Staff recommends the Commission adopt a capital structure consisting of 61.2 percent long-term debt and 38.8 percent equity.

Cost of Debt – Staff recommends the Commission adopt a 4.6 percent cost of long-term debt.

Cost of Equity – Staff recommends the Commission adopt a 9.7 percent return on equity ("ROE"). Staff bases its ROE recommendation on its discounted cash flow ("DCF") and capital asset pricing model ("CAPM") analyses. Staff's recommended ROE range is 7.7 percent to 11.1 percent.

Overall Rate of Return - Staff recommends the Commission adopt an overall rate of return ("ROR") of 6.6 percent. Staff's ROR recommendation results in a pre-tax interest coverage ratio of 3.2. This represents a fair and reasonable rate of return on Arizona-American's rate base and is evidence that the Company will maintain financial integrity.

Comment on the Direct Testimony of Company Witness Thomas M. Zepp – The Commission should reject Dr. Zepp's recommendations and proposed 11.5 percent ROE for the following reasons:

1. There are several problems associated with Dr. Zepp's DCF estimates including; sample selection, inappropriate calculation of the expected dividend yield, mismatching, exclusive reliance on analysts' forecasts, and failure to consider dividends per share growth.

2. Dr. Zepp's internal rate of return analysis is unnecessary and greatly increases estimation error in cost of equity calculation.

3. Dr. Zepp's "risk premium" analysis should be rejected because (1) it relies on analysts' forecasts of future interest rates, (2) it is based on a general rule of thumb rather than theory developed in the financial literature, and (3) the yield to maturity on corporate bonds cannot be meaningfully compared to the cost of equity.

4. Dr. Zepp's CAPM should be rejected because he has not provided evidence that the zero beta version can be appropriately applied to a CAPM that uses intermediate-term Treasuries and betas that are adjusted towards 1.0.

3. Dr. Zepp's testimony on the Baa corporate bond rate is not relevant. Actual Baa corporate bond rates are indicative of the currently low cost of capital.

5. Dr. Zepp's recommendation regarding the earnings determination is confiscatory when the fair value rate base ("FVRB") is less than the original cost rate base ("OCRB") and results in windfall gains when the FVRB is greater than the OCRB.

INTRODUCTION

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

A. My name is Joel M. Reiker. I am a Senior Regulatory Analyst 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 Senior Regulatory Analyst.

A. In my capacity as a Senior Regulatory Analyst, I provide recommendations to the Commission on mergers, acquisitions, financings, and sales of assets. I also perform studies to estimate the cost of capital for utilities that are seeking rate relief, and I occasionally act as arbitrator in disputes brought before the Utilities Division.

Q. Please describe your educational background and professional experience.

A. In 1998, I graduated cum laude from Arizona State University, receiving a Bachelor of Science degree in Global Business with a specialization in finance. My course of studies included classes in corporate and international finance, investments, accounting, statistics, and economics. I began employment as a Staff rate analyst in 1999. Since that time, I have attended various seminars and classes on general regulatory and business issues, including the cost of capital and the use of energy derivatives.

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

A. I provide Staff's recommended rate of return in this case. I address the appropriate capital structure, as well as the appropriate costs of debt and equity for establishing the revenue requirement for Arizona-American Water Company ("Arizona-American" or "Company").

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 organized into six sections. Section I discusses the Company's capital structure. Section II discusses Arizona-American's cost of debt. Section III discusses risk and presents the findings of Staff's cost of equity capital analysis that use the discounted cash flow ("DCF") model and the capital asset pricing model ("CAPM"). Section IV presents Staff's recommended return on equity ("ROE") for Arizona-American. Section V presents Staff's overall rate of return ("ROR") recommendation. Finally, Staff's comments on the Company's proposed ROE are presented in section VI.

Q. Have you prepared any exhibits to your testimony?

A. Yes. I prepared twenty schedules (JMR-1 to JMR-20) that support Staff's cost of capital analysis.

Q. Please summarize Staff's ROR recommendations.

A. Staff's ROR recommendation is summarized in the following table:

Table 1

	Weight	Cost	Weighted Cost
Long-term Debt	61.2%	4.6%	2.8%
Common Equity	38.8%	9.7%	3.8%
Cost of Capital/ROR			**6.6%**

I. ARIZONA-AMERICAN'S CAPITAL STRUCTURE

Q. What is Staff's recommended capital structure?

A. Staff recommends the following capital structure:

Table 2

Capital Source	Percentage
Long-term Debt	61.2%
Common Equity	38.8%
	100.0%

Q. Is this the same capital structure proposed by the Company?

A. No, it is not. The Company proposes the following capital structure in its application:

Table 3

Capital Source	Percentage
Long-term Debt	59.9%
Common Equity	40.1%
	100.0%

Q. How does Staff's proposed capital structure differ from the Company's proposed capital structure?

A. The Company's proposed capital structure reflects the mix of debt and equity used to finance the acquisition of Citizens Communications' ("Citizens") water and wastewater assets by Arizona-American (See the direct testimony of Company witness David P. Stephenson. Section V.), which consisted of approximately 60 percent debt and 40 percent equity. Staff's recommended capital structure is Arizona-American's actual capital structure as of December 31, 2002. Staff's recommended capital structure is

appropriate because the capital structure of a company, rather than the financing mix of an individual project, is more appropriate to estimate the cost of capital to that company.

II. THE COST OF DEBT

Q. What is Staff's recommended cost of debt?

A. Staff recommends a 4.61 percent cost of long-term debt.

Q. What is the Company's proposed cost of debt?

A. The Company proposes a 5.07 percent cost of debt.

Q. How does Staff's recommended cost of debt differ from the Company's proposed cost of debt?

A. The Company's proposed cost of debt reflects a five-year note to American Water Works Capital Corporation ("AWCC"), and industrial development revenue bonds ("IDRB") which were assumed from Citizens. The Company's proposed cost of debt reflects the debt instruments used to finance the acquisition of Citizens' water and wastewater assets, and not its actual cost of debt.

Staff's recommended cost of debt includes the note to AWCC, the IDRBs, and the rest of Arizona-American's long-term notes. Staff's cost of debt reflects Arizona-American's company-wide cost of debt, and is therefore the appropriate cost of debt to estimate its cost of capital. Staff's recommended cost of debt is shown in Schedule JMR-2.

III. THE COST OF EQUITY

Comment on Capital Costs in General

Q. What has been the general trend of capital costs in recent years?

A. Interest rates have declined in recent years. Chart 1 graphs intermediate-term U.S. Treasury rates from June 1998 to May 2003.

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

The following graph puts interest rates and capital costs in general, into historical perspective. Interest rates have declined significantly in the past twenty years and are currently at their lowest level since the 1950's.

Chart 2: History of 5- and 10-Year Treasury Yields

According to the capital asset pricing model, the cost of equity moves in the same direction as interest rates. Chart 2 suggests that capital costs, including the cost of equity, are lower than they have been in decades.

Q. What have historical returns been for average risk securities?

A. Wharton School finance professor Jeremy Siegel published his findings that the average compound and arithmetic annual returns on U.S. equities have been 8.3 percent and 9.7 percent, respectively, using 199 years of data from 1802 through 2001.[1]

One should keep in mind that the above returns are actual returns, not expected returns. However, any request for an allowed ROE at or above 10.0 percent exceeds the compound and arithmetic average historical return on U.S. equities for the period mentioned above. The risk of a regulated water utility, as measured by the capital asset pricing model beta, is significantly below the theoretical average beta of 1.0. I discuss the average beta (.59) of the water utility industry later. Therefore, the required return on an investment in the water utility industry is significantly below the average required return on the market.

Capital Structure and Risk

Q. How is risk defined?

A. Risk is defined in modern portfolio theory as the sensitivity of an investment's returns to market returns. The most prevalent measure of risk is "beta." Beta is the measurement of an investment's market risk, and it reflects both the business risk and financial risk of a firm.[2]

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[1] Siegel, Jeremy J. *Stocks for the Long Run*, third edition. McGraw-Hill, New York. 2002. p.13.
[2] Brealey, Richard, A. Stewart Myers. *Principles of Corporate Finance*. McGraw-Hill, New York. 1988. p. 134.

Unique risk, or microeconomic risk, is risk that can be eliminated by portfolio diversification, i.e. buying securities in portfolios. Unique risk is not measured by beta nor does it factor into the cost of equity because it can be eliminated through simple shareholder diversification. Unique risks are peculiar to an individual company or investment project. Investors who hold diversified portfolios do not worry about unique risk; therefore, it does not affect the cost of capital. Additionally, investors who choose to be less than fully diversified will not expect to be compensated for unique risk.[3]

Q. What is market risk?

A. Market risk, also known as systematic risk, is the risk related to economy-wide perils that threaten all businesses such as changes in interest rates, inflation, and general business cycles. Market risk cannot be avoided regardless of how diversified a portfolio is. Market risk is the only risk that affects the cost of equity. Market risk includes business risk and financial risk.

Q. Please distinguish between business risk and financial risk.

A. Business risk is the risk associated with the fluctuation in earnings due to the basic nature of a firm's business. Financial risk is the risk to shareholders caused by a firm's reliance on debt financing. Both business risk and financial risk affect the cost of capital.

Q. What is the relationship between the capital structure and financial risk?

A. A greater percentage of debt in a capital structure results in a higher level of financial risk.

[3] Harrington, Diana R. *Modern Portfolio Theory, the Capital Asset Pricing Model, and Arbitrage Pricing Theory: A User's Guide.* Prentice-Hall, Inc., Englewood Cliffs, New Jersey. 1987. p. 16.

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

A. Arizona-American's capital structure has a greater percentage of debt than the average capital structure of publicly traded water companies; therefore, Arizona-American has a higher level of financial risk. Schedule JMR-1 shows the capital structures of six publicly traded water companies ("sample water companies") as of 2002, as well as Arizona-American's capital structure. As of December 2002, the sample water companies were capitalized with approximately 50 percent equity while Arizona-American's capital structure consisted of approximately 39 percent equity.

Q. How does a higher level of financial risk affect a firm's cost of equity?

A. A higher level of financial risk results in a higher cost of equity.

Fair and Reasonable Return on Equity

Q. Define the term "cost of equity."

A. A firm's cost of equity is that rate of return that investors *expect* to earn on their equity investment given the risk of the firm. An investor's expected return is equally defined as the return on equity that they expect on other investments of similar risk.

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

A. Staff used two market-based models: the discounted cash flow ("DCF") model and the capital asset pricing model ("CAPM"). Staff applied these two models to publicly traded stocks to estimate Arizona-American's cost of equity.

Q. Did Staff apply the DCF model and the CAPM to Arizona-American directly?

A. No, Staff did not apply the models directly to Arizona-American because it does not have publicly traded stock and therefore lacks the information necessary to apply the market-based models. Staff used a sample of publicly traded water companies as a proxy. In addition to examining the sample water companies, Staff conducted an analysis of the cost of equity to a sample of publicly traded gas distribution companies ("sample gas companies"). Because the sample gas companies are riskier than the sample water companies, one can expect them to have a higher cost of equity on average. Therefore, Staff's estimate of the cost of equity to the sample gas companies requires a *downward adjustment* to be relied upon in this proceeding.

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

A. Staff selected the six publicly traded water companies shown in Schedule JMR-1. These companies represent all of the water companies currently followed by *The Value Line Investment Survey* ("*Value Line*") and *The Value Line Investment Survey Small and Mid Cap Edition* ("*Value Line Small Cap*") who have a significant percentage of revenues derived from regulated water utility operations. These companies include: American States Water, California Water, Connecticut Water Services, Middlesex Water, Philadelphia Suburban, and SJW Corp.

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 estimating the cost of equity is based upon the theory that the market price of a stock is equal to the present value of all expected future dividends. Through a mathematical restatement, the discount rate, or cost of capital, can be derived from the

expected dividends, the stock price, and a dividend growth rate. The formula is generally applied to a sample of companies that exhibit similar risk to the company in question and the resulting estimates for the discount rates (or costs of equity) are then averaged.

Use of the DCF method for estimating the cost of equity capital to a public utility was pioneered by Professor Myron Gordon in the 1960's, and it has become the most widely used model. In 1998, Professor Gordon said the following about the simplicity of his model when he gave the keynote Address at the 30th Financial Forum of the Society of Utility and Regulatory Financial Analysts:

> On its simplicity, the model made it extremely difficult, if not impossible, for a banker from Goldman Sachs or some other Wall Street firm, or for a finance professor from a prestige university to use the authority of his/her position to make extravagant claims before a regulatory agency. An independent expert or a member of a commission staff with far less impressive credentials could politely, firmly and effectively deflate any bombast in their testimony.[4]

Q. How did Staff apply the DCF Model?

A. Staff applied the DCF model using two different approaches. Staff's first approach used the constant-growth DCF model. Staff's second approach was to use a non-constant growth, or multi-stage DCF. The advantage of the multi-stage DCF is that it does not assume that dividends grow at a constant rate over time.

[4] Gordon, M. J. Keynote Address at the 30th Financial Forum of the Society of Utility and Regulatory Financial Analysts. May 8, 1998. Transparency 2.

The Constant-Growth DCF

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

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

Equation 1:

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

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

The constant-growth DCF model shown in Equation 1 assumes that a company has a constant payout ratio and that its earnings are expected to grow at a constant rate. Thus, if a stock has a market price of $10 per share, an expected annual dividend of $1 per share, and if its dividends were expected to grow 3 percent per year, then the cost of equity for the company would be 13.0 percent (the 10 percent dividend yield plus the growth rate of 3 percent per year).

Q. How did Staff calculate the dividend yield component (D_1/P_0) of the constant-growth DCF formula?

A. Staff calculated the yield component of the DCF formula by dividing the expected annual dividend by the spot stock price after the close of the market on May 6, 2003, as reported by *Yahoo Finance.*

Staff used the spot stock price because it reflects all publicly available information. According to the efficient markets hypothesis, the current stock price includes investors' expectations of future returns and is the best indicator of these expectations.

Q. How did Staff estimate the dividend growth (g) component of the DCF model?

A. Because the DCF model is predicated on dividend growth, Staff examined historical and projected growth in dividends per share ("DPS"). Staff also examined growth in earnings per share ("EPS") as well as intrinsic growth.

Q. How did Staff estimate DPS growth?

A. Staff estimated DPS growth by calculating the average rate of growth in dividends per share of the sample water companies for the period 1992 to 2002. The results of the analysis are shown in Schedule JMR-3. Staff's analysis indicates an average historical DPS growth rate of 2.5 percent for the sample water companies.

Q. What DPS growth rate does *Value Line* project for the sample water companies?

A. *Value Line* projects an average DPS growth rate of 2.9 percent over the next five years for the sample water companies it follows, as shown in Schedule JMR-3. This average rate is higher than the 10-year average historical rate that Staff calculated.

Q. Why did Staff examine EPS growth to estimate the dividend growth component of the constant-growth DCF model?

A. Staff examined EPS growth because dividend growth does not occur independently of earnings. It would be virtually impossible for dividend growth to exceed earnings growth

over the long run, as it would ultimately lead to payout ratios in excess of 100 percent, which simply are not sustainable. Therefore, Staff considered historical growth in EPS in estimating dividend growth.

Q. What is Staff's historical EPS growth rate?

A. Schedule JMR-3 shows the average historical rate of growth in EPS for the sample water companies. Staff's average historical EPS growth rate is 3.2 percent for the sample water companies.

Q. What EPS growth rate did *Value Line* project for the sample water companies it follows?

A. Schedule JMR-3 shows the average of the projected EPS growth rates to be 8.7 percent, higher than the 10-year historical EPS growth rate. One should note that analysts' projections of future earnings are generally high,[5] and vary widely depending on the source. For example, as of May 2003, Zacks Investment Research projected an average five-year earnings growth rate of 5.35 percent for the sample water companies.

Q. What is retention growth?

A. Retention growth is simply the product of the percentage of earnings retained by the company ("retention ratio") and the book/accounting return on equity. This concept is based upon the theory that dividend growth can only be achieved if a company retains and reinvests a portion of its earnings in itself to earn a return.

[5] See Seigel, Jeremy J. Stocks for the Long Run. 2002. McGraw-Hill. New York. p. 100. Malkiel, Burton G. A Random Walk Down Wall Street. 1999. W.W. Norton & Co. New York. p. 169. Dreman, David. Contrarian Investment Strategies: The Next Generation. 1998. Simon & Schuster. New York. pp. 97-98. Testimony of Professors Myron J. Gordon and Lawrence I. Gould, consultant to the Trial Staff (Common Carrier Bureau), FCC Docket 79-63, p. 95.

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

A. The retention growth rate formula is:

Equation 2 :

$$g = br$$

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

Q. What retention (br) growth rate did Staff calculate for the sample water companies?

A. Staff calculated an average retention (br) growth rate of 3.1 percent for the sample water companies, as shown on Schedule JMR-4. Staff calculated the rate by multiplying the accounting return on equity (r) by the retention ratio (b) for the years 1993 through 2002, and then averaging the results.

Q. Under what circumstances is the br growth rate method a reasonable estimate of future dividend growth?

A. The br growth rate is a reasonable estimate of future dividend growth if the retention ratio is fairly constant and if the market price to book value ("market-to-book") ratio is expected to equal 1.0. The retention ratio for the sample water companies used in Staff's analysis has remained relatively stable over the past several years. However, the average market-to-book ratio of the sample water companies is 2.2. (See Schedule JMR-6.) Staff assumes that investors expect the market-to-book ratio to remain above 1.0.

Q. What is the financial implication of a market-to-book ratio greater than 1.0?

A. The implication is that investors expect the sample water companies to earn book/accounting returns on equity greater than the companies' costs of equity.

Q. How has Staff accounted for the assumption that investors expect the average market-to-book ratio of the sample water companies to remain above 1.0?

A. Staff accounted for the assumption that investors expect the average market-to-book ratio of the sample water companies to remain above 1.0 by adding a second growth term to its br growth rate to arrive at the intrinsic growth rate.

Q. What is the second growth term Staff used to account for the assumption that investors expect the average market-to-book ratio of the sample water companies to remain above 1.0?

A. The second growth term, derived by Myron Gordon in his book, *The Cost of Capital to a Public Utility*[6], is found by multiplying a variable, v by another variable, s. Staff will refer to the product of v and s as the vs, or stock financing growth term. The vs growth term represents the company's dividend growth through the sale of stock.

Q. What does the variable v represent and how is it calculated?

A. The variable v represents the fraction of the funds raised from common stock sales that accrues to existing shareholders. It is calculated as follows:

Equation 3 :

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

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

For example, if a share of stock with a $10 book value is selling for $13, the v term would equal .23 (calculated as 1-[$10/$13]). Schedule JMR-4 shows Staff's calculation of v for each of the sample water companies.

Q. What does the variable s represent and how is it calculated?

A. The variable s represents the expected rate of increase in common equity from stock sales. For example, if a company has $100 in equity and it sells $10 of stock then s would equal 10 percent ($10/$100). Staff used historical accounting data to calculate an average s value for the sample water companies of 2.9 percent.

Q. How does the vs term work?

A. When a utility is expected to earn a book/accounting return equal to its cost of equity then its market price will equal its book value and v will be equal to 0.0 (calculated as 1-($10/$10)). If a utility is expected to earn more than its cost of equity then its market-to-book ratio will be greater than 1.0. If the market-to-book ratio is greater than 1.0 and v is positive when new shares are sold, then the book value per share of outstanding stock is less than the per share contributions of new shareholders. The per-share contribution in excess of book value per share accrues to the old shareholders in the form of a higher book value. The resulting higher book value leads to higher expected earnings and dividends. Thus, the growth term in the basic DCF model should include the vs growth term when the market-to-book ratio is not expected to equal 1.0.

Q. Shouldn't utilities' market-to-book ratios fall to 1.0 if their authorized ROEs are set equal to their costs of equity?

A. In theory, yes. Utilities' market-to-book ratios should fall to 1.0, in theory, making the vs term unnecessary. Setting the authorized return on equity for a utility equal to its cost of equity should eventually force the utility's market price down to equal its book value. In principle, then, the vs term is unnecessary in the long run. In reality, rate orders do not force market-to-book ratios to 1.0 for a variety of reasons. For example, regulatory commissions do not issue orders simultaneously for multijurisdictional utilities, and a company may have earnings that are unregulated. Therefore, Staff included the vs growth term in its DCF analysis, even though the resulting growth rate estimate might be too high. Staff's resulting estimates are too high to the extent that investors expect the sample's average market-to-book ratio to fall to 1.0 because of falling authorized ROEs.

Q. What is Staff's intrinsic growth rate and how was it calculated?

A. Staff's intrinsic growth rate is 4.8 percent for the sample water companies. It was calculated by averaging the sum of Staff's br and vs growth rates for each of the sample water companies. (See Schedule JMR-4.)

Q. Did Staff consider *Value Line* forecasts to estimate intrinsic growth?

A. Yes. Staff considered *Value Line*'s b and r projections to calculate projected intrinsic growth rates for the sample water companies. The average intrinsic growth rate calculated under this approach is 7.8 percent. Schedule JMR-4 shows Staff's calculations of intrinsic growth based on *Value Line*'s projections.

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

A. Schedule JMR-5 shows Staff's calculation of expected dividend growth. Staff's expected annual dividend growth rate is also shown in the following table:

Table 4

Growth Rate	g
10-Year EPS Growth	3.2%
Projected EPS Growth	8.7%
10-Year DPS Growth	2.5%
Projected DPS Growth	2.9%
10-Year Intrinsic Growth	4.8%
Projected Intrinsic Growth	7.8%
Average	**4.98%**

Q. What is the result of Staff's constant-growth DCF analysis?

A. Schedule JMR-8 shows the result of Staff's constant-growth DCF analysis. Staff's constant-growth DCF cost of equity estimate is also shown below:

Table 5

D_1/P_0	+	g	=	k
3.47%	+	4.98%	=	**8.5%**

The Multi-Stage DCF

Q. What is the multi-stage DCF formula?

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

Equation 4 :

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

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

The multi-stage DCF model shown above incorporates at least two growth rates. It assumes that investors expect a certain rate of non-constant dividend growth in the near term known as "stage-1 growth", as well as a longer-term constant rate of growth known as "stage-2 growth."

Q. How did Staff implement the multi-stage DCF model?

A. Staff forecasted a stream of dividends and found the cost of equity that equates the present value of the stream to the current stock price for each of the sample water companies, consistent with Equation 4.

Q. How did Staff calculate stage-1 growth?

A. Staff forecasted dividends five years out for each of the sample water companies followed by *Value Line* using *Value Line*'s estimate of the projected dividend for the next twelve months and the five-year projected DPS growth rate. For the sample water companies followed by *Value Line Small Cap*, Staff forecasted the dividends expected over the next twelve months, and forecasted dividends five years out using the average projected DPS growth rate.

Q. How did Staff estimate stage-2 growth?

A. For stage-2 growth, or constant growth, Staff used the rate of growth in gross domestic product ("GDP") from 1929 to 2002, which is 6.5 percent. Historical growth in GDP is appropriate because it ultimately assumes that the water utility industry will neither grow faster, nor slower, than the overall economy.

Q. What is the result of Staff's multi-stage DCF analysis?

A. Schedule JMR-7 shows the result of Staff's multi-stage DCF analysis. The average of Staff's multi-stage DCF estimates is 9.6 percent.

Capital Asset Pricing Model

Q. Please describe the capital asset pricing model.

A. The CAPM is the best-known model of risk and return.[7] The CAPM is the work of Nobel prize-winning economists and provides a method to estimate the risk and expected return on a risky asset. The model concludes that the expected return on a risky asset is equal to the sum of the prevailing risk-free interest rate and the market risk premium adjusted for the riskiness of the investment relative to the market. The critical assumptions of the CAPM can be summed up in the following quote from the book, *The Stock Market: Theories and Evidence*:[8]

> The [CAPM] model presents a simple and intuitively appealing picture of financial markets. All investors hold efficient portfolios and all such portfolios move in perfect lockstep with the market. Portfolios differ only in their sensitivity to the market. Prices of all risky assets adjust so that their returns are appropriate, in terms of the model, to their riskiness. This riskiness is measured by a simple statistic, beta, which indicates the sensitivity of the asset to market movements.

According to a 2001 study published in the *Journal of Financial Economics*, among CFOs the CAPM is by far the most popular method of estimating the cost of equity.[9]

Q. What is the CAPM formula?

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[7] Brealey, Richard, Stewart C. Myers. *Principles of Corporate Finance*. 1988. McGraw-Hill. New York. p. 165.
[8] Lorie, James, Mary T. Hamilton. *The Stock Market: Theories and Evidence*. Richard D. Irwin, Inc. Homewood, Illinois. 1973. p. 202.

A. The CAPM formula is shown in the following equation:

Equation 5 :

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

where :

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

Q. How was the CAPM implemented to estimate Arizona-American's cost of equity?

A. Staff implemented the CAPM on the same sample water companies to which it applied the DCF model.

Q. What risk-free rate of interest did Staff estimate?

A. Staff estimated the risk-free rate to be 3.3 percent. The estimate is based upon an average of intermediate-term U.S. Treasury securities' spot rates published in *The Wall Street Journal*. Published rates, as determined by the capital markets, are objective, verifiable, and readily available, as opposed to rates published by a forecasting service which are not necessarily objective, and are certainly not necessarily verifiable or readily available. Staff averaged the yields-to-maturity of three intermediate-term[10] (five-, seven-, and ten-

[9] Graham, John R., Campbel R. Harvey. "The Theory and Practice of Corporate Finance: Evidence from the Field." *Journal of Financial Economics*. 60 (2001) pp. 187-243.

[10] The use of intermediate-term securities is based on the theoretical specification that the time to maturity approximates the investor's holding period, and assumes that most investors consider the intermediate time frame (5-10 years) a more appropriate investment horizon. See Reilly, Frank K., and Keith C. Brown. Investment Analysis and Portfolio Management. 2003. South-Western. Mason, OH. pp. 438 – 439.

year) U.S. Treasury securities quoted in the May 7, 2003, edition of *The Wall Street Journal*. Intermediate-term rates averaged 3.3 percent.[11]

Q. What beta (β) did Staff use?

A. Staff used the average of the *Value Line* betas for the six sample water companies in its analysis as a proxy for Arizona-American's beta. Column 'F' of Schedule JMR-6 shows that the average *Value Line* beta is .59 for the sample water companies.

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

A. The expected market risk premium is the amount of additional return that investors expect from investing in the market (or an average-risk security) over the risk-free asset.

Q. What is Staff's range of market risk premium estimates?

A. Staff's range of estimates for the market risk premium is 7.4 percent to 13.1 percent.

Q. How did you calculate your market risk premium range?

A. Two approaches were used. The first approach is an estimate of the historical market risk premium. The second approach is an estimate of the current market risk premium.

Q. Please describe Staff's first approach to estimating the market risk premium: estimating the historical market risk premium.

[11] Average yield on 5-, 7-, and 10-year Treasury notes according to the May 7, 2003, edition of *The Wall Street Journal*: 2.74%, 3.38%, and 3.80%, respectively.

A. For the first approach, Staff assumed that the average historical market risk premium is a reasonable estimate of the expected market risk premium. If one consistently uses the long-run average market risk premium to estimate the expected market risk premium, one should, on average, be correct.

Staff used the historical intermediate-term market risk premium published in Ibbotson Associates' *Stocks, Bonds, Bills and Inflation 2003 Yearbook* for the 77-year period from 1926 to 2002. Ibbotson Associates' calculation is the arithmetic average difference between S&P 500 returns and intermediate-term government bond income returns. The 77-year period is used to eliminate shorter-term biases while at the same time including unexpected past events including business cycles. Staff's market risk premium estimate using this approach is 7.4 percent.

Q. Please describe the second approach to estimating the market risk premium: estimating the current market risk premium.

A. Staff's second approach essentially boils down to inserting a DCF-derived ROE into the CAPM equation, along with a beta and long-term risk-free rate, and solving the CAPM equation for the implied market risk premium. *Value Line* projects the expected dividend yield (next 12 months) and growth for all dividend-paying stocks under its review. According to the May 2, 2003, edition of *Value Line*, the expected dividend yield is 2.1 percent and the expected annual growth in share price is 15.83 percent.[12] Therefore, the constant-growth DCF estimate of the cost of equity to all dividend-paying stocks followed

[12] 3 to 5 year price appreciation potential is 80%. $1.80^{1/4} - 1 = 15.83\%$

by *Value Line* is 17.9 percent. Using a beta of 1.00 and the current long-term risk-free rate of 4.76 percent, the implied current market risk premium is 13.1 percent.[13]

Q. What are the results of Staff's CAPM analysis?

A. Schedule JMR-8 shows the results of Staff's CAPM analysis. Staff's CAPM cost of equity estimates are also shown in the following table:

Table 6

CAPM	Resulting Cost of Equity Estimate
Historical Market Risk Premium	7.7
Current Market Risk Premium	11.1
Average	**9.4**

IV. FINAL COST OF EQUITY ESTIMATES FOR ARIZONA-AMERICAN

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 7

Method	Estimate
Constant Growth DCF	8.5%
Multi-Stage DCF	9.6%
Average DCF Estimate	**9.0%**
Historical MRP CAPM	7.7%
Current MRP CAPM	11.1%
Average CAPM Estimate	**9.4%**
Average	**9.2%**

[13] 17.9% = 4.76% + 1.00 x (current market risk premium); 13.1% = current market risk premium.
A long-term rate is used here because the constant-growth DCF model does not assume a holding period other than infinity, which is a very long time. Therefore, a long-term risk-free rate is used for consistency.

Based on the results shown in Table 7, Staff would conclude that the cost of equity to the water utility industry is somewhere in the range of 7.7 percent to 11.1 percent. The average of Staff's DCF and CAPM estimates are 9.0 percent and 9.4 percent, respectively.

Q. What are Staff's cost of equity estimates for the sample gas companies?

A. Staff's cost of equity analysis for the sample gas companies is shown on Schedules JMR-13 through JMR-19. The average of Staff's DCF and CAPM estimates of the cost of equity to the sample gas companies is 10.3 percent.

Q. Are the sample gas companies riskier than the sample water companies?

A. Yes. The average beta of the sample water companies is .59 (Schedule JMR-6). The average beta of the sample gas companies is .69 (Schedule JMR-17). Based on Staff's CAPM analysis, the cost of equity to the sample gas companies is approximately 100 basis points *higher* than the cost of equity to the sample water companies based on the difference in risk. Therefore, Staff's estimate of the cost of equity to the sample gas companies would require a *significant downward adjustment*, in addition to a capital structure adjustment (discussed later), in order to be applied to Arizona-American.

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

A. Staff's ROE recommendation for Arizona-American is 9.7 percent. This is 50 basis points higher than the average of Staff's DCF and CAPM estimates of 9.2 percent. Staff is recommending a ROE higher than its average estimate of 9.2 percent because Arizona-American's capital structure reflects greater financial risk than that of the sample water companies. The business risks associated with the nature of water utility operations have been accounted for through Staff's selection of proxy companies. In the next section I show that Staff's 50 basis point financial risk adjustment is appropriate.

The Effect of Arizona-American's Capital Structure on its Cost of Equity

Q. Is there an accepted formula by which the effect of Arizona-American's capital structure on its cost of equity can be estimated?

A. Yes. An estimate of the effect that a company's capital structure has on its cost of equity can be calculated by adjusting beta to reflect an increase or decrease in leverage. The *Value Line* betas for the sample water companies are "levered" betas – they reflect investors' perceptions of both the business risks and the financial risks of the firm. In other words, one portion of the *Value Line* beta is related to the business risk of the firm and one portion of the *Value Line* beta is related to the financial risk of that firm. We already know the capital structures and beta for each of the sample water companies followed by *Value Line*. Therefore, if we remove from each firm's beta that portion of risk related to the use of debt, we can estimate what the firm's beta would be if it were financed entirely with equity capital. This is known as the "unlevered" beta.[14] The following equation is used to estimate the unlevered beta for a firm:

[14] Unlevered betas are discussed on page 38 of *Cost of Capital: 2002 Yearbook*, published by Ibbotson Associates. Pp. 37-38.

Equation 6 :

$$\beta_{UL} = \frac{\beta_L}{1 + BD \div EC\ (1 - t)}$$

Where :

β_{UL} = unlevered beta
β_L = levered beta
BD = book debt
EC = equity capital
t = tax rate

Q. Did Staff calculate unlevered betas for the sample water companies?

A. Yes. Schedule JMR-10 shows how Staff calculated the unlevered beta for each of the sample water companies. The following table shows that the average raw beta[15] of the sample water companies decreases from .36 to .22 with the removal of all risk related to the use of debt. Therefore, a raw beta of .22 represents investors' perceptions of the business risks associated with the sample companies. Additionally, .22 represents what the sample companies' raw beta would be if they were financed entirely with equity.

[15] Betas published by *Value Line* have been "adjusted" for their presumed long-term tendency to converge toward 1.0. The adjustment process pushes high betas down toward 1.0 and low betas up toward 1.0. For purposes of calculating the capital structure adjustment to the cost of equity, Staff first "unadjusted" the *Value Line* betas to arrive at the "raw" beta, then "readjusted" the raw beta consistent with the method used by *Value Line*. The *Value Line* adjustment formula is [(raw beta x 0.67) + 0.35].

Table 7

Company	Value Line (levered) Raw Beta	Unlevered Raw Beta
American States Water	.37	.22
California Water Service	.37	.21
Connecticut Water Service	.37	.24
Middlesex Water	.30	.17
Philadelphia Suburban	.52	.30
SJW Corp.	.22	.16
Average	.36	.22

Q. Is there a method by which the unlevered beta can be "relevered" using the capital structure of Arizona-American to arrive at a beta that is more representative of Arizona-American's financial risk?

A. Yes. On average, the capital structures of the sample water companies are not as leveraged as Arizona-American, and reflect lower financial risk than Arizona-American's capital structure in this proceeding. In order to calculate a beta that is more representative of Arizona-American's financial risk, the unlevered beta discussed above can be relevered using Arizona-American's capital structure. Schedule JMR-11 shows Staff's calculation of the relevered beta. Staff has calculated the relevered raw beta to be .43. When adjusted, the relevered raw beta becomes .64.

Q. Can the relevered beta be used to estimate the effect of Arizona-American's capital structure on its cost of equity?

A. Yes. Once the relevered beta has been determined, the CAPM can be used to estimate the impact of the Company's capital structure on its cost of equity. Schedule JMR-12 shows Staff's CAPM estimates of the cost of equity using the *Value Line* levered beta (lines 1 – 3) as well as the relevered beta of .64 (lines 6 – 8). Column E of the same schedule shows

the required capital structure adjustment to the cost of equity, this is the simple difference between the cost of equity estimates derived from the *Value Line* levered beta and the estimates derived from the relevered beta. On average, Arizona-American's cost of equity is approximately 50 basis points *higher* than the cost of equity to the sample water companies.

V. RATE OF RETURN RECOMMENDATION

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

A. Staff recommends a ROR of 6.6 percent for Arizona-American, as shown in Schedule JMR-9 and the following table:

Table 8

	Weight	Cost	Weighted Cost
Long-term Debt	61.2%	4.6%	2.8%
Common Equity	38.8%	9.7%	3.8%
Cost of Capital/ROR			**6.6%**

Financial Integrity

Q. Will Staff's recommendation allow Arizona-American to maintain its financial integrity?

A. Yes. Staff's ROR recommendation results in a pre-tax interest coverage ratio of 3.2, calculated in column F of Schedule JMR-9. Interest coverage is one of the determinants of a company's bond rating – a higher ratio of earnings to interest results in a higher bond rating.[16] According to Standard & Poor's ("S&P") 2002 Corporate Ratings Criteria, the

[16] Brealey, Richard, Stewart C.Myers. *Principles of Corporate Finance*. 1995. McGraw-Hill. New York. p. 671.

median interest coverage ratio for an 'A' rated U.S. electric utility (Staff's most available proxy for a water company) is 3.4.[17]

VI. COMMENT ON THE DIRECT TESTIMONY OF COMPANY WITNESS THOMAS M. ZEPP

Q. Please summarize Dr. Zepp's ROE recommendations, analyses, and estimates.

A. Dr. Zepp recommends an 11.5 percent ROE. He calculates DCF estimates for a sample of water utilities and a sample of gas utilities. He also conducts three risk premium analyses based on water utilities and gas utilities, as well as an internal rate of return ("IRR") and CAPM to support his estimates. His range of equity cost estimates is 10.9 percent to 11.5 percent.[18] He recommends adding 60 basis points to the ROE to account for Arizona-American being more leveraged than the water utilities in his sample. Finally, he recommends that the ROR be multiplied by the current value of the Company's property, i.e., its fair value rate base ("FVRB") to determine earnings, rather than multiplying the ROR by the original cost rate base ("OCRB") and solving for a ROR that, when applied to the FVRB, produces the same dollar level of earnings.

Dr. Zepp's DCF Estimates

Q. Does Staff have any comments on Dr. Zepp's DCF estimates?

A. Yes, Staff has seven comments on Dr. Zepp's DCF estimates:

1. Staff disagrees with Dr. Zepp's exclusion of Connecticut Water and Middlesex Water from his sample of water utilities.
2. Staff disagrees with Dr. Zepp's exclusion of Cascade Natural Gas and Southwest Gas from his sample of gas distribution utilities.

[17] Standard & Poors 2002 Corporate Ratings Criteria. P. 54.
[18] Direct testimony of Thomas M. Zepp, Table 24.

3. Dr. Zepp's conclusion that gas utilities and water utilities have approximately the same level of risk is incorrect.
4. The use of a historical average dividend yield in the constant growth DCF formula is inappropriate and should not be given weight by the Commission.
5. Dr. Zepp's calculation of projected near-term earnings growth contains two errors.
6. Dr. Zepp's sole reliance on analysts' forecasts of future growth is inappropriate and results in inflated cost of equity estimates.
7. Dr. Zepp did not consider DPS growth in his DCF analysis. However, DPS growth is a fundamental component of a constant-growth DCF method such as Dr. Zepp uses.

I discuss these seven points below.

Sample Selection Problems

Q. Explain how Dr. Zepp's exclusion of Connecticut Water and Middlesex Water from his sample of water utilities is inappropriate.

A. Dr. Zepp's exclusion of Connecticut Water and Middlesex Water from his sample of water utilities is inappropriate because he provides no sound basis for excluding them. According to Dr. Zepp, Connecticut Water and Middlesex Water "have experienced increases in common stock prices that are substantially above the increases in prices for other water utility stocks and thus appear to be acquisition or merger candidates." (See direct testimony of Thomas M. Zepp, p. 14 at 7-9.)

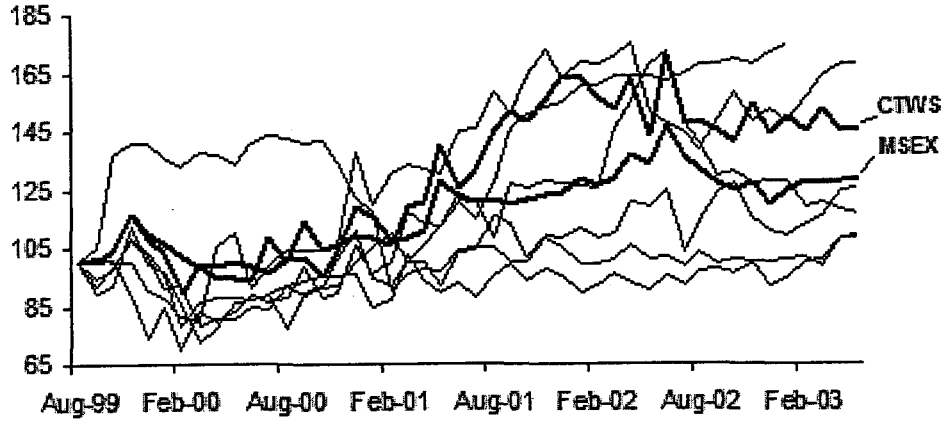
Q. Why would it be difficult to estimate the cost of equity using the DCF method if acquisition targets were included in the sample?

A. If a company is expected to be acquired at a premium, investors will bid the price of its stock up (and its dividend yield down) and the DCF method could understate the cost of equity.

Q. Have Connecticut Water and Middlesex Water experienced increases in common stock prices that are substantially above the increases in prices for the other *Value Line* water utilities?

A. No. In Chart 3 I have indexed the stock prices of the *Value Line* water utilities for August 1999, through May 2003. As Chart 3 shows, one cannot reasonably draw the conclusion that Connecticut Water (CTWS) and Middlesex Water (MSEX) are acquisition targets based solely on their stock prices.[19]

Chart 3: Indexed Returns for Value Line Water Utilities



[19] Chart 3 shows what $100 invested in each of the *Value Line* water utilities in August 1999, would be worth as of May 2003.

Q. Does Dr. Zepp offer any evidence such as press releases, announcements, or news articles that would suggest Connecticut Water and Middlesex Water, specifically, are acquisition targets?

A. No. It is Dr. Zepp's opinion that Connecticut Water and Middlesex water, specifically, have been bid up with the expectation that they will receive premiums in the future.

Q. Why does Staff disagree with Dr. Zepp's exclusion of Cascade Natural Gas and Southwest Gas from his sample of gas distribution utilities?

A. Staff disagrees with Dr. Zepp's exclusion of Cascade Natural Gas and Southwest Gas from his sample of gas utilities based on their medium-grade bond ratings. Bonds rated Baa (medium-grade) or above by Moody's, are known as investment-grade securities,[20] and are therefore included in Staff's sample of gas utilities.

Risk Comparison Problem

Q. Is Dr. Zepp's conclusion that gas utilities and water utilities have approximately the same level of risk (see direct testimony of Thomas M. Zepp. P. 16 at 11 – 12.) correct?

A. No. Dr. Zepp's conclusion that gas utilities and water utilities have approximately the same level of risk is incorrect because the average beta for the sample gas companies is .69, whereas the average beta for the sample water companies is .59.[21] Looking at the

[20] Brealey, Richard A., Stewart C. Myers. Principles of Corporate Finance. 1988. McGraw-Hill. New York. P. 563.
[21] See Column F of Schedule JMR-6 and Column F of Schedule JMR-17.

more relevant raw (unadjusted) betas, the difference is even more pronounced.[22] The average raw beta for the sample gas companies is .51, while the average raw beta for the sample water companies is .36.[23] Therefore, according to standard corporate finance principles, the sample gas companies are riskier in terms of market risk. Based on Staff's CAPM analysis, the cost of equity to the sample gas companies is approximately 100 basis points higher than the cost of equity to the sample water companies, based on the difference in market risk.

Q. Are Dr. Zepp's final cost of equity estimates consistent with his testimony that "the utilities in [his] water utilities sample and gas utilities sample have approximately the same level of risk." (See direct testimony of Thomas M. Zepp. P. 16 at 11 – 12.)

A. No. First, Dr. Zepp *assumes* that gas utilities have approximately the same level of risk as water utilities. Then, he implicitly assumes that gas utilities are riskier than water utilities by adjusting his estimates of the cost of equity to the gas utilities downward by 50 basis points. (See direct testimony of Thomas M. Zepp. P. 16 at 12 -13.) However, his adjustment is too small and appears to be arbitrary. As I stated previously, based on Staff's CAPM analysis, the cost of equity to the sample gas companies is approximately 100 basis points higher than the cost of equity to the sample water companies, based on the difference in market risk.

[22] Betas published by *Value Line* have been "adjusted" for their presumed long-term tendency to converge toward 1.00. The adjustment process pushes high betas down toward 1.0 and low betas up toward 1.0.
[23] See Column G of Schedule JMR-6 and Column G of Schedule JMR-17.

Miscalculated Price Problem

Q. Explain how Dr. Zepp's DCF estimates based on 3-month and 12-month average stock prices are inappropriate.

A. Dr. Zepp's DCF estimates based on 3-month and 12-month average stock prices are inappropriate because there is no point in "smoothing" stock prices for use in a model that assumes perfect markets.[24] The expected dividend yield requires the most recent spot stock price in the denominator of the calculation (D_1/P_0). Professor Myron Gordon, the father of modern DCF analysis advises:

> The term for dividend yield in the Eq. [1] expression for a share's yield is the forecast dividend for the coming period, D_1, divided by the current price, P_0. The value assigned to P_0 should be the price of the share at the time the share yield is being estimated. The rationale for using the current price is that at each point in time it reflects all the information available to a company's investors regarding future dividends.[25]

The most recent stock price is the only appropriate price to use in the denominator of the DCF equation in order to maintain consistency with the efficient markets hypothesis, a crux of modern corporate finance theory.

[24] Myers, Stewart C. "The Application of Finance Theory to Public Utility Rate Cases." *Bell Journal of Economics and Management Science*. Spring 1972. p. 73

[25] Testimony of professors Myron J. Gordon and Lawrence I. Gould, consultant to the Trial Staff (Common Carrier Bureau), FCC Docket 79-63, p. 63.

Q. Can Staff cite any further support for the use of a spot yield rather than a historical average?

A. Yes. The tendency of some analysts to violate financial principles and use a historical average dividend yield was the focus of a February 1, 1996, article in *Public Utilities Fortnightly*:

> To the extent that prior yields form a reference point for expectations of future yields, the information content of historic yields is already included in the current spot yield. Thus, to average the historic yield with the spot yield simply double counts any relevant historic information and leads us away from rather than toward the actual future yield.
>
> Note also that by averaging historical data we introduce more distant data into the analysis. This forces us to put less weight on the current spot yield, so that we can consider yields estimated in a period where market participants knew less about next year than they do today. This simply does not make sense.[26]

Q. Has the Commission ruled on the use of spot market data in estimating the cost of capital?

A. Yes. In Decision No. 64727, dated April 17, 2002, the Commission agreed with Staff's use of spot market data in estimating the cost of debt and equity.[27]

Growth Calculation Problem

Q. Are there any problems with Dr. Zepp's calculation of projected near-term earnings growth?

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[26] Kihm, Steven G. "The Superiority of Spot Yields in Estimating Cost of Capital." *Public Utilities Fortnightly.* February 1, 1996. pp. 42-45.
[27] Application of Black Mountain Gas Company. Docket No. G-03703A-01-0263.

A. Yes, there is one problem and one error:

1. When calculating projected near-term earnings growth Dr. Zepp states that he has relied upon the "industry average forecast reported by *First Call* in [his] analysis" instead of the individual forecasts for each firm in his sample. (See direct testimony of Thomas M. Zepp. p. 33 at 22 – 24.)

2. Dr. Zepp has omitted Philadelphia Suburban Corporation from his average of *Value Line* projected near-term earnings growth.

Q. Explain Dr. Zepp's first problem; relying on the near-term earnings growth forecast for the entire water utility industry instead of averaging the near-term earnings growth forecasts for each firm in the sample.

A. Relying on the near-term earnings growth forecast for the entire water utility industry instead of averaging the near-term earnings growth forecasts for each firm in the sample is inappropriate because it creates a mismatch between the expected dividend growth rate and the expected dividend yield. Applying the expected dividend growth rate for one group of companies to the expected dividend yield of another group when the first group may have increased its retention rate (reduced its payout ratio) will result in a meaningless cost of equity estimate. This occurs when the growth estimate for the entire industry is different than the average growth estimate for each firm in the sample. The following figure shows how a mismatch of this type can result in a meaningless cost of equity estimate:

Figure 1
Result of Mismatching Expected Growth and Expected Dividend Yield

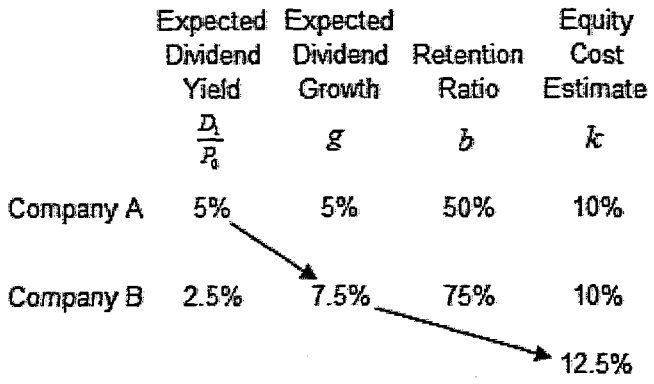

Figure 1 shows cost of equity estimates for two companies. The cost of equity estimate is 10 percent for each company. However, as shown in the diagram, Company B has increased its growth rate by increasing its retention ratio (and reducing is payout ratio, hence the lower dividend yield).[28] As shown in Figure 1, even though both companies may be in the same industry and have the same required return, adding the expected dividend growth rate of Company B to the expected dividend yield of Company A will result in a meaningless cost of equity estimate.

Forecasted Growth Problem

Q. Explain how Dr. Zepp's exclusive reliance on analysts' forecasts is inappropriate to forecast DPS growth and results in inflated cost of equity estimates.

[28] Reilly, Frank K., Keith C. Brown. Investment Analysis and Portfolio Management. South-Western. 2003. Mason, OH. pp.. 399-400.

A. Dr. Zepp's exclusive reliance on analysts' forecasts in his DCF analysis is inappropriate because it assumes that investors do not look at other information such as past dividend growth.

Q. Is there a problem with relying exclusively on analysts' forecasts of earnings in a DCF analysis.

A. Yes. Analysts' forecasts of earnings are known to be overly optimistic.

Q. How do you respond to Dr. Zepp's statement that, "To the extent that past DPS and EPS growth provide an indication of future growth prospects, analysts take such past information into account when they form their forecasts of the future?" (See direct testimony of Thomas M. Zepp. Page 26 at 14-17.)

A. First, Dr. Zepp has failed to show in this testimony or in his work papers that the analysts providing the forecasts in his DCF analysis have taken any such past information into account when formulating their projections. Second, while I agree that professional analysts *may* have considered past growth in their forecasts, the appropriate growth rate to use in the DCF formula is the dividend growth rate expected by *investors*, not analysts. Therefore, the reasonable assumption that investors rely, to some extent, on past growth in addition to analysts' forecasts, warrants consideration of both.

Q. On page 26, footnote 4, of his direct testimony Dr. Zepp cites a study conducted by David A. Gordon, Myron J. Gordon and Lawrence I. Gould[29] ("GG&G"), which he claims supports the exclusive use of analysts forecasts in the DCF model. How does Staff respond?

A. I have reviewed the article and found that GG&G do not conclude that investors ignore past growth when pricing stocks. Therefore, the GG&G article does not support the exclusive use of analysts' forecasts in the DCF model.

Q. In light of his participation in the GG&G study, does Professor Myron Gordon advocate the exclusive reliance on analysts' forecasts in his DCF model?

A. No. Subsequent to the GG&G study, Professor Gordon provided the keynote address at the 30th Financial Forum of the Society of Utility and Regulatory Financial Analysts, in which he stated:

> I understand that companies coming before regulatory agencies liked and advocated the high growth rates in security analyst forecasts for arriving at their cost of equity capital. Instead of rejecting these forecasts, I understand that FERC and other regulatory agencies have decided to compromise with them. In particular, in arriving at the cost of equity for company X, the FERC has decided to arrive at the growth rate in my dividend growth model by using an average of two growth rates. One is security analysts forecast of the short-term growth rate in earnings provided by IBES or Value Line and the other a more long run and typically lower figure such as the past growth in GNP.

[29] Gordon, David A., Myron J. Gordon, Lawrence I. Gould. "Choice Among Methods of Estimating Share Yield." *The Journal of Portfolio Management.* Spring 1989. pp. 50-55.

> Such an average can be questioned on various grounds. However, my judgment is that between the short-term forecast alone and its average with the past growth rate in GNP, *the latter may be a more reasonable figure.*[30] (emphasis added)

Q. How does Dr. Zepp's exclusive reliance on analysts' earnings forecasts result in inflated cost of equity estimates?

A. Dr. Zepp's exclusive reliance on analysts' earnings forecasts results in inflated cost of equity estimates because analysts' earnings forecasts are known to be overly optimistic. To the extent that investors are aware of the bias in analysts' projections of future earnings, they will make appropriate adjustments.

Q. Can you provide evidence to support your testimony that analysts' forecasts of future earnings are high?

A. Yes. Many experts in the financial community have commented on bias/over-optimism in analysts' forecasts of future earnings.[31] A study cited by David Dreman in his book Contrarian Investment Strategies: The Next Generation found that *Value Line* analysts were optimistic in their forecasts by 9 percent annually, on average for the 1987 – 1989 period. Another study conducted by David Dreman found that between 1982 and 1997,

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[30] Gordon, M. J. Keynote Address at the 30th Financial Forum of the Society of Utility and Regulatory Financial Analysts. May 8, 1998. Transparency 3.

[31] See Seigel, Jeremy J. Stocks for the Long Run. 2002. McGraw-Hill. New York. p. 100. Malkiel, Burton G. A Random Walk Down Wall Street. 1999. W.W. Norton & Co. New York. p. 169. Dreman, David. Contrarian Investment Strategies: The Next Generation. 1998. Simon & Schuster. New York. pp. 97-98. Testimony of Professors Myron J. Gordon and Lawrence I. Gould, consultant to the Trial Staff (Common Carrier Bureau), FCC Docket 79-63, p. 95.

analysts overestimated the growth of earnings of companies in the S&P 500 by 188 percent.

Burton Malkiel of Princeton University studied the one-year and five-year earnings forecasts made by some of the most respected names in the investment business. The results showed that when compared with actual earnings growth rates, the five-year estimates of professional analysts were worse than the predictions from several naïve forecasting models, such as the long-run rate of growth of national income. Professor Malkiel discusses the results of his study in the following quote from his book A Random Walk Down Wall Street:

> When confronted with the poor record of their five-year growth estimates, *the security analysts honestly, if sheepishly, admitted that five years ahead is really too far in advance to make reliable projections.* They protested that although long-term projections are admittedly important, they really ought to be judged on their ability to project earnings changes one year ahead.
>
> Believe it or not, it turned out that their one-year forecasts were even worse than their five-year projections. It was actually harder for them to forecast one year ahead than to estimate long-run changes.
>
> The analysts fought back gamely. They complained that it was unfair to judge their performance on a wide cross section of industries, because earnings for electronics firms and various "cyclical" companies are notoriously hard to forecast. *"Try us on utilities," one analyst confidently asserted. So we tried it and they didn't like it. Even the forecasts for the stable utilities were far off the mark. Those the analysts confidently touted as high growers turned out to perform much the same as the utilities for which only low or moderate growth was predicted.*[32] (emphasis added)

[32] Malkiel. pp. 168-169.

Q. Are investors aware of the problems associated with analysts' forecasts?

A. Yes. In addition to books, numerous articles appearing in *The Wall Street Journal* and other publications have cast a negative light on research analysts and their forecasts.[33] One such article, entitled "Analysts: Still Coming Up Rosy" appeared in the January 27th, 2003, edition of *The Wall Street Journal*. According to the article, "stock analysts are unshaken in their optimistic, if delusional, belief that most of the companies they cover will have above average, double-digit growth rates during the next several years. That is, of course, highly unlikely."[34] As stated previously, to the extent that investors are aware of the bias in analysts' projections of future earnings, they will make appropriate adjustments.

Q. Can Staff identify any other problems with relying exclusively on analysts' forecasts?

A. Yes. Another problem with relying exclusively on analysts' forecasts and ignoring past growth is that the results are entirely dependant on the source of the particular forecast. For example, Dr. Zepp uses data from *First Call* and *Value Line* to estimate projected near-term earnings growth. His estimate is 7.1 percent. However, *Zacks Investment Research*, which is readily available, projects an average near-term earnings growth rate of just 5.5 percent for the companies in Dr. Zepp's sample.

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[33] See Brown, Ken. "Analysts: Still Coming Up Rosy." *The Wall Street Journal*. January 27, 2003. p. C1. Karmin, Craig. "Profit Forecasts Become Anybody's Guess." *The Wall Street Journal*. January 21, 2003. p. C1. Gasparino, Charles. "Merrill Lynch Investigation Widens." *The Wall Street Journal*. April 11, 2002. p. C4. Elstein, Aaron. "Earnings Estimates Are All Over the Map." *The Wall Street Journal*. August 2, 2001. p. C1. Dreman, David. "Don't Count on those Earnings Forecasts." *Forbes*. January 26, 1998. p. 110.

[34] Brown. p. C1

Q. Should Dr. Zepp have considered DPS growth in his DCF analysis?

A. Yes. Dr. Zepp's failure to consider DPS growth in his DCF analysis assumes that investors ignore DPS growth when pricing stocks. In the DCF model, the price of a security is the discounted value of cash flows received by the investor. Equity investors receive dividends, not earnings. According to Wharton School finance Professor Jeremy Siegel:

> Note that the price of the stock is always equal to the present value of all future *dividends* and not the present value of future earnings. Earnings not paid to investors can have value only if they are paid as dividends or other cash disbursements at a later date. Valuing stock as the present discounted value of future earnings is manifestly wrong and greatly overstates the value of the firm.[35]

Q. Has Dr. Zepp agreed with Staff's assumption that investors would look at DPS as well as EPS?

A. Yes. In a 1999 Oregon proceeding, when asked if investors preferred DPS growth or EPS growth, Dr. Zepp testified:

> *According to me, investors would look at both*, but this particular testimony here refers to your testimony, in which you didn't look at earnings per share growth. And my point is, if you're only going to look at one – in my view, if you were only going to look at one, investors would look at earnings per share growth. That's the testimony, and I still stand by that testimony, but as I've stated, *I would look at both.*[36] (emphasis added)

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[35] Siegel. P. 93.
[36] Sworn Testimony of Dr. Thomas M. Zepp, dated January 21, 1999. Before the Public Utility Commission of Oregon. Docket UM 903. p. 9 at 19 – 25 and p. 10 at 1 – 3.

Additionally, Dr. Zepp testified in the same proceeding:

> Investors would examine past and forecasted growth in earnings per share ("EPS"), *dividends per share ("DPS")* and other trends that provide indications about what future growth would be.[37]

Therefore, based on his own testimony in a previous proceeding, Dr. Zepp should have considered DPS growth in his DCF analysis.

Q. Can Staff cite any other cost of equity studies for water utilities where Dr. Zepp relied on historical DPS growth?

A. Yes. In Docket No. W-01445A-02-0619 (Arizona Water Company) Dr. Zepp calculates cost of equity estimates for four California water utilities. In estimating constant dividend growth, Dr. Zepp averages past DPS growth, EPS growth, and sustainable growth.

Dr. Zepp's Internal Rate of Return Analysis

Q. On pages 36 to 40 Dr. Zepp conducts an internal rate of return ("IRR") analysis of Connecticut Water ("Connecticut") and Middlesex Water ("Middlesex") in which he calculates a cost of equity range of 10.4 percent to 13.2 percent. Should Dr. Zepp's internal rate of return analysis be given any weight by the Commission?

A. No. Dr. Zepp's IRR analysis should be given no weight by the Commission for the following reasons:

1. Dr. Zepp's conclusion that the standard (constant growth) version of the DCF model produces implausible cost of equity estimates is incorrect.

[37] Rebuttal Testimony of Thomas M. Zepp, dated December 17, 1998. Before the Public Utility Commission of Oregon. Docket UM 903. p. 17 at 12-14.

2. The Commission should reject any cost of equity analysis that relies on such assumptions as those made by Dr. Zepp in his IRR analysis.

Q. How does Dr. Zepp conclude that the standard version of the DCF model produces implausible cost of equity estimates for Connecticut and Middlesex?

A. Dr. Zepp concludes that the standard version of the DCF model produces implausible cost of equity estimates for Connecticut and Middlesex by using a combination of his own data and data I presented in testimony of February 2002[38], to calculate cost of equity estimates that are below the August 2002 yield on Baa rated bonds.

Q. Is Dr. Zepp correct in his conclusion that the standard version of the DCF model produces cost of equity estimates for Connecticut and Middlesex that are below the yield on Baa rated bonds?

A. No. Regardless of what Dr. Zepp concluded from my February 2002 testimony, the constant growth DCF model does not produce cost of equity estimates that are below the yield on Baa rated bonds. Using expected dividend yields of 3.35 percent and 3.99 percent and estimated growth of 4.58 percent and 4.85 percent, the constant growth DCF model produces cost of equity estimates for Connecticut and Middlesex of 7.9 percent and 8.8 percent, respectively. These estimates are well above the May 2003 yield on Baa rated Utility and Corporate bonds of 6.78 percent and 6.68 percent, respectively.

Q. What assumptions does Dr. Zepp make in his IRR analysis?

A. Dr. Zepp makes several brave assumptions. He *assumes* that the stock prices of Connecticut and Middlesex include an anticipated stock price premium resulting from

[38] Direct Testimony of Joel M. Reiker, dated February 11, 2002. Docket No. W-02025A-01-0559.

either a future merger or acquisition. (See direct testimony of Thomas M. Zepp. p. 37 at 8 – 10.) He *assumes* that investors expect to receive a 35 percent to 59 percent premium. (See direct testimony of Thomas M. Zepp. Table 20.) And he *assumes* that the acquisition/merger is expected to occur between two and three years *into the future*. (See direct testimony of Thomas M. Zepp. p. 39 at 4 – 6.)

Q. Why should the Commission reject any cost of equity analysis that relies on such assumptions as those made by Dr. Zepp in his IRR analysis?

A. The Commission should not rely on any cost of equity analysis that relies on such assumptions because doing so greatly increases estimation error in cost of equity calculation. Cost of equity calculation is subject to enough estimation error without introducing additional assumptions. Further, the Commission has no reason to rely on such a model proposed by Dr. Zepp because to the extent that corporate bond yields can be compared to equity costs, the standard version of the DCF model produces reasonable cost of equity estimates for Connecticut and Middlesex.

Dr. Zepp's Risk Premium Estimates

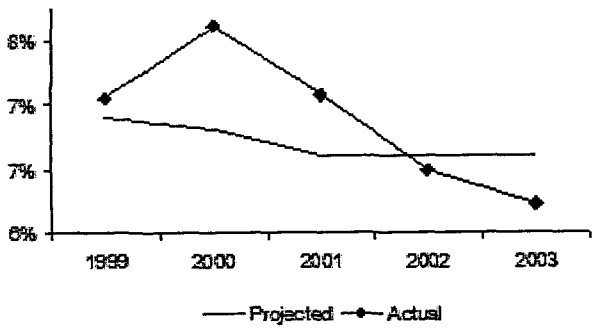
Q. Please describe Dr. Zepp's "risk premium" analysis.

A. Dr. Zepp examines the difference between the returns on proxies for Arizona-American and Baa corporate bond yields. He performed three studies and calculated three ranges of risk premia. He then adds these risk premia to a range of consensus forecasts of the Baa corporate bond rate compiled by *Blue Chip Financial Forecasts*.

Q. In general, is Dr. Zepp's "risk premium" method valid to estimate Arizona-American's cost of equity?

A. No. Dr. Zepp's risk premium method is not valid to estimate Arizona-American's cost of equity because it relies on forecasts of the Baa corporate bond rate. The Commission should not rely on forecasts of interest rates. Analysts who forecast future rates do not have any more information about the future than what is already reflected in the current rate. Analysts' tendency to be wrong in their forecasts of future interest rates is illustrated in Chart 4. The graph shows *Blue Chip Financial Forecasts* consensus forecasts of the Aaa corporate bond rate versus the actual rate:

Chart 4: Actual vs. Projected Aaa Bonds



An examination of Dr. Zepp's own risk premium analysis shows how bad professional analysts are at predicting interest rates. For example, Dr. Zepp relies on a range of consensus forecasts of the Baa bond rate compiled by *Blue Chip Financial Forecasts* in June 2002, for the period 2003 to 2004. This range averages 8.15 percent. As of May 2003, the actual Baa corporate bond rate was 6.68 percent – a difference of 147 basis points.

Relying on interest rate forecasts unnecessarily introduces forecasting error into cost of capital calculation, as well as estimation error. Cost of capital estimation errors should be minimized, not enlarged.

According to Nancy L. Jacob of the University of Washington and R. Richardson Pettit of the University of Houston:

> While we know something about many of the factors that *determine* interest rates (money supply, the demand for loanable funds, etc.) little evidence exists to suggest these factors can be predicted with enough accuracy to successfully *predict* the rates.[39]

This notion is consistent with the efficient markets hypothesis.

Q. Does Staff have any other general concerns about Dr. Zepp's risk premium method?

A. Yes. First, while the risk premium approach is based on a general rule of thumb that common stocks are riskier than bonds, the Commission should primarily rely on cost of equity models developed in the corporate finance literature rather than on rules of thumb, to the greatest extent possible. Staff recommends that the Commission rely on the CAPM rather than Dr. Zepp's "risk premium" method. The CAPM was developed by Nobel Prize winning economists and is the most popular method of estimating the cost of equity among CFOs.[40]

Second, in his first two studies Dr. Zepp assumes that ROEs authorized by regulatory commissions provide "unbiased estimates of the cost of equity facing utilities at different points in time." (See direct testimony of Thomas M. Zepp. p. 42 at 9–10.) This is problematic because the capital markets determine the cost of equity, not regulatory commissions. Further, this Commission has no way of knowing how these other cases were resolved. Allowed returns often reflect various incentives and disincentives put into

[39] Jacob, Nancy L., R. Richardson Pettit. *Investments*. Irwin. Homewood, Ill. 1988. p. 499.
[40] Graham, John R., Campbel R. Harvey. pp. 187-243.

place by each state commission for various purposes which likely do not, and would not, apply to Arizona-American. This Commission cannot rely on previously authorized ROE's because it cannot know the particulars behind each case nor could it cross-examine witnesses in those cases even if it did know the particulars.

Third, Staff has general concerns about the use of a corporate bond rate to imply equity risk premiums. Because a corporate bond contains some default risk which is diversifiable, the investor's expected rate of return is lower than the bond's yield to maturity.[41] Therefore, the yield to maturity on a corporate bond cannot be compared to the cost of equity. Professor Laurence Booth of the Rotman School of Management at the University of Toronto states the following:

> As for the premium over long term A bond yields, it has to be pointed out here that corporate bonds are default risky. The maximum return you can get from a corporate bond held to maturity is the yield to maturity. Since corporate bonds are default risky, the investor's expected rate of return is significantly lower than the yield to maturity. As a result, *the yield to maturity on a corporate bond is not an estimate of the investor's required rate of return, and cannot be meaningfully compared to the [cost of equity]*. Only the yield to maturity on a default free government bond is an estimate of a required rate of return, similar to the [cost of equity]. This is why *all risk comparisons should be to government default free bonds, otherwise you mix apples and oranges.*[42] (emphasis added)

Finally, Staff finds Dr. Zepp's choice of the Baa rated corporate bond rate to be inappropriate to calculate his risk premia. This is because risk premiums for securities can change over time.[43] Chart 5 shows the spread between the yields to maturity for Aaa-rated

[41] Weston, J. Fred, Thomas E. Copeland. Managerial Finance. The Dryden Press. 1986. Chicago. pp. 434 – 435.
[42] Booth, Laurence. "The Importance of Market-to-Book Ratios in Regulation." NRRI Quarterly Bulletin. Winter 1997. pp. 415 - 425.
[43] Reilly, Frank K., Keith C. Brown. Investment Analysis and Portfolio Management. South-Western. 2003. Mason, OH. p. 394.

corporate bonds and Baa-rated corporate bonds from 1974 through the present. The spread shown in Chart 5 is a measure of the risk premium for investing in higher-risk Baa-rated corporate bonds over low-risk Aaa-rated corporate bonds.

Chart 5: Moody's Corporate Bond Yield Spreads (Baa - Aaa)

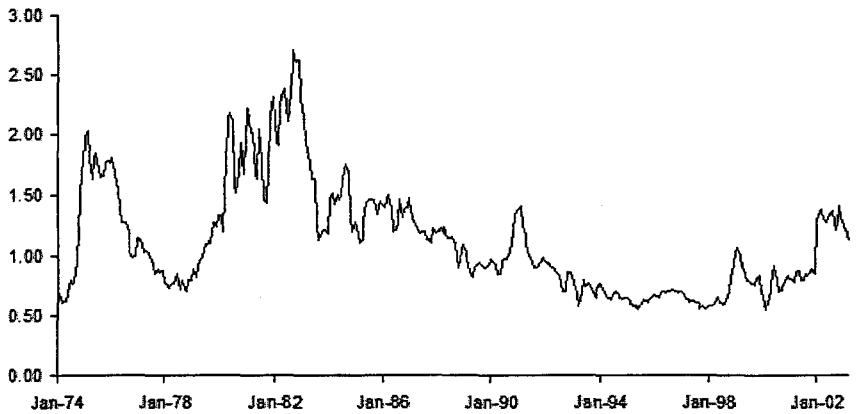


Chart 5 supports the statement above that one cannot use corporate bonds to imply meaningful equity risk premiums because the default risk for corporate bonds can change significantly over time.

Dr. Zepp's First Risk Premium Study

Q. What is Dr. Zepp's first study?

A. Dr. Zepp's first study is based on the difference between past accounting returns on equity to some undefined sample of companies "comparable" to San Gabriel Valley Water Company compiled by the staff of the California Public Utilities Commission ("CPUC") and Baa corporate bond rates. Dr. Zepp's first study also relies on data from *C.A. Turner Utility Reports* ("*C.A. Turner*"), and assumes that (1) authorized ROE's equal the cost of equity, and (2) the companies have earned 40 basis points less than their authorized

ROE's, and adjusts his risk premia upward on this assumption. His risk premia estimates are 3.21 percent and 3.27 percent.

Q. Does Staff have any specific concerns regarding Dr. Zepp's first study?

A. Yes. Dr. Zepp has failed to confirm in his testimony or in his work papers that the companies used by the CPUC staff to calculate accounting returns on equity are (1) all water companies, or comparable in risk, to Arizona-American, (2) the same, or even comparable in risk, to the companies generating the *C.A. Turner* data, or (3) that they have earned less than their authorized ROE's.

Dr. Zepp's Second Risk Premium Study

Q. What is Dr. Zepp's second study?

A. Dr. Zepp's second study relies on previously authorized ROEs for gas utilities to compute a "risk premium" above the Baa corporate bond rate. His risk premia estimates under this approach are 3.27 percent and 3.32 percent.

Q. Is Dr. Zepp's second study appropriate?

A. No. The Commission should not rely on Dr. Zepp's second study for the reasons stated above with respect to authorized ROEs granted by other commissions in other jurisdictions. Further, Dr. Zepp has not shown that the companies used in his second risk premium study are comparable in risk to Arizona-American, or are water utilities at all.

Dr. Zepp's Third Risk Premium Study

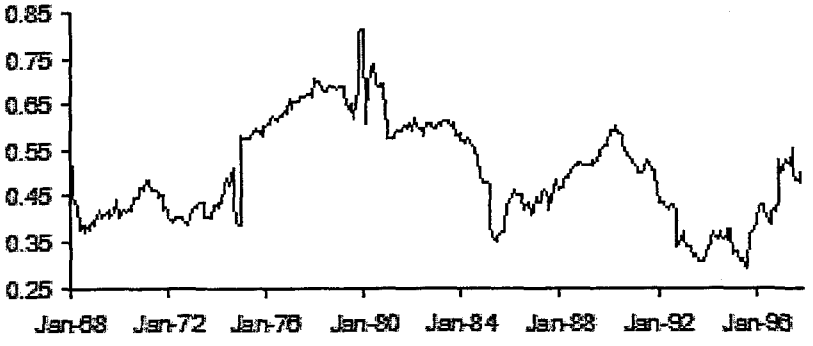
Q. What is Dr. Zepp's third study?

A. Dr. Zepp's third study examines the difference between historical returns for Moody's gas distribution utility stock index and Baa corporate bond rates for the period 1954 to 2000. Under this approach, Dr. Zepp calculates an average risk premium of 3.67 percent.

Q. Is his third risk premium study appropriate?

A. No. Dr. Zepp's third risk premium study is not appropriate because he has failed to account for changing industry risk over time. His method is inconsistent with current capital market conditions to the extent that gas distribution utility risk has changed in the past 49 years. The following graph shows the change in average gas distribution utility betas from 1968 to 1997:[44]

Chart 6: Average Gas Distribution Utility Betas Over Time



Clearly, industry risk can change over time.

Further, Dr. Zepp has failed to show a relationship between water utility risk and gas distribution utility risk over the past 49 years. Even if he could show such a historical relationship, past risk is not relevant to current risk and its required return.

[44] Sample average raw O.L.S. betas from a sample of nine local distribution companies, calculated at the Public Utility Commission of Oregon.

Dr. Zepp's CAPM Analysis

Q. How did Dr. Zepp implement the CAPM?

A. According to Dr. Zepp, he adopted the CAPM used by Staff in the Green Valley Water Company rate case.[45] In the Green Valley rate case Staff used intermediate-term Treasuries as the risk-free rate (R_f) and *Value Line* adjusted betas. However, Dr. Zepp introduced one critical difference. The difference between Dr. Zepp's CAPM analysis in this case and Staff's CAPM analysis in the Green Valley rate case is that Dr. Zepp uses a long-term Treasury security as the risk-free rate (R_f).

Q. Does Staff agree with Dr. Zepp's CAPM analysis?

A. No. Staff disagrees with Dr. Zepp's choice of a long-term Treasury bond as the risk-free rate (R_f).

Q. Why does Dr. Zepp use a long-term Treasury bond as the risk-free rate in his CAPM Analysis?

A. Dr. Zepp chose a long-term Treasury bond as the risk-free rate in his CAPM analysis on the assumption that the required return on the "zero beta" asset is higher than the yield on intermediate-term and long-term Treasury securities. He explains his choice of a long-term Treasury bond in footnote 14 of his direct testimony:

> Results of empirical studies of the CAPM and modification of the assumptions of the original (Sharpe-Lintner) CAPM both indicate the required return for the zero beta asset is higher than the yield on long-term Treasury securities and even higher than the return on intermediate-term Treasury notes or Treasury bills. (See direct testimony of Thomas M. Zepp. p. 45 at 20 – 22.)

[45] Docket No. W-02025A-01-0559.

Q. What is the zero beta asset?

A. The zero beta asset is a portfolio of assets both held and short-sold that has no covariability with the market portfolio. The required return on the zero-beta asset (R_z) is used in place of the return on U.S. Treasuries (R_f) in the zero-beta version of the CAPM. The zero beta CAPM is said to be flatter than the original CAPM, resulting in higher expected returns for low beta stocks and lower expected returns for high beta stocks compared to the simple CAPM.

Q. Did Staff ask for copies of the studies which Dr. Zepp claims indicate the required return for the zero beta asset is higher than the yield on intermediate-term and long-term Treasuries?

A. Yes. Staff asked for copies of such studies in data request JMR 33-1. The response included studies which indicated a higher intercept than what the CAPM predicted, that is, a zero beta asset with a higher required return than Treasury *bills*. However, unlike Staff's CAPM analysis, the CAPM tests used *short-term* Treasury bills and *raw* (unadjusted) betas. Dr. Zepp has not provided evidence that the results of CAPM studies which use *short-term* Treasury bills and *raw* betas can be appropriately applied to a CAPM application such as Staff's that uses *intermediate-term* Treasury notes, which generally have *higher* returns than T-bills, and *Value Line* betas that are adjusted towards 1.0, which *increase* the required returns for low beta stocks such as utilities. In other words, Staff's CAPM analysis already produces required returns higher than what the original CAPM would produce.

Dr. Zepp's Testimony on Baa Corporate Bond Rates

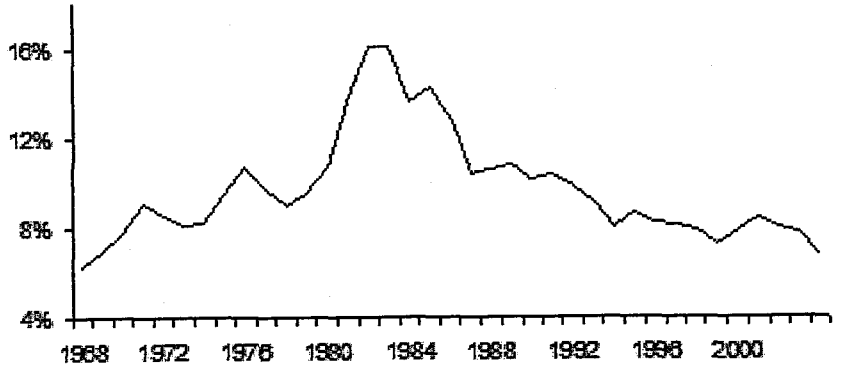
Q. In Section of V of his testimony Dr. Zepp makes some general observations about financial conditions and forecasts that "provide perspective about the cost of equity now faced by Arizona-American" Dr. Zepp states that "with the exception of 2000, interest rates for Baa corporate bonds are forecasted to be higher than they were in every year since 1996." (See direct testimony Thomas M. Zepp. p. 21 at 14 – 16.) Is his statement relevant?

A. No, his statement is not relevant. Staff demonstrated how bad professional analysts are at predicting future interest rates, and time has shown the interest rate forecasts Dr. Zepp relies on to be incorrect and not helpful information for estimating required returns on equity.

Q. Can Staff provide a more informative and factual perspective on the cost of capital?

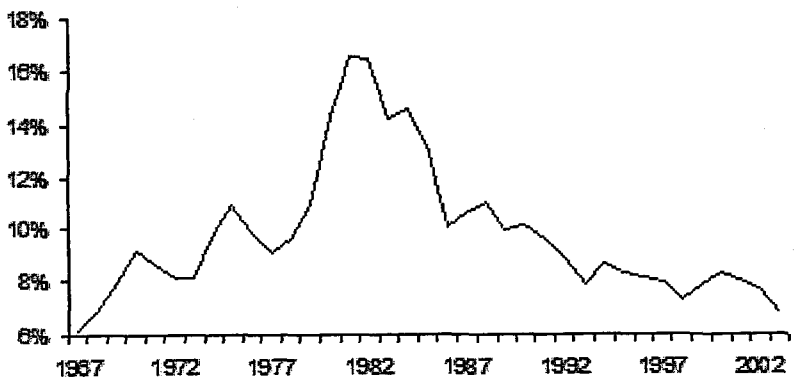
A. Yes. Interest rates for Baa corporate bonds are *lower* than they were in every year since *1967*. The following graph provides a more informative and factual perspective:

Chart 7: Baa Rated Corporate Bond Yields



Baa-rated *utility* bonds have performed in the same manner. Interest rates for Baa rated utility bonds are *lower* than they were in every year since *1967*. See the following graph:

Chart 8: Baa Rated Utility Bond Yields



Schedule JMR-20 shows actual Baa corporate and utility bond yields for 1967 to 2003. These low Baa bond yields are consistent with the currently low costs of capital.

Financial Risk Adjustment

Q. Does Staff necessarily disagree with Dr. Zepp's financial risk adjustment?

A. No, Staff does not theoretically disagree with Dr. Zepp's final recommendation of 60 basis points. However, compared to Staff's capital structure adjustment of 50 basis points, Dr. Zepp's "conservative" recommendation is actually too large.

Q. Is Staff's method of calculating the capital structure adjustment more appropriate than Dr. Zepp's method?

A. Yes. The basis of Dr. Zepp's methodology was set forth by Franco Modigliani and Merton Miller ("MM") in the 1950's. Staff's approach uses the methodology developed subsequently by Professor Robert Hamada of the University of Chicago, which incorporates the MM capital structure theories with the CAPM. The Hamada equation is generally used to estimate the effect leverage has on a stock's beta.[46]

[46] Radcliffe, Robert C. Investment Concepts, Analysis, and Strategy. 1982. Scott, Foresman and Company. Glenview, Ill. p. 525.

Business Risk

Q. In Section IV of his testimony Dr. Zepp cites additional so-called business risks that he claims increase Arizona-American's cost of equity (See direct testimony of Thomas M. Zepp. Pp. 17 – 21.) Would investors require higher returns for these so-called business risks?

A. No. Rational investors would not require higher returns for such unique factors as the federal government's revision of the arsenic drinking water standard and the Commission's use of a historical test year. Below, Staff deals with each of these so-called business risk factors and Staff shows that they do not, or have not been shown to, affect the cost of equity.

EPA Requirements

Q. Dr. Zepp claims that Arizona-American faces new risks related to the federal government's requirement to remove arsenic from water supplies. Do any of the risks Dr. Zepp claims Arizona-American faces as a result of a new arsenic standard affect its systematic risk, the only form of risk that affects the cost of equity?

A. No. To the extent that any risk related to EPA requirements is unique to Arizona-American, it would not be priced by the market. Investors do not care about unique risks because they wash out of diversified portfolios. This is known as Modern Portfolio Theory ("MPT"). This concept has been characterized as one of the six most important ideas in finance.[47] In 1990 the Nobel Prize in Economic Sciences was awarded to Harry

[47] Brealey, Richard, Stewart C. Myers, Alan J. Marcus. Fundamentals of Corporate Finance. 1995. McGraw-Hill. New York. pp. 664-665.

Markowitz, Merton Miller, and William Sharpe for their contribution to MPT and the CAPM.

Q. What are the implications of the EPA requirements for Arizona-American?

A. The EPA requirements mean that, at some point in the future, Arizona-American will have to add rate base. However, this growth in the Company's assets is quite simply *growth*, not risk.

Q. Has the Commission agreed with Staff on this issue?

A. Yes. In Decision No. 64282, dated December 28, 2001, the Commission said the following:

> We do not agree with the Company's proposal to assign a risk premium to Arizona Water based on ... the United States Environmental Protection Agency's ("EPA") proposed revision to the arsenic drinking water standards.
>
> With respect to the EPA's standards, we note that all water companies will be affected by the new rules and we do not believe that the arsenic standards should be used to attach a higher level of risk to Arizona Water.

The Commission should make the same finding in this case.

Historical Test Year

Q. On page 20 of his testimony Dr. Zepp asserts that Arizona-American faces more risk than the utilities in his sample because it has rates based on an historical test year, with limited ability to make post-test-year adjustments. Is equity risk related to test year conventions?

A. No. The test year convention does not affect risk. A test year is simply the vehicle to determine average costs and tariffs. Business risk is mainly related to consumption, which is independent of the test year convention.

Q. Has the Commission ever granted an equity premium to account for its use of a historical test year?

A. No. To my knowledge, the Commission has never granted a ROE premium to account for its use of a historical test year. The Commission should not grant an equity premium to account for a historical test year in this case either.

Q. Even if Staff did not make post test-year adjustments, would the use of an historical test year affect Arizona-American's cost of equity?

A. No. The relevant risk measure of any asset, including Arizona-American's common equity, is its covariance with the market portfolio.[48] Dr. Zepp has failed to show any correlation between the use of a historical test year and the market portfolio. Therefore, even if Staff did not make reasonable post test year adjustments, the use of a historical test year would not affect Arizona-American's systematic risk, the only form of risk relevant to the cost of equity. Dr. Zepp essentially proposes that the Commission give excess profit to every company its sets rates for, at the expense of Arizona consumers.

Dr. Zepp's Testimony on the Market-to-Book Ratio

Q. On pages 29 through 32 of his direct testimony Dr. Zepp rebuts testimony you gave in a previous proceeding[49] in which you stated that the financial implication of a

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[48] Reilly, Frank K., Keith C. Brown. Investment Analysis & Portfolio Management. 2003. South-Western. Mason, OH. p. 248.

[49] See direct testimony of Joel M. Reiker. Docket No. W-02025A-01-0559. p. 14 at 16-18.

market-to-book ratio greater than 1.0 is that investors expect the utility to earn book returns on equity greater than its cost of equity. Dr. Zepp characterizes the above implication as a "naïve arithmetic model" and offers several reasons for the market-to-book ratio of a regulated utility to be above 1.0. Please comment.

A. As I stated in the testimony cited by Dr. Zepp and in Section III of this testimony, rate orders do not force market-to-book ratios to 1.0 for a variety of reasons. However, the fact that market-to-book ratios for regulated companies may be above 1.0 for any of the reasons cited previously does not mean that this basic proposition in finance is wrong. In the article cited in footnote 42, Professor Booth recognizes different reasons for the market-to-book ratio of a regulated utility to be above 1.0. Professor Booth also states the following:

> Theoretically, there is no question whatsoever that a market-to-book ratio of 1.50 indicates that the [cost of equity] is less than the [allowed rate of return on equity], *we have never even come across a company witness who would disagree with that proposition.*[50] (emphasis added)

Q. Does inclusion of the stock financing (vs) growth term in your DCF analysis make the market-to-book ratio issue moot?

A. Yes. Staff included the vs growth term in its intrinsic growth rate calculation to account for the assumption that the average market-to-book ratio for the sample water companies is expected to remain above 1.0.

[50] Professor Booth is a colleague of Myron Gordon, who has been characterized in this testimony as the father of modern DCF analysis.

Earnings Requirement

Q. What is Dr. Zepp's recommendation regarding the rate base to which the ROR is applied?

A. Dr. Zepp recommends that the ROR be multiplied by the current value of the Company's property, i.e., its reproduction cost, to determine earnings, rather than multiplying the ROR by the OCRB and solving for a ROR that, when applied to the reproduction cost, produces the same dollar level of earnings.

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

A. Yes. Because Arizona-American's reproduction cost new rate base ("RCNRB") is greater than its OCRB, applying the market-based ROR to the RCNRB to determine earnings provides the Company and its investors with a windfall gain at the expense of Arizona consumers.

Q. On pages 10 and 11 of his testimony Dr. Zepp recognizes that the value of the RCNRN could be less than the value of the OCRB. If Arizona-American's RCNRB was smaller than its OCRB and the market-based ROR was multiplied by the RCNRB to determine earnings, would the Company expect to earn its cost of capital on its investment?

A. No. If Dr. Zepp's recommendation was adopted and the RCNRB was smaller than the OCRB, the Company would expect to earn *less* than the cost of capital on its investment. Dr. Zepp's recommendation is confiscatory and violates the widely accepted capital attraction standard when the RCNRB is smaller than the OCRB.[51]

[51] Myers, Stewart C. "The Application of Finance Theory to Public Utility Rate Cases." *Bell Journal of Economics and Management Science.* Spring 1972. p. 80.

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

A. Yes. Here is a simple example that reveals the fallacy of Dr. Zepp's argument: 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 company's cost of capital/ROR is 5.0 percent. Applying the 5.0 percent ROR to the $100 OCRB yields the $5 in earnings the company needs to repay its debt – no less and no more. However, if a RCNRB were determined, through whatever means, and that RCNRB were $200, then the company would be granted $10 (5.0% times the $200 RCNRB) in rates to cover its cost of capital, or twice its need. This is surely unfair to ratepayers. If the RCNRB happened to be $50 then the company would be granted $2.50 (5.0% times the $50 RPNRB). This is surely unfair to the company. Only the OCRB yields the correct earnings.

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

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

Q. On page 30 of his testimony Dr. Zepp states "...the Arizona courts require rates and revenue requirements to be based on the fair value of the utility's property at the time of inquiry, not an OCRB. Thus, it is clear that in Arizona, at least, investors

should expect that market prices for shares of common stock for utilities that have a [fair value rate base] that is larger than the OCRB to exceed book values even if the utility is earning no more than its cost of equity." Do you agree?

A. No. All else equal, if a utility is expected to earn a book return on equity no more than its cost of equity, investors should *not* expect the market price of that utility's common stock to exceed book value - even if its earnings were determined by multiplying the ROR by a RCNRB that was greater than its OCRB. Theoretically, rational investors have no reason to drive the price of a utility's stock above book value if they expect that utility to earn a book return on equity no more than its cost of equity, regardless of how earnings are determined.

Q. If Arizona-American's RCNRB was smaller than its OCRB and the market-based ROR was multiplied by the RCNRB to determine 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.[52] If a utility's earnings were determined by multiplying a market-based ROR by a RCNRB 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.

Dr. Zepp correctly notes that under his recommendation prices paid by ratepayers may be lower when the RCNRB is less than the OCRB, but fails to recognize that the utility

[52] Bonbright, James C., Albert L. Danielsen, and David R. Kamerschen. Principles of Public Utility Rates. Public Utilities Reports. Arlington, VA. 1988. pp. 225 – 226.

would not expect to earn the cost of capital on its investment, and would be unable to maintain its credit.

Q. Does Dr. Zepp make the same recommendation for other Arizona class A water utilities?

A. No. On August 14, 2002, Dr. Zepp filed testimony in Docket No. W-01445A-02-0619 in which he recommends a ROE to be used in setting rates for Arizona Water Company. He does not recommend that ROE be applied to the reproduction cost of Arizona Water's assets even though Arizona Water benefits from the same Arizona Constitution and court decisions as Arizona-American.

Q. Does Dr. Zepp offer any sound economic reason for applying the market-based ROR to the RCNRB of a regulated utility to determine its earnings requirement?

A. No, Dr. Zepp does not offer any kind of economic reasoning or theory to support the application of a market-based ROR to the RCNRB to determine the earnings requirement of a regulated utility. On pages 11 and 12 of his testimony Dr. Zepp states that he is not an attorney and does not intend to present a legal opinion. Nevertheless, Dr. Zepp's argument is based entirely on his legal interpretation of the Arizona Constitution and court decisions.

VII. CONCLUSION

Q. Please summarize your recommendations.

A. Staff recommends the Commission adopt a 9.7 percent ROE, a 4.61 percent cost of debt, and a 6.6 percent ROR. Staff recommends that the ROR be multiplied by the OCRB to determine the earnings requirement. Staff recommends the Commission give little weight

to the testimony of the Company's witness Dr. Thomas Zepp. Staff disagrees with his methods and his estimates are not representative of current costs of equity.

Q. Does this conclude your direct testimony?

A. Yes, it does.

Arizona American Water Company
Docket Nos. WS-0103A-02-0867et seq.

Arizona-American Water Company
Capital Structures of Sample Water Companies
31-Dec-02

Line No.	[A] Company	[B] Ticker Symbol	[C] Long-Term Debt	[D] Common Equity	[E] Total
1	American States Water	AWR	52.0%	48.0%	100.0%
2	California Water	CWT	55.7%	44.3%	100.0%
3	Connecticut Water Services	CTWS	44.8%	55.2%	100.0%
4	Middlesex Water	MSEX	53.3%	46.7%	100.0%
5	Philadelphia Suburban	PSC	54.2%	45.8%	100.0%
6	SJW Corp.	SJW	41.7%	58.3%	100.0%
7	Average		50.3%	49.7%	100.0%
8					
9	Arizona-American Water Company		61.2%	38.8%	100.0%
10					
11					
12					
13					
14					
15					
16	Source: 05/02/2003 Value Line				

Schedule JMR-1

Arizona-American Water Company
Docket Nos. WS-0103A-02-0867 et seq.

Arizona-American Water Company
Cost of Long-Term Debt
31-Dec-02

Line No.	[A] Interest Rate	[B] Description	[C] Issue Date	[D] Maturity Date	[E] Original Life	[F] Principal Amount: Original Issue	[G] Principal Amount: Currently Outstanding	[H] Issuance Expenses	[I] Redemption Expenses	[J] Net to Company: Total Dollar Amount	[K] Net to Company: Per $100 Principal Amount	[L] Cost of Money to Company (Bond Table Basis)	[M] Annual Debt Service Cost	[N] B. P. Difference	[O] Coupon Cost of Debt
1	7.120%	L-T Senior Notes	12/01/99	08/15/08	9	$4,500,000	$4,500,000	$41,022	$0	$4,458,978	99.088%	7.260%	$326,700	13.98	$320,400
2	4.920%	L-T Promissory Note	11/06/01	11/06/06	5	$3,500,000	$3,500,000	$391	$0	$3,499,609	99.989%	4.923%	$172,305	0.26	$172,200
3	4.920%	L-T Promissory Note	01/14/02	11/05/06	5	$154,948,119	$154,948,119	$87,147	$0	$154,860,972	99.944%	4.933%	$7,643,591	1.28	$7,623,447
4	1.300%	L-T Note - Maricopa	09/01/97	09/01/28	31	$10,635,000	$10,635,000	$31,039	$0	$10,603,961	99.708%	1.311%	$139,425	1.14	$138,255
5	1.250%	L-T Note - Tolleson	05/04/98	05/01/15	17	$8,560,000	$8,560,000	$26,668	$0	$8,533,332	99.688%	1.270%	$108,712	2.04	$107,000
6													$8,390,733		$8,361,302
7	Sum:					$182,143,119	$182,143,119	$186,267		$181,956,852					
8															4.59%
9															
10	Cost of Debt:	4.61%													
11															
12															
13															
14															
15															
16															
17															
18															
19	Source:														
20	Company responses to Staff data requests JMR 8-3, JMR 13-3.														

Schedule JMR-2

Arizona-American Water Company
Growth in Earnings and Dividends
Sample Water Companies

Line No.	[A] Company	[B] 10-Year Earnings EPS	[C] Projected Earnings EPS	[D] 10-Year Dividends DPS	[E] Projected Dividends DPS
1	American States Water	1.5%	6.7%	1.2%	2.4%
2	California Water	1.4%	9.3%	1.9%	1.0%
3	Connecticut Water Services	3.0%	No Projection	1.3%	No Projection
4	Middlesex Water	1.9%	No Projection	2.9%	No Projection
5	Philadelphia Suburban	8.7%	10.0%	5.0%	5.3%
6	SJW Corp.	2.6%	No Projection	2.6%	No Projection
7					
8	Average	3.2%	8.7%	2.5%	2.9%
9					
10					
11					
12	Source: *Value Line*				

Schedule JMR-3

Arizona-American Water Company
Docket Nos. WS-0103A-02-0867 et seq.

Arizona-American Water Company
Calculation of Intrinsic Growth
Sample Water Companies

Line No.	[A] Company	[B] 10-Year Retention Growth br	[C] Projected Retention Growth br	[D] Book Value BV	[E] Market Price MP	[F] v 1-[(BV)/(MP)]	[G] s	[H] Stock Financing Growth vs	[I] 10-Year Intrinsic Growth br + vs	[J] Projected Intrinsic Growth br + vs
1	American States Water	2.6%	5.0%	14.14	26.0	0.46	2.6%	1.2%	3.8%	6.2%
2	California Water	2.8%	4.0%	13.70	26.9	0.49	0.2%	0.1%	3.0%	4.1%
3	Connecticut Water Service	2.9%	No Projection	9.78	25.4	0.61	1.5%	0.9%	3.8%	No Projection
4	Middlesex Water	1.8%	No Projection	10.06	22.1	0.54	5.8%	3.1%	4.9%	No Projection
5	Philadelphia Suburban	3.7%	8.0%	7.36	23.2	0.68	7.3%	5.0%	8.7%	13.0%
6	SJW Corp.	4.9%	No Projection	53.21	85.5	0.38	0.0%	0.0%	4.9%	No Projection
7										
8	Average	3.1%	5.7%				2.9%		4.8%	7.8%
9										
10										
11										
12										
13										
14										
15										
16	Book value per Schedule JMR-5									
17	Market Price per Schedule JMR-5									
18	s value = Funds raised from the sale of stock as a fraction of existing common equity over previous seven years.									

Schedule JMR-4

Arizona-American Water Company
Calculation of Expected Infinite Annual Growth in Dividends
Sample Water Companies

Line No.	[A]	[B] g
1	10-Year EPS Growth	3.2%
2	Projected EPS Growth	8.7%
3	10-Year DPS Growth	2.5%
4	Projected DPS Growth	2.9%
5	10-Year Intrinsic Growth	4.8%
6	Projected Intrinsic Growth	7.8%
7		
8	Average	4.98%
9		
10		
11		
12	Per Schedule JMR-2 and Schedule JMR-3	

Schedule JMR-5

Arizona-American Water Company
Docket Nos. WS-0103A-02-0867 et.seq.

Arizona-American Water Company
Selected Financial Data of Sample Water Companies

Line No.	[A] Company	[B] Symbol	[C] Spot Price 5/6/03	[D] Book Value 5/6/03	[E] Mkt To Book	[F] *Value Line* Beta	[G] Raw Beta
1	American States Water	AWR	26.00	14.14	1.8	0.60	0.37
2	California Water	CWT	26.90	13.70	2.0	0.60	0.37
3	Connecticut Water Services	CTWS	25.36	9.78	2.6	0.60	0.37
4	Middlesex Water	MSEX	22.07	10.06	2.2	0.55	0.30
5	Philadelphia Suburban	PSC	23.15	7.36	3.1	0.70	0.52
6	SJW Corp.	SJW	85.50	53.21	1.6	0.50	0.22
7							
8	Average				2.2	0.59	0.36
9							
10							
11							
12							
13							
14							
15							
16							

Schedule JMR-6

Arizona-American Water Company
Docket Nos. WS-0103A-02-0867 et seq.

Arizona-American Water Company
Multi-Stage DCF Estimates
Sample Water Companies

Line No.	[A]	[B] Current Mkt. Price (P_o)	[C] Projected Dividends[1] (stage 1 growth) (D_t) d_1	[D] d_2	[E] d_3	[F] d_4	[G] d_5	[H] Stage 2 growth[2] (g_n)	[I] Equity Cost Estimate (K)
1									
2									
3	American States Water	26.0	0.88	0.91	0.93	0.96	0.99	6.5%	9.5%
4	California Water	26.9	1.12	1.13	1.15	1.16	1.17	6.5%	10.0%
5	Connecticut Water Services	25.4	0.85	0.88	0.90	0.93	0.96	6.5%	9.5%
6	Middlesex Water	22.1	0.88	0.91	0.94	0.97	1.00	6.5%	10.1%
7	Philadelphia Suburban	23.2	0.58	0.61	0.64	0.68	0.71	6.5%	8.9%
8	SJW Corp.	85.5	2.95	3.04	3.13	3.23	3.33	6.5%	9.6%
13								Average	9.6%

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

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] d_1 (*Value Line* Companies) = "Est'd Div'd next 12 mos." May 2, 2003, *Value Line* Selection & Opinion.
[1] d_1 (*VL Small Cap Edition*) = Most recent annualized dividend times 1 plus average projected DPS growth rate.
[2] Average annual growth in GDP 1929 - 2002 in current dollars. http://www.bea.doc.gov/

Arizona-American Water Company
Docket Nos. WS-0103A-02-0867 et seq.

Arizona-American Water Company
Final Cost of Equity Estimates
Sample Water Companies

Line No.	[A]	[B]		[C]		[D]		[E]
	Constant Growth DCF			D_1/P_0	+	g	=	k
1	Constant Growth DCF Estimate			3.47%	+	4.98%	=	8.5%
2	Multi-Stage DCF Estimate						=	9.6%
3	**Average of DCF Estimates**							**9.0%**
4								
5	**CAPM Method**	Rf	+	β	x	(Rp)	=	k
6	Historical Market Risk Premium	3.3%	+	0.59	x	7.4%	=	7.7%
7	Current Market Risk Premium	3.3%	+	0.59	x	13.1%	=	11.1%
8	**Average of CAPM Estimates**							**9.4%**
9								
10								
11						**Average**		**9.2%**

Schedule JMR-8

Arizona-American Water Company
Docket Nos. WS-0103A-02-0867 et seq.

Arizona-American Water Company
Capital Structure
And Weighted Cost of Capital

Line No.	[A]	[B] Weight (%)	[C] Cost	[D] Weighted Cost	[E] Gross Rev. Conv. Factor	[F] Grossed-Up Cost
1	Long-term Debt	61.21%	4.61%	2.82%	1.00	2.82%
2	Common Equity	38.79%	9.7%	3.76%	1.63	6.14%
3		100.0%		6.6%		8.96%
	Pre-Tax Interest Coverage [3 ÷ 1]					3.2

Schedule JMR-9

Arizona-American Water Company
Docket Nos. WS-0103A-02-0867 et seq.

Arizona-American Water Company
Calculation of Unlevered Beta
Sample Water Companies

Line No.	Company	[A] Value Line Levered Raw Beta β_L	[B] Tax Rate t	[C] Book Debt ($mil) BD	[D] Equity Cap ($mil) EC	[E] $\beta_{UL} = \frac{\beta_L}{1+\frac{BD}{EC}(1-t)}$ Unlevered Raw Beta β_L
1	American States Water	0.37	38.9%	231.1	213.3	0.22
2	California Water	0.37	39.7%	250.4	199.2	0.21
3	Connecticut Water Services	0.37	33.8%	64.8	79.9	0.24
4	Middlesex Water	0.30	33.3%	87.5	76.5	0.17
5	Philadelphia Suburban	0.52	38.5%	582.9	493.1	0.30
6	SJW Corp.	0.22	40.4%	110.0	153.8	0.16
18						0.22
19	**Average**	0.36				

$$\beta_{UL} = \frac{\beta_L}{1 + BD \div EC\ (1 - t)}$$

Where :

β_{UL} = unlevered beta
β_L = levered beta
BD = book debt
EC = equity capital
t = tax rate

Schedule JMR-10

Arizona-American Water Company
Docket Nos. WS-0103A-02-0867 et seq.

Arizona-American Water Company
Calculation of Relevered Beta

Line No.	[A]	[B] Unlevered Raw Beta β_{UL}	[C] Book Debt BD	[D] Equity Cap EC	[E] Tax Rate t	[F] Relevered Raw Beta $\beta_{RL}=\beta_{UL}(1+(1-t)BD/EC))$ β_{RL}	[G] Adjusted Relevered Beta β_{RL}
1							
2	Arizona-American Water	0.22	182,143,119	115,437,405	38.6%	0.43	0.64
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							

$$\beta_{RL} = \beta_{UL}\ (1 + (1 - t)BD \div EC)$$

Where :

β_{RL} = relevered beta
β_{UL} = unlevered beta
t = tax rate
BD = book debt
EC = equity capital

Schedule JMR-11

Arizona-American Water Company
Docke Nos. WS-0103A-02-0867 et seq.

Arizona-American Water Company
Capital Structure Adjustment

Line No.	[A] CAPM Method	[B] Rf		[C] β		[D] (Rp)		[E] k
1	Historical Market Risk Premium	3.3%	+	0.59	x	7.4%	=	7.7%
2	Current Market Risk Premium	3.3%	+	0.59	x	13.1%	=	11.1%
3	**Average of CAPM Estimates**							**9.4%**
4								
5	**Relevered Beta**	**Rf**		**β**		**(Rp)**		**k**
6	Historical Market Risk Premium	3.3%	+	0.64	x	7.4%	=	8.0%
7	Current Market Risk Premium	3.3%	+	0.64	x	13.1%	=	11.7%
8	**Average of CAPM Estimates**							**9.8%**
9								
10	Capital Structure Adjustment (8 - 3)							0.5%

Schedule JMR-12

Arizona-American Water Company
Docket Nos. WS-0103A-02-0867 et seq.

Arizona-American Water Company
Capital Structures of Sample Gas Companies
2002

Line No.	[A] Company	[B] Ticker Symbol	[C] Long-Term Debt	[D] Common Equity	[E] Total
1	AGL Resources	ATG	58.2%	41.8%	100.0%
2	Atmos Energy	ATO	58.7%	41.3%	100.0%
3	Cascade Natural Gas	CGC	59.1%	40.9%	100.0%
4	Laclede Group	LG	51.6%	48.4%	100.0%
5	Nicor Inc.	GAS	34.7%	65.3%	100.0%
6	Northwest Natural Gas	NWN	48.0%	52.0%	100.0%
7	Peoples Energy	PGL	39.6%	60.4%	100.0%
8	Piedmont Natural Gas	PNY	43.9%	56.1%	100.0%
9	Southwest Gas	SWX	64.4%	35.6%	100.0%
10	WGL Holdings	WGL	44.9%	55.1%	100.0%
11	Average		50.3%	49.7%	100.0%
12					
13					
14					
15					
16					
17					
18					
19	Source: Value Line				

Schedule JMR-13

Arizona-American Water Company
Docket Nos. WS-0103A-02-0867 et seq.

Arizona-American Water Company
Growth in Earnings and Dividends
Sample Gas Companies

Line No.	[A] Company	[B] 10-Year Earnings EPS	[C] Projected Earnings EPS	[D] 10-Year Dividends DPS	[E] Projected Dividends DPS
1	AGL Resources	4.9%	2.9%	0.5%	0.0%
2	Atmos Energy	4.1%	8.7%	3.6%	2.3%
3	Cascade Natural Gas	6.0%	9.1%	0.3%	0.4%
4	Laclede Group	0.1%	9.4%	1.1%	0.4%
5	Nicor Inc.	4.1%	4.6%	4.5%	4.0%
6	Northwest Natural Gas	8.2%	8.2%	0.9%	1.1%
7	Peoples Energy	3.1%	5.7%	1.6%	1.6%
8	Piedmont Natural Gas	3.0%	10.8%	5.8%	3.5%
9	Southwest Gas	3.7%	13.1%	1.6%	0.0%
10	WGL Holdings	-1.1%	16.1%	1.7%	0.9%
11					
12	Average	3.6%	8.9%	2.2%	1.4%
13					
14					
15					
16	Source: *Value Line*				

Schedule JMR-14

Arizona-American Water Company
Docket Nos. WS-0103A-02-0867 et seq.

Arizona-American Water Company
Calculation of Intrinsic Growth
Sample Gas Companies

Line No.	[A] Company	[B] 10-Year Retention Growth br	[C] Projected Retention Growth br	[D] Book Value BV	[E] Market Price MP	[F] v 1-[(BV)/(MP)]	[G] s	[H] Stock Financing Growth vs	[I] 10-Year Intrinsic Growth br + vs	[J] Projected Intrinsic Growth br + vs
1	AGL Resources	3.6%	6.0%	12.88	25.4	0.49	1.5%	0.8%	4.3%	6.8%
2	Atmos Energy	3.6%	6.0%	13.97	23.1	0.39	4.5%	1.8%	5.4%	7.8%
3	Cascade Natural Gas	2.6%	6.5%	10.50	18.7	0.44	3.8%	1.7%	4.2%	8.2%
4	Laclede Group	2.1%	2.5%	15.37	24.2	0.36	3.6%	1.3%	3.4%	3.8%
5	Nicor Inc.	6.7%	7.0%	17.06	31.2	0.45	0.0%	0.0%	6.7%	7.0%
6	Northwest Natural Gas	3.5%	5.0%	19.16	26.2	0.27	5.1%	1.4%	4.8%	6.4%
7	Peoples Energy	3.3%	5.0%	22.95	39.9	0.42	0.4%	0.2%	3.5%	5.2%
8	Piedmont Natural Gas	3.5%	5.5%	18.11	37.4	0.52	4.8%	2.4%	5.9%	7.9%
9	Southwest Gas	2.8%	6.0%	18.04	20.6	0.12	6.9%	0.8%	3.6%	6.8%
10	WGL Holdings	3.3%	5.5%	15.84	26.5	0.40	3.0%	1.2%	4.6%	6.7%
11										
12	Average	3.5%	5.5%				3.37%		4.6%	6.7%
13										
14										
15										
16										
17										
18										
19										
20	Book value per Schedule JMR-16									
21	Market Price per Schedule JMR-16									
22	s value = Funds raised from the sale of stock as a fraction of existing common equity over previous seven years.									

Schedule JMR-15

Arizona-American Water Company
Docket Nos. WS-0103A-02-0867 et seq.

Arizona-American Water Company
Calculation of Expected Infinite Annual Growth in Dividends
Sample Gas Companies

Line No.	[A]	[B] g
1	10-Year EPS Growth	3.6%
2	Projected EPS Growth	8.9%
3	10-Year DPS Growth	2.2%
4	Projected DPS Growth	1.4%
5	10-Year Intrinsic Growth	4.6%
6	Projected Intrinsic Growth	6.7%
7		
8	Average	4.6%
9		
10		
11		
12	Per Schedule JMR-13 and Schedule JMR-14	

Schedule JMR-16

Arizona-American Water Company
Docket Nos. WS-0103A-02-0867 et seq.

Arizona-American Water Company
Selected Financial Data of Sample Gas Companies

Line No.	[A] Company	[B] Symbol	[C] Spot Price 5/6/03	[D] Book Value 5/6/03	[E] Mkt To Book	[F] *Value Line* Beta	[G] Raw Beta
1	AGL Resources	ATG	25.39	12.9	2.0	0.75	0.60
2	Atmos Energy	ATO	23.06	14.0	1.7	0.60	0.37
3	Cascade Natural Gas	CGC	18.69	10.5	1.8	0.65	0.45
4	Laclede Group	LG	24.20	15.4	1.6	0.60	0.37
5	Nicor Inc.	GAS	31.15	17.1	1.8	0.90	0.82
6	Northwest Natural Gas	NWN	26.20	19.2	1.4	0.60	0.37
7	Peoples Energy	PGL	39.85	23.0	1.7	0.75	0.60
8	Piedmont Natural Gas	PNY	37.35	18.1	2.1	0.70	0.52
9	Southwest Gas	SWX	20.55	18.0	1.1	0.70	0.52
10	WGL Holdings	WGL	26.45	15.8	1.7	0.65	0.45
11							
12	Average				1.7	0.69	0.51
13							
14							
15							
16							
17							
18							
19							
20							

Schedule JMR-17

Arizona-American Water Company
Multi-Stage DCF Estimates
Sample Gas Companies

Line No.	[A]	[B] Current Mkt. Price (P_o)	[C] Projected Dividends[1] (D_t) d_1	[D] d_2	[E] d_3	[F] d_4	[G] d_5	[H] Stage 2 growth[2] (g_n)	[I] Equity Cost Estimate (K)
1									
2									
3	AGL Resources	25.4	1.12	1.12	1.12	1.12	1.12	6.5%	10.0%
4	Atmos Energy	23.1	1.21	1.24	1.28	1.31	1.34	6.5%	11.1%
5	Cascade Natural Gas	18.7	0.96	0.97	0.97	0.98	0.99	6.5%	10.7%
6	Laclede Group	24.2	1.34	1.35	1.36	1.37	1.38	6.5%	11.1%
7	Nicor Inc.	31.2	1.86	1.95	2.05	2.15	2.25	6.5%	12.2%
8	Northwest Natural Gas	26.2	1.27	1.29	1.30	1.32	1.34	6.5%	10.6%
9	Peoples Energy	39.9	2.12	2.15	2.17	2.20	2.23	6.5%	11.0%
10	Piedmont Natural Gas	37.4	1.66	1.72	1.77	1.83	1.90	6.5%	10.5%
11	Southwest Gas	20.6	0.82	0.82	0.82	0.82	0.82	6.5%	9.7%
12	WGL Holdings	26.5	1.28	1.29	1.31	1.32	1.33	6.5%	10.5%
13									
14								Average	10.7%

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

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

[1] d_1 = "Est'd Div'd next 12 mos." May 2, 2003 *Value Line* Selection & Opinion.

[2] Average annual growth in GDP 1929 - 2002 in current dollars. http://www.bea.doc.gov/bea/dn/nipaweb/TableViewFixed.asp#Mid

Arizona-American Water Company
Docket Nos. WS-0103A-02-0867

Arizona-American Water Company
Final Cost of Equity Estimates
Sample Gas Companies

Line No.		[A]	[B]		[C]		[D]		[E]
	Constant Growth DCF				D_1/P_0	+	g	=	k
1	Constant Growth DCF Estimate				4.97%	+	4.56%	=	9.5%
2	Multi-Stage DCF Estimate							=	10.7%
3	**Average of DCF Estimates**								**10.1%**
4									
5	**CAPM Method**		Rf	+	β	x	(Rp)	=	k
6	Historical Market Risk Premium		3.3%	+	0.69	x	7.4%	=	8.4%
7	Current Market Risk Premium		3.3%	+	0.69	x	13.1%	=	12.3%
8	**Average of CAPM Estimates**								**10.4%**
9									
10							**Average**		**10.3%**
11									

Schedule JMR-19

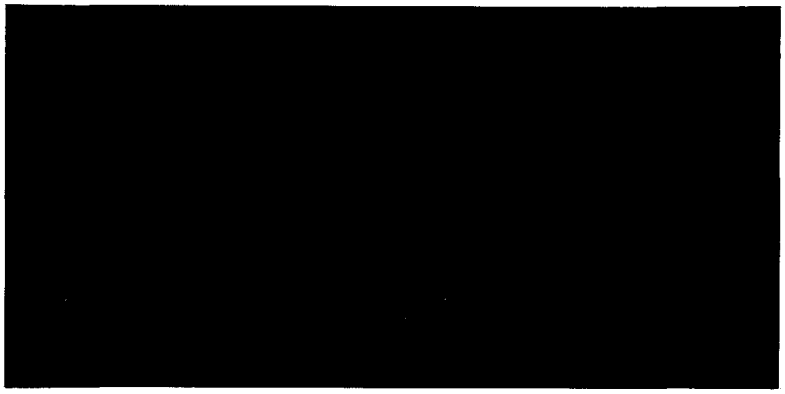
Arizona-American Water Company
Docket Nos. WS-0103A-02-0867 et seq.

Arizona Water Company
Actual Baa Rated Public Utility and Corporate Bond Rates

Year/Month	Baa Rated Utility Bonds[1]	Baa Rated Corporate Bonds[2]
1967	6.15%	6.23%
1968	6.87%	6.94%
1969	7.93%	7.81%
1970	9.18%	9.11%
1971	8.63%	8.56%
1972	8.17%	8.16%
1973	8.17%	8.24%
1974	9.84%	9.50%
1975	10.96%	10.61%
1976	9.82%	9.75%
1977	9.06%	8.97%
1978	9.62%	9.49%
1979	10.96%	10.69%
1980	13.95%	13.67%
1981	16.60%	16.04%
1982	16.45%	16.11%
1983	14.20%	13.55%
1984	14.53%	14.19%
1985	12.96%	12.72%
1986	10.00%	10.39%
1987	10.53%	10.58%
1988	11.00%	10.83%
1989	9.97%	10.18%
1990	10.06%	10.36%
1991	9.55%	9.80%
1992	8.86%	8.98%
1993	7.91%	7.93%
1994	8.63%	8.63%
1995	8.29%	8.20%
1996	8.17%	8.05%
1997	7.95%	7.87%
1998	7.26%	7.22%
1999	7.88%	7.88%
2000	8.36%	8.37%
2001	8.02%	7.95%
2002	7.69%	7.80%
2003	6.78%	6.68%

[1]1967 - 2001: Mergent Public Utility Manual
[1]2002: Value Line Selection and Opinion
[2]1967 - 2002: Federal Reserve
2003: 05/02/2003 Value Line Selection & Opinion & Federal Reserve

Schedule JMR-20



ARIZONA CORPORATION COMMISSION
UTILITIES DIVISION

DIRECT

TESTIMONY

OF

MARLIN SCOTT, JR.
JOHN A. CHELUS
LYNDON R. HAMMON
DOROTHY HAINS

(VOLUME 2 OF 3)

DOCKET NOS. WS-01303A-02-0867
WS-01303A-02-0868
W-01303A-02-0869
WS-01303A-02-0870
W-01303A-02-0908

IN THE MATTER OF THE APPLICATIONS OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WEST WATER AND WASTEWATER DISTRICTS, SUN CITY WATER AND WASTEWATER DISTRICTS, MOHAVE AND HAVASU WATER DISTRICTS, ANTHEM AND AGUA FRIA WATER AND WASTEWATER DISTRICTS, AND TUBAC WATER DISTRICT

SEPTEMBER 5, 2003

SCOTT

BEFORE THE ARIZONA CORPORATION COMMISSION

MARC SPITZER
Chairman
JIM IRVIN
Commissioner
WILLIAM A. MUNDELL
Commissioner
JEFF HATCH-MILLER
Commissioner
MIKE GLEASON
Commissioner

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WEST WATER AND WASTEWATER DISTRICTS.	)	DOCKET NO. WS-01303A-02-0867
IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WATER AND WASTEWATER DISTRICTS.	)	DOCKET NO. WS-01303A-02-0868
IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS MOHAVE WATER DISTRICT AND ITS HAVASU WATER DISTRICT.	)	DOCKET NO. W-01303A-02-0869

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS ANTHEM WATER DISTRICT, ITS AGUA FRIA WATER DISTRICT, AND ITS ANTHEM/AGUA FRIA WASTEWATER DISTRICT.	DOCKET NO. WS-01303A-02-0870
IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS TUBAC WATER DISTRICT.	DOCKET NO. W-01303A-02-0908

DIRECT TESTIMONY

OF

MARLIN SCOTT, JR.

UTILITIES ENGINEER

UTILITIES DIVISION

SEPTEMBER 5, 2003

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EXECUTIVE SUMMARY
ARIZONA-AMERICAN WATER COMPANY, INC.
DOCKET NO. WS-01303A-02-0867, et al.

I will appear on behalf of the Utilities Division Staff and will testify concerning Staff's position and recommendation regarding Arizona-American Water Company, Inc. – Tubac, Havasu and Mohave Water Districts' applications for a permanent rate increase in the area of the engineering evaluation. Summaries of my findings and recommendations are:

Tubac Water District

1. Non-account Water – Tubac has an acceptable non-account water loss of 7.1%.

2. System Analysis – Tubac has adequate capacity to serve the customer base.

3. Arizona Department of Environmental Quality (ADEQ) Compliance Status - ADEQ has determined that Tubac's system is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

4. Water Testing Cost – Staff recommends the adoption of Tubac's annual water testing cost of $1,420.

5. Arsenic - Tubac has arsenic concentrations exceeding the new Maximum Contaminant Level ("MCL") of 10 parts per billion ("ppb") and is currently evaluating its options to achieve the new MCL.

6. Arizona Department of Water Resources ("ADWR") Compliance Status - Tubac is located within the Santa Cruz Active Management Area ("AMA") and is in compliance with its AMA requirements.

7. Arizona Corporation Commission ("ACC") Compliance Status - Tubac has no outstanding ACC compliance issues.

8. Reproduction Cost New ("RCN") - Staff recommends that Tubac's RCN value not be accepted for purposes of setting rates in this proceeding.

9. Post-Test Year Plant - Staff has confirmed that Tubac's post-test year plant items for Account Nos. 311 and 331 were in service before December 31, 2002 and finds these plant items to be used and useful from an engineering perspective.

10. Depreciation Rates - Staff recommends that Tubac's depreciation rates be used for this proceeding.

11. Service Line and Meter Installation Charges - Staff recommends the acceptance of Tubac's proposed Service Line and Meter Installation Charges, except for the 2-inch meter size. For the 2-inch size, Staff recommends adopting a charge of "At cost".

12. Curtailment Plan Tariff - Staff recommends that Tubac file a curtailment plan tariff within 90 days after the effective date of an order issued in this proceeding.

Havasu Water District

13. Non-account Water – Havasu has a non-account water loss of 14.2% which is not within the acceptable limits. Staff recommends that effective upon the date an order is issued in this proceeding, Havasu should monitor its system and file semi-annual reports within 30 days after the end of each 6-month period for one year, with the Director of the Utilities Division, indicating the quantity of water pumped, gallons sold and water loss percentage for each month during that 6-month period. If the reduction of water loss to less than 10% cannot be achieved, Havasu shall submit to the Director of the Utilities Division a plan which outlines the procedures, steps, and time frames to achieve acceptable water losses. This plan shall be submitted within 18 months after the effective date of an order issued in this proceeding.

14. System Analysis – Havasu has adequate capacity to serve the customer base.

15. ADEQ Compliance Status - ADEQ has determined that Havasu's system is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

16. Water Testing Cost – Staff recommends the adoption of its estimated annual water testing cost of $3,356.

17. Arsenic - Havasu has arsenic concentrations exceeding the new MCL of 10 ppb and is currently evaluating its options to achieve the new MCL.

18. ADWR Compliance Status - Havasu is not located in any AMA.

19. ACC Compliance Status - Havasu has no outstanding ACC compliance issues.

20. Reproduction Cost New - Staff recommends that Havasu's RCN value not be accepted for purposes of setting rates in this proceeding.

21. Post-Test Year Plant - Staff has confirmed that Havasu's post-test year plant items for Account Nos. 304, 330 and 331 were in service before December 31, 2002 and finds these plant items to be used and useful from an engineering perspective.

22. Depreciation Rates - Staff recommends that Havasu's depreciation rates be used for this proceeding.

23. Service Line and Meter Installation Charges - Staff recommends the acceptance of Havasu's proposed Service Line and Meter Installation Charges, except for the 2-inch meter size. For the 2-inch size, Staff recommends adopting a charge of "At cost".

24. Curtailment Plan Tariff - Staff recommends that Havasu file a curtailment plan tariff within 90 days after the effective date of an order issued in this proceeding.

Mohave Water District

25. Non-account Water - Three of the five Mohave Water District's water system have non-account water loss of 10% or more and are not within the acceptable limits. Effective upon the date an order is issued in this proceeding, these high water loss water systems

should monitor and file semi-annual reports within 30 days after the end of each 6-month period for one year, with the Director of the Utilities Division, indicating the quantity of water pumped, gallons sold and water loss percentage for each month during that 6-month period. If the reduction of water loss to less than 10% cannot be achieved, Mohave Water District shall submit to the Director of the Utilities Division plans which outline the procedures, steps, and time frames to achieve acceptable water losses. These plans shall be submitted within 18 months after the effective date of an order issued in this proceeding.

26. System Analysis - Four of the five water systems have adequate capacity to serve the customer base. One system, Rio Vista, is a consecutive system and therefore has no pumping facilities.

27. ADEQ Compliance Status - ADEQ has determined that all five of Mohave Water District's systems are currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

28. Water Testing Cost – Staff recommends its estimated annual water testing cost of $19,410 be adopted.

29. Arsenic - All water systems have arsenic concentrations of 10 ppb or less and are currently meeting the new MCL.

30. ADWR Compliance Status - This Water District is not located in any AMA.

31. ACC Compliance Status - This Water District has no outstanding ACC compliance issues.

32. Reproduction Cost New - Staff recommends that Mohave Water District's RCN value not be accepted for purposes of setting rates in this proceeding.

33. Post-Test Year Plant - With the exception of one project, Staff has confirmed that the Mohave Water District's post-test year plant items for Account Nos. 304 (partial), 311, 320 and 330 were in service before December 31, 2002 and finds these plant items to be used and useful from an engineering perspective.

34. Depreciation Rates - Staff recommends that Mohave Water District's depreciation rates be used for this proceeding.

35. Service Line and Meter Installation Charges - Staff recommends the acceptance of Mohave's proposed Service Line and Meter Installation Charges, except for the 2-inch meter size. For the 2-inch size, Staff recommends adopting a charge of "At cost".

36. Curtailment Plan Tariff - Staff recommends Mohave Water District file curtailment plan tariffs for all its systems within 90 days after the effective date of an order issued in this proceeding.

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Marlin Scott, Jr. 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") as a Utilities Engineer - Water/Wastewater for the Utilities Division.

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

A. I have been employed by the Commission since November 1987.

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

A. Among other responsibilities, I inspect, investigate and evaluate water and wastewater systems; obtain data, prepare reconstruction cost new and/or original cost studies, cost of service studies and investigative reports; interpret rules and regulations; suggest corrective action and provide technical recommendations on water and wastewater system deficiencies; and provide written and oral testimony on rates and other cases before the Commission.

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

A. I have analyzed approximately 350 companies in various areas for the Utilities Division.

Q. Have you previously testified before this Commission?

A. Yes, I have testified in 38 proceedings before this Commission.

Q. What is your educational background?

A. I graduated from Northern Arizona University in 1984 with a Bachelor of Science degree in Civil Engineering Technology.

Q. Briefly describe your pertinent work experience.

A. Prior to my employment with the Commission, I was Assistant Engineer for the City of Winslow, Arizona, for about two years. Prior to that, I was a Civil Engineering Technician with the U. S. Public Health Service in Winslow for approximately six years.

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

A. I am a member of the National Association of Regulatory Utility Commissioners ("NARUC") Staff Subcommittee on Water.

II. PURPOSE OF TESTIMONY

Q. What was your assignment in this rate proceeding?

A. My assignment was to provide the Utilities Division Staff's ("Staff") engineering evaluations of the Arizona-American Water Company, Inc. ("Az-Am") – Tubac, Havasu and Mohave Water District operations.

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

A. To present the findings of Staff's engineering evaluations of the Az-Am – Tubac, Havasu and Mohave Water District operations. Those findings are contained in my Engineering Reports that I have prepared for this proceeding. These reports are included as Exhibits MSJ-1, MSJ-2 and MSJ-3 in this direct testimony.

III. ENGINEERING REPORTS

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

A. After reviewing Az-Am's rate applications, I physically inspected the water systems to evaluate their operations and to determine which plant items were or were not used and useful. I contacted the Arizona Department of Environmental Quality ("ADEQ"), Arizona Department of Water Resources ("ADWR") and the Commission's Compliance Section Unit to determine if Az-Am was in compliance with ADEQ, ADWR and Commission regulations. I obtained information from Az-Am regarding water usage, water testing, Reproduction Cost New plant and post-test year plant and analyzed that information. Based on this data, I made Staff's evaluations and prepared Staff's Engineering Reports.

Q. Please describe the information contained in the Engineering Reports, Exhibit MSJ-1, Exhibit MSJ-2 and Exhibit MSJ-3.

A. Exhibit MSJ-1 and Exhibit MSJ-2 are the Engineering Reports for the Tubac and Havasu Water Districts' operation, respectively, and are divided into 11 sections: A) Location of System; B) Description of Water System; C) Water Use; D) Growth; E) Arizona Department of Environmental Quality Compliance; F) Arizona Department of Water Resources Compliance; G) Arizona Corporation Commission Compliance; H) Reproduction Cost New and Original Cost; I) Post-Test Year Plant; J) Depreciation Rates; and K) Other Issues. Tubac and Havasu each have one water system.

Exhibit MSJ-3 is the Engineering Report for the Mohave Water District's operation and is divided into three main sections: 1) *Purpose of Report*; 2) *Discussions*, and 3) *Summary*. I further subdivided the *Discussions* section into 11 subsections: A) Location of System; B) Description of Water System; C) Water Use; D) Growth; E) Arizona Department of

Environmental Quality Compliance; F) Arizona Department of Water Resources Compliance; G) Arizona Corporation Commission Compliance; H) Reproduction Cost New and Original Cost; I) Post-Test Year Plant; J) Depreciation Rates; and K) Other Issues. The Mohave Water District consists of five independent water systems; 1) Camp Mohave, 2) Lake Mohave Highlands, 3) Desert Foothills, 4) Rio Vista Ranches, and 5) Mohave Water - Main.

Q. Please provide a brief description of each Water District's operation.

A. Tubac's operation consists of three well sites, a storage tank/booster station site, and a distribution system serving an average of 490 customers during the test year.

Havasu's operation consists of five well sites, storage tank/booster station sites, and a distribution system serving 1,189 customers at the end of the test year.

The Mohave Water District consists of five independent water systems with operations as follows:

1) The Camp Mohave System has a system having one pumping site consisting of a well, storage tank, pumping facilities, and a distribution system serving approximately 98 customers.

2) The Lake Mohave Highlands System has a system having three pumping sites consisting of three wells, two storage tanks, pumping facilities, and a distribution system serving approximately 164 customers.

3) The Desert Foothills System has a system having two pumping sites consisting of two wells, one storage tank, pumping facilities, and a distribution system serving approximately 218 customers.

4) The Rio Vista Ranches System is a consecutive water system to Bermuda Water Company and has no well, storage or pumping facilities. This system only has a distribution system serving approximately 37 customers.

5) The Mohave Water - Main System consists of seven wells, 12 storage tanks, two booster station sites, and a distribution system serving approximately 16,905 customer/units.

IV. REPRODUCTION COST NEW ANALYSIS

Q. What is a Reproduction Cost New Study?

A. A Reproduction Cost New ("RCN") Study is a valuation study which estimates the cost of reproducing the utility's existing capital plant items. Trend factors (i.e., inflation/cost indexes), such as those published by Handy-Whitman, are applied to the original cost of the plant to estimate its value today. The trend factors used vary depending on the type of plant, the year the plant was installed and by geographical regions.

Q. Did Az-Am submit a RCN Study?

A. Az-Am submitted an RCN "Asset Listing" for the year ending December 31, 2001. This RCN reported the following Original Cost ("OC") plant-in-service values:

Water District	OC	RCN
Tubac	$1,993,115	$3,476,815
Havasu	$1,989,979	$3,163,440
Mohave	$22,821,781	$36,364,361

Q. What is Staff's position concerning the RCN Study which was submitted by Az-Am in this proceeding?

A. Staff has evaluated the RCN for Tubac, Havasu, and Mohave and recommends that the RCN values not be accepted for the purpose of setting rates in this proceeding.

Q. Why has Staff taken that position?

A. Staff has many reasons, which include:

1. The Az-Am RCNs are no more than "asset listings" that lists all the past and present assets of the utility, even if an asset item is retired, abandoned or no longer exists. If an RCN is to be considered, the RCN should be a "valuation study" to reproduce, replace or reconstruct existing physical properties (actual plant that is used and useful).

   Example #1: Staff identified Tubac's Well Site #1 to be abandoned.

   Example #2: Staff identified Havasu's Well Site #1 to be abandoned, Well #2 to be retired, and Well #6 as no longer existing.

   Example #3: Staff identified six Mohave sites that contained plant items which were retired and/or abandoned. Az-Am could not cross-reference their location codes to these sites. Therefore, Staff cannot verify if plant items at these sites were treated appropriately and removed from the RCN.

2. The Az-Am RCNs have incomplete Plant Descriptions and Quantities.

   Example #4: Havasu's Plant Description for storage tanks provided by Az-Am did not correlate with information presented in the RCN Asset Listing (different size and quantity of storage tanks were reported).

   Example #5: Mohave had 105 asset listing items shown as "Unidentified", "Interest Privile" or "blank". Through Data Requests, Az-Am provided partial plant description for 84 asset items but the remaining 21 items were still "Unidentified". Therefore, the RCN is incomplete.

   Example #6: The RCNs did not provide the "Quantities" for a majority of plant items. In fact, some of these plant items showed quantities of "0" which could mean no plant items exist for the asset listing item. This is just another factor that makes the RCN questionable with regard to its accuracy.

3. The Handy-Whitman Factors were not used properly. A composite index number was used for all plant accounts. The actual Handy-Whitman Index numbers are arranged to follow the classification of the National Association of Regulatory Utility Commissioners ("NARUC") Account numbers and differ by geographical regions.

4. All Az-Am's plant items were trended using their composite Handy-Whitman Factor. Handy-Whitman is used to trend cost for utility construction and should not be used for plant items like Office Furniture, Computer, Transportation, Stores, Tools, and Communication Equipment.

5. Az-Am trended the OC values for Accounts in Organization, Franchises, and Land & Land Rights. These Accounts should not be trended in RCN Studies.

6. Az-Am added corporate overhead to the asset items in a haphazard fashion without identification which makes it impossible to perform an accurate RCN.

7. No contributed plant was identified or removed from the plant-in-service base.

Q. Why didn't Staff amend or revise the RCNs submitted by Az-Am?

A. A properly prepared RCN Study begins with a complete inventory of the plant-in-service that is used and useful. The appropriate trend factors are then applied to reproduce each plant item at today's cost. The RCN is only valid if the person preparing the study knows precisely what the plant item is so that the appropriate trend factor is applied. In order to conduct a RCN study, the following information needs to be provided:

a. Complete and accurate plant descriptions for the plant-in-service for each independent system including the year the plant was installed. Such plant would include wells, booster pumps, hydrants, storage tanks, pressure tanks, mains, meters, treatment equipment, structures, etc.

b. Verification of plant item brand names, size and quantities.

As discussed above, Staff found the methodology and data for the Az-Am RCN to be irreparably flawed. To prepare a RCN from a zero base starting place for a company as large and complex as this, would be beyond the resources of Staff. Moreover, it is the sole responsibility of the company, if it wishes the consideration of an RCN in a rate making proceeding, to prepare and present a valid and understandable study.

V. CONCLUSIONS AND RECOMMENDATIONS

Q. Based upon your testimony, what are Staff's conclusions and recommendations?

A. After my engineering evaluations of the Az-Am – Tubac, Havasu and Mohave Water Districts' operation, Staff makes the following conclusions and recommendations:

TUBAC WATER DISTRICT

Conclusions

A. Tubac has a non-account water loss of 7.1% which is within acceptable limits.

B. The Tubac system has adequate well and storage capacities to serve the customer base.

C. ADEQ has determined that Tubac's system, PWS #12-001, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

D. Because Tubac has arsenic concentrations of 30 parts per billon ("ppb") and 36 ppb for Wells #2 and #4, respectively, Tubac is currently evaluating its options to achieve the new arsenic Maximum Contaminant Level ("MCL") of 10 ppb. Tubac is not asking for any arsenic removal cost recovery in this proceeding.

E. Tubac is located within the Santa Cruz Active Management Area ("AMA") and is in compliance with the AMA's reporting and conservation requirements.

F. Tubac has no outstanding Commission compliance issues.

G. Staff has confirmed that the Tubac post-test year plant items for Account Nos. 311 and 331 were in service before December 31, 2002 and finds these plant items to be used and useful from an engineering perspective.

Recommendations

1. Staff recommends the adoption of Tubac's annual water testing cost of $1,420.

2. Staff has evaluated Tubac's Reproduction Cost New ("RCN") Asset Listing and recommends that its value not be accepted for purposes of setting rates in this proceeding.

3. Staff recommends that Tubac's depreciation rates be used for this proceeding.

4. Staff recommends the acceptance of Tubac's proposed Service Line and Meter Installation Charges, except for the 2-inch meter size. For the 2-inch size, Staff recommends adopting a charge of "At cost".

5. Staff recommends that Tubac file a curtailment plan tariff within 90 days after the effective date of an order issued in this proceeding.

HAVASU WATER DISTRICT

Conclusions

A. The Havasu water system has adequate well and storage capacities to serve the customer base.

B. ADEQ has determined that Havasu's system, PWS #08-015, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

C. Because Havasu has arsenic concentrations of 18 ppb at both Wells #8 and #9, Havasu is currently evaluating its options to achieve the new arsenic MCL of 10 ppb. Havasu is not asking for any arsenic removal cost recovery in this proceeding.

D. Havasu is not located within any AMA, therefore, is not subject to any AMA's reporting and conservation requirements.

E. Havasu has no outstanding Commission compliance issues.

F. Staff has confirmed that the Havasu post-test year plant items for Account Nos. 304, 330 and 331 were in service before December 31, 2002 and finds these plant items to be used and useful from an engineering perspective.

Recommendations

1. Havasu's water system has a non-account water loss of 14.2% which is not within the acceptable limits. Staff recommends that effective upon the date an order is issued in this proceeding, Havasu should monitor its system and file semi-annual reports within 30 days after the end of each 6-month period for one year, with the Director of the Utilities Division, indicating the quantity of water pumped, gallons sold and water loss percentage for each month during that 6-month period. If the reduction of water loss to less than 10% cannot be achieved, Havasu shall submit to the Director of the Utilities Division a plan which outlines the procedures, steps, and time frames to achieve acceptable water losses. This plan shall be submitted within 18 months after the effective date of an order issued in this proceeding.

2. Water testing expenses are based upon participation in the ADEQ MAP. Annual testing expenses should be adjusted to $3,356.

3. Staff has evaluated Havasu's RCN Asset Listing and recommends that its values not be accepted for purposes of setting rates in this proceeding.

4. Staff recommends that Havasu's depreciation rates be used for this proceeding.

5. Staff recommends the acceptance of Havasu's proposed Service Line and Meter Installation Charges, except for the 2-inch meter size. For the 2-inch size, Staff recommends adopting a charge of "At cost".

6. Staff recommends that Havasu file a curtailment plan tariff within 90 days after the effective date of an order issued in this proceeding.

MOHAVE WATER DISTRICT

Conclusions

Camp Mohave System

A. Camp Mohave has a non-account water loss of 4.7% which is within acceptable limits.

B. The Camp Mohave system has adequate well and storage capacities to serve the customer base.

C. ADEQ has determined that the Camp Mohave system, PWS #08-037, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

D. Camp Mohave indicated its arsenic level for Well #2 is less than 3 ppb. Based on this arsenic concentration, Camp Mohave is currently meeting the new MCL.

Lake Mohave Highlands System

E. The Lake Mohave Highlands system has adequate well and storage capacities to serve the customer base.

F. ADEQ has determined that the Lake Mohave Highlands system, PWS #08-062, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

G. Lake Mohave Highlands indicated its arsenic levels for Wells #1 and #2 to be both at 1 ppb. Based on these arsenic concentrations, Lake Mohave Highlands is currently meeting the new MCL.

Desert Foothills System

H. The Desert Foothills system has adequate well and storage capacities to serve the customer base.

I. ADEQ has determined that the Desert Foothills system, PWS #08-137, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

J. Desert Foothills indicated its arsenic level for Well #2 to be 8.3 ppb. Based on this arsenic concentration, Desert Foothills is currently meeting the new MCL.

Rio Vista Ranches System

K. Rio Vista Ranches is a consecutive water system to Bermuda Water Company ("Bermuda") and has no master-meter; therefore, the water loss cannot be determined.

L. Rio Vista Ranches is a consecutive water system to Bermuda and has no well, storage or pumping facilities.

M. ADEQ has determined that the Rio Vista Ranches system, PWS #08-333, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

N. Since Rio Vista Ranches receives its source supply from Bermuda, Bermuda has indicated their arsenic levels from their wells serving Rio Vista Ranches range from 1 ppb to 5 ppb. Based on these arsenic concentrations, Rio Vista Ranches is currently meeting the new MCL.

Mohave Water - Main System

O. The Mohave Water - Main system has adequate well and storage capacities to serve the customer base.

P. ADEQ has determined that the Mohave Water - Main system, PWS #08-032, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

Q. Mohave Water - Main indicated its arsenic levels for all its six wells have levels of 4 ppb or less. Based on these arsenic concentrations, Mohave Water - Main is currently meeting the new MCL.

R. The Mohave Water District is not located in any Active Management Area.

S. The Mohave Water District has no outstanding Commission compliance issues.

Recommendations

Camp Mohave System

1. Water testing expenses are based upon participation in the ADEQ MAP. Annual testing expenses should be adjusted to $682.

Lake Mohave Highlands System

2. Lake Mohave Highlands has a non-account water loss of 29.5% which is not within the acceptable limits. Staff recommends that effective upon the date an order is issued in this proceeding, Lake Mohave Highlands should monitor its system and file semi-annual reports within 30 days after the end of each 6-month period for one year, with the Director of the Utilities Division, indicating the quantity of water pumped, gallons sold and water loss percentage for each month during that 6-month period. If the reduction of water loss to less than 10% cannot be achieved, Lake Mohave Highlands shall submit to the Director of the Utilities Division a plan which outlines the procedures, steps, and time frames to achieve acceptable water losses. This plan shall be submitted within 18 months after the effective date of an order issued in this proceeding.

3. Water testing expenses are based upon participation in the ADEQ MAP. Annual testing expenses should be adjusted to $718.

Desert Foothills System

4. Desert Foothills has a non-account water loss of 12.2% which is not within the acceptable limits. Staff recommends that effective upon the date an order is issued in this proceeding, Desert Foothills should monitor its system and file semi-annual reports within 30 days after the end of each 6-month period for one year, with the Director of the Utilities Division, indicating the quantity of water pumped, gallons sold and water loss percentage for each month during that 6-month period. If the reduction of water loss to less than 10% cannot be achieved, Desert Foothills shall submit to the Director of the Utilities Division a plan which outlines the procedures, steps, and time frames to achieve acceptable water losses. This plan shall be submitted within 18 months after the effective date of an order issued in this proceeding.

5. Water testing expenses are based upon participation in the ADEQ MAP. Annual testing expenses should be adjusted to $1,174.

Rio Vista Ranches System

6. Water testing expenses are based upon non-participation in the ADEQ MAP. Annual testing expenses should be adjusted to $246.

Mohave Water - Main System

7. Mohave Water - Main has a non-account water loss of 19.3% which is not within the acceptable limits. Staff recommends that effective upon the date an order is issued in this proceeding, Mohave Water - Main should monitor its systems and file semi-annual reports within 30 days after the end of each 6-month period for one year, with the Director of the Utilities Division, indicating the quantity of water pumped, gallons sold and water loss percentage for each month during that 6-month period. If the reduction of water loss to less than 10% cannot be achieved, Mohave Water - Main shall submit to the Director of the Utilities Division a plan which outlines the procedures, steps, and time frames to achieve acceptable water losses. This plan shall be submitted within 18 months after the effective date of an order issued in this proceeding.

8. Water testing expenses are based upon non-participation in the ADEQ MAP. Annual testing expenses should be adjusted to $16,590.

9. Staff has evaluated Mohave Water District's RCN Asset Listing and recommends that its value not be accepted for purposes of setting rates in this proceeding.

10. With the exception of one project at $72,240, Staff has confirmed that Mohave Water District's post-test year plant items for Account Nos. 304 (partial), 311, 320 and 330 were in service before December 31, 2002 and finds these plant items to be used and useful from an engineering perspective.

11. Staff recommends that Mohave Water District's depreciation rates be used for this proceeding.

12. Staff recommends the acceptance of Mohave Water District's proposed Service Line and Meter Installation Charges, except for the 2-inch meter size. For the 2-inch size, Staff recommends adopting a charge of "At cost".

13. Staff recommends that Mohave Water District file curtailment plan tariffs for all its systems within 90 days after the effective date of an order issued in this proceeding.

Q. Does this conclude your direct testimony?

A. Yes, it does.

Engineering Report for Arizona-American Water Company (Tubac Water District)

Docket No. W-01303A-02-0908 (Rates)

By: Marlin Scott, Jr.
Utilities Engineer

August 26, 2003

CONCLUSIONS

A. Arizona-American Water Company – Tubac Water District ("Tubac") has a non-account water loss of 7.1% which is within acceptable limits. (See Section C, page 9.)

B. Staff concludes that the system has adequate well and storage capacities to serve the customer base. (See Section C, page 9.)

C. The Arizona Department of Environmental Quality ("ADEQ") has determined that Tubac's system, PWS #12-001, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4. (See Section E, page 10.)

D. Because Tubac has arsenic concentrations of 30 ppb and 36 ppb for Wells #2 and #4, respectively, Tubac is currently evaluating its options to achieve the new arsenic level of 10 parts per billon. Tubac is not asking for any arsenic removal cost recovery in this proceeding. (See Section E, page 11.)

E. Tubac is located within the Santa Cruz Active Management Area ("AMA") and is in compliance with the AMA's reporting and conservation requirements. (See Section F, page 11.)

F. Tubac has no outstanding Arizona Corporation Commission compliance issues. (See Section G, page 11.)

G. Staff has confirmed that the post-test year plant items for Account Nos. 311 and 331 were in service before December 31, 2002 and finds these plant items to be used and useful from an engineering perspective. (See Section H, page 12.)

RECOMMENDATIONS

1. Staff recommends the adoption of Tubac's annual water testing cost of $1,420. (See Section E, page 10.)

2. Staff has evaluated Tubac's Reproduction Cost New ("RCN") Asset Listing and recommends that its value not be accepted for purposes of setting rates in this proceeding. (See Section H, page 11.)

3. Staff recommends that Tubac's depreciation rates delineated in Table A be used for this proceeding. (See Section J, page 13.)

4. Staff recommends the acceptance of Tubac's proposed Service Line and Meter Installation Charges, except for the 2-inch meter size. For the 2-inch size, Staff recommends adopting a charge of "At cost". (See Section K.1, page 14.)

5. Staff recommends that Tubac file a curtailment plan tariff within 90 days after the effective date of an order issued in this proceeding. (See Section K.2, page 15.)

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A. LOCATION OF TUBAC

Arizona-American Water Company – Tubac Water District ("Tubac") serves the community of Tubac which is located approximately 20 miles north of Nogales along Interstate 19. Figure 1 shows the location of Tubac within Santa Cruz County and Figure 2 shows the 6-1/2 square-miles of certificated area.

B. DESCRIPTION OF THE WATER SYSTEM

The water system was field inspected on February 20, 2003, by Marlin Scott, Jr., Staff Utilities Engineer, in the accompaniment of Tom DeYoung, Operations Superintendent Production, and Kathy Hackett, Plant Operator, for Tubac.

The current operation of the water system consists of three well sites, a storage tank/booster station site, and a distribution system serving an average of 490 customers in the 2001 during the test year. A schematic of this system process is shown as Figure 3. A detailed plant facility listing follows:

Table 1. Well Data

Well Information	Well #2 Country Club	Well #3 Valley Vitas	Well #4 Palo Parado
ADWR ID No.	55-604371	55-604370	55-505043
Location No.	D(21-13)6ddc	D(21-13)6aac	D(21-13)7caa
Casing Size	12-inch	12-inch	16-inch
Casing Depth	140 ft.	204 ft.	650 feet
Pump Size	40-Hp	20-Hp	75-Hp
Pump Type	Vertical Turbine	Vertical Turbine	Vertical Turbine
Pump Yield	300 GPM	180 GPM	500 GPM
Wellhead meter	4-inch	3-inch	8-inch
Year Drilled	1965	1965	1983
Pressure (surge) Tank	5,000 gallons	5,000 gallons	5,400 gallons
Fencing	110' x 100'	50' x 50'	100' x 50'

Table 2. Palo Parado Water Pumping Plant

Equipment	Capacity
Storage tank	50,000 gallons
Booster pumps	Two 5-Hp & one natural gas
Pressure tanks	5,000 gallon & 2,000 gallon
Fencing	160' x 40'
Originally built in 1983...	....and rebuilt in 1994.

Table 3. Water Mains

Diameter	Material	Length
6-inches and over	Various	74,145 ft.
4-inches and under	Various	28,468 ft.
	Total:	102,613 ft.

Table 4. Customer Meters

Size	Quantity
5/8 x 3/4-inch	4
3/4-inch	0
1- inch	28
1-1/2-inch	3
2-inch	3
3-inch	2
Total:	* 490

*Note: Average number during 2001.

Table 5. Fire Hydrants

Size	Quantity
Standard	44

Table 6. Equipment & Structures

Equipment & Structures
Storage – metal building, 8' x 18' at Well Site #2
Generator - natural gas, 100 kW at Well Site #4

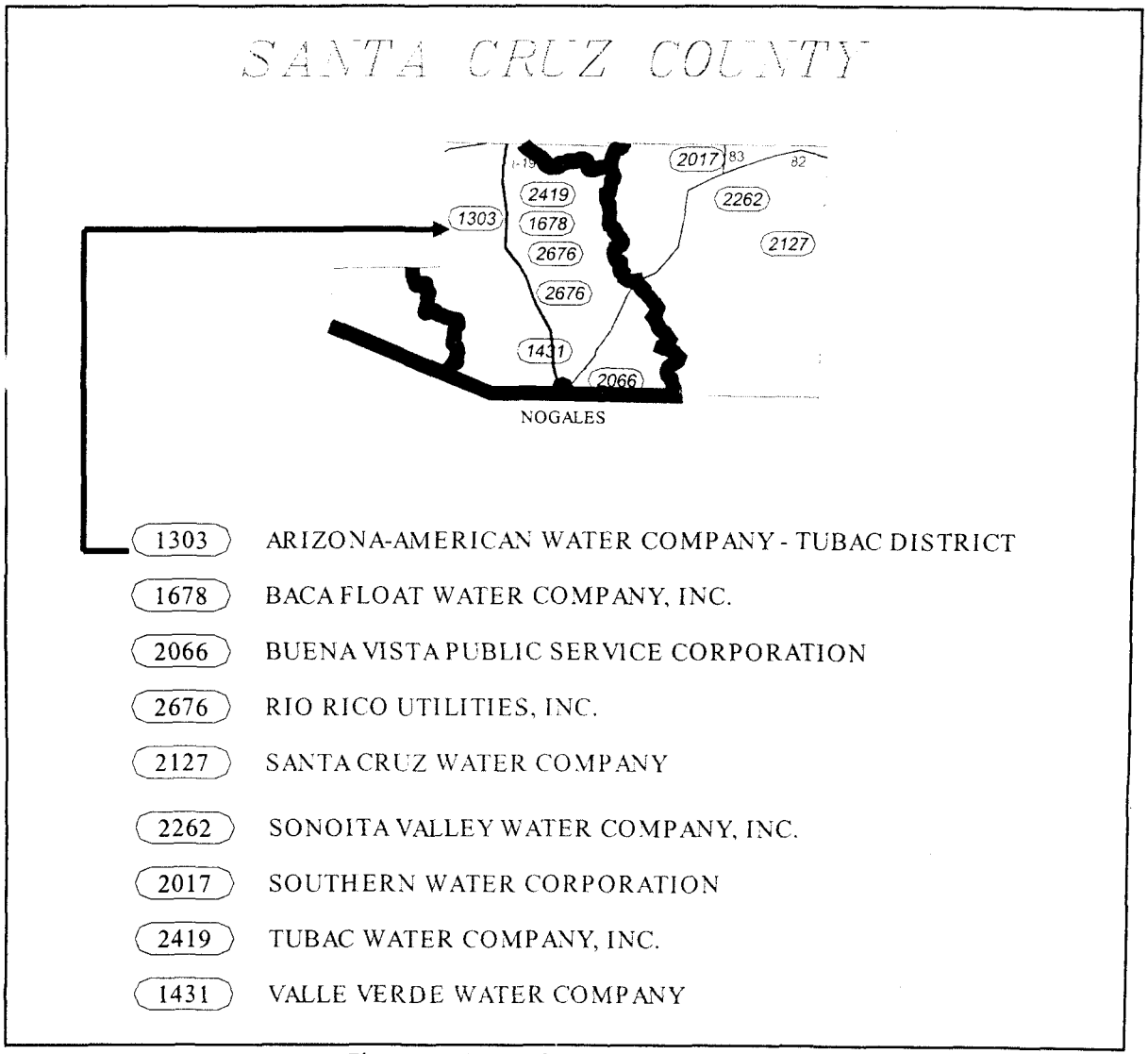


Figure 1. Santa Cruz County Map

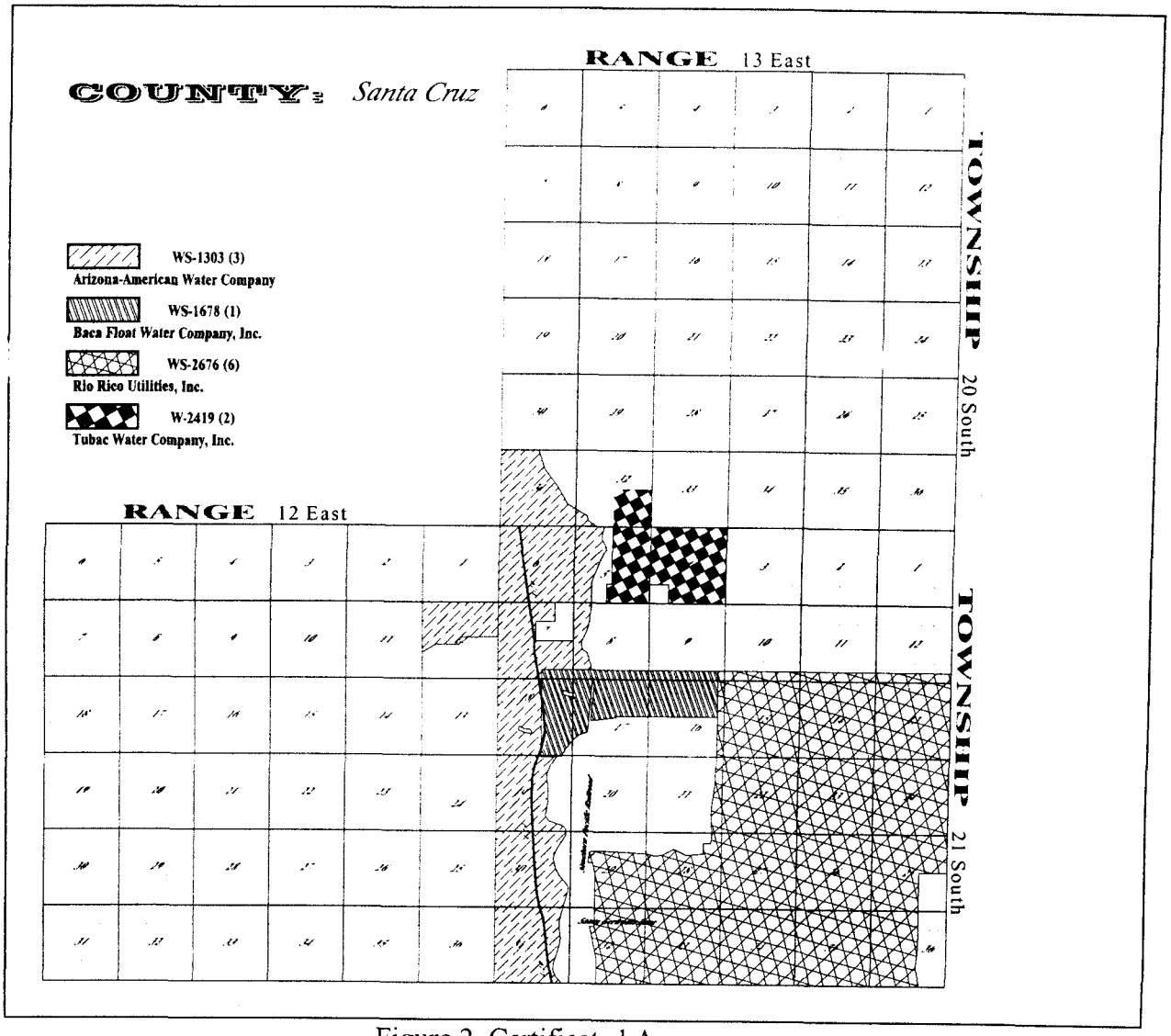


Figure 2. Certificated Area

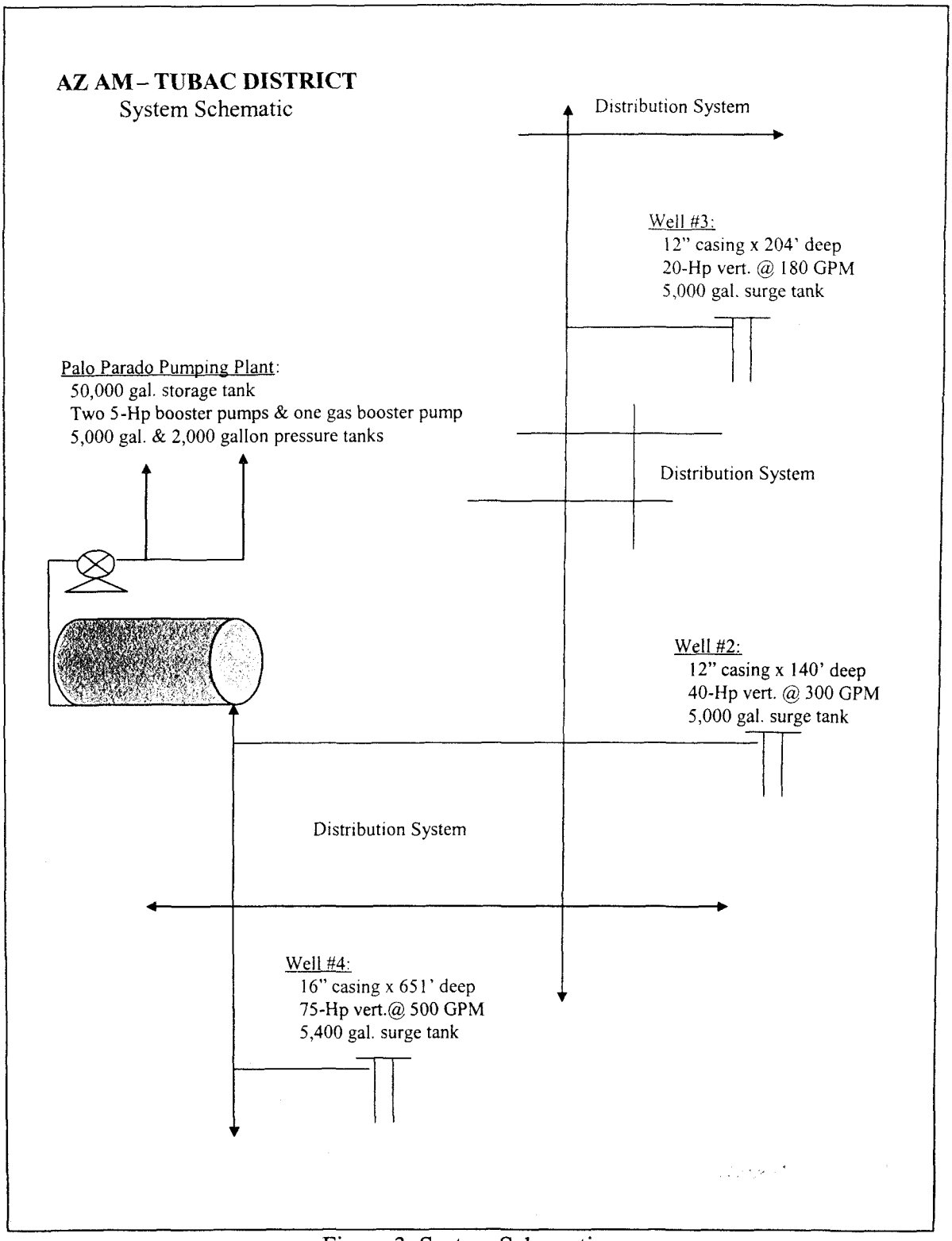


Figure 3. System Schematic

C. WATER USE

Water Sold

Based on the information provided by Tubac, water use for the year 2002 is presented below. Customer consumption included a high monthly water use of 776 gallons per day ("GPD") per connection in June and a low monthly water use of 392 GPD per connection in March for an average annual use of 568 GPD per connection.

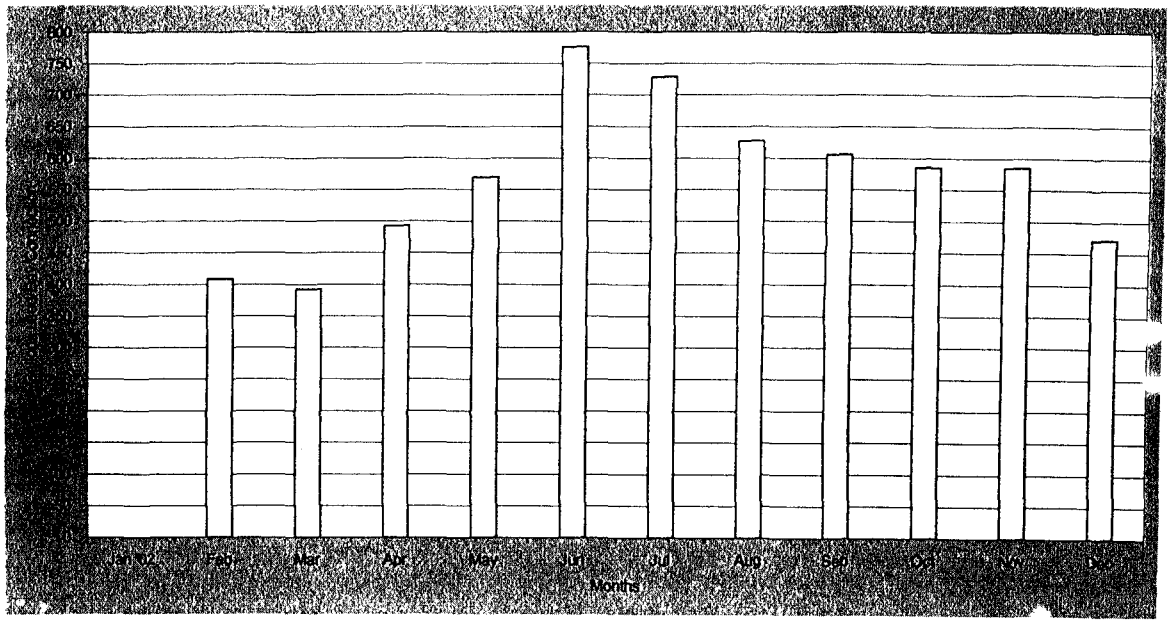


Figure 4. Water Use

Non-Account Water

Tubac reported 105,361,000 gallons pumped and 97,876,000 gallons sold, resulting in a water loss of 7.1%. Non-account water should be 10% or less.

System Analysis

The water system's current well capacity of 980 gallons per minute ("GPM") and storage capacity of 50,000 gallons is adequate to serve the present customer base and reasonable growth.

D. GROWTH

Figure 5 depicts actual growth during the past eleven years and projects an estimated growth for the next five years. Based on customer base data used in Staff's last

engineering report of 375 in 1991, 428 in 1994, and 496 in 2002, it is projected that Tubac could have approximately 540 customers by 2007.

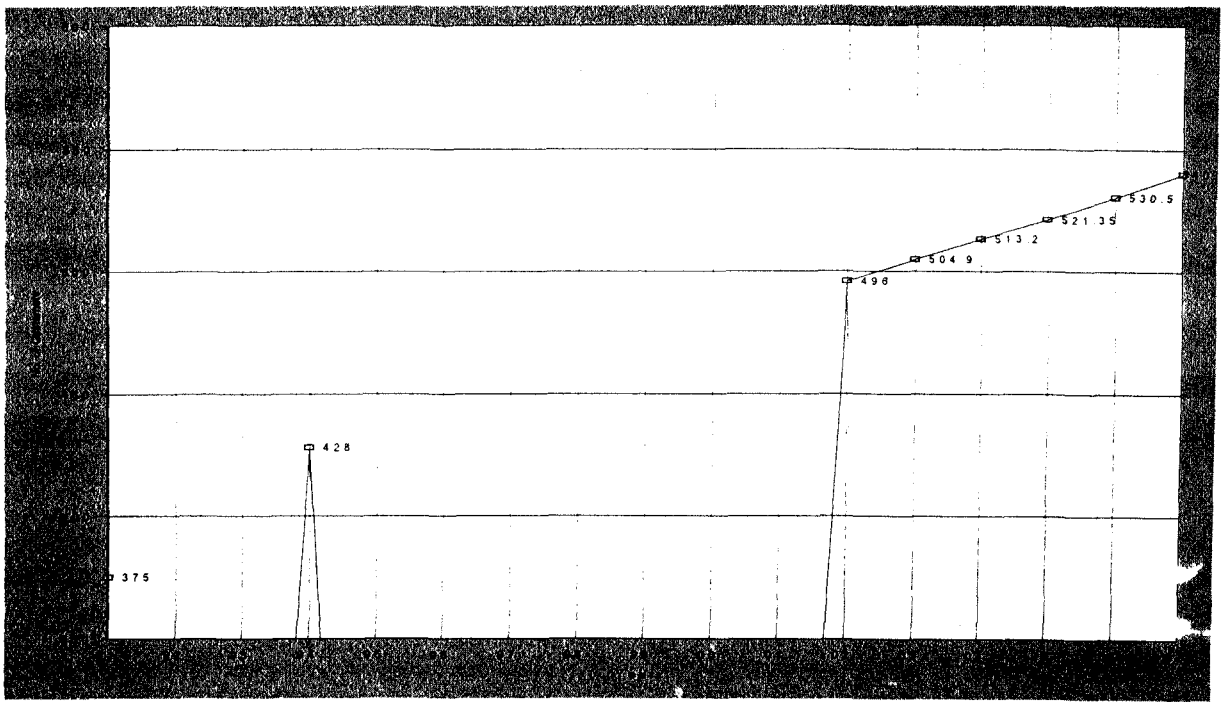


Figure 5. Growth Projection

E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) COMPLIANCE

Compliance

ADEQ has determined that the Tubac system, PWS #12-001, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

Water Testing Expense

Tubac reported its water testing expense at $1,420 during the test year. Tubac estimates that water testing costs for the next three years will average $2,101. Staff considers both the reported expense amount and the estimated cost amount to be reasonable. Therefore, Staff recommends the adoption of Tubac's annual water testing cost of $1,420.

Arsenic

The U.S. Environmental Protection Agency has reduced the arsenic maximum contaminant level ("MCL") in drinking water from 50 parts per billion ("ppb") to 10 ppb.

The date for compliance with the new MCL is January 23, 2006. Tubac indicated its arsenic levels for Well #2 at 30 ppb, Well #3 at 2.7 ppb and Well #4 at 36 ppb. Based on these arsenic concentrations, Tubac is currently evaluating its options for Well #2 (possible retirement) and Well #4 (adsorption treatment method) in order to achieve the 10 ppb MCL. Tubac is also following an arsenic pilot study in its Sun City West District for media selection guidance. A preliminary design for arsenic treatment is scheduled by Tubac to occur sometime in 2003. Tubac is not asking for arsenic removal cost recovery in this proceeding.

F. ARIZONA DEPARTMENT OF WATER RESOURCES COMPLIANCE

Tubac is located in the Santa Cruz Active Management Area. During the test year, Tubac pumped more than 250 acre-feet per year. If a water company pumps more than the 250 acre-feet per year it is considered a "large provider" by the ADWR and is subject to the gallons per capita per day ("gpcd") limit and conservation rules. After contacting ADWR's Santa Cruz Active Management Area office, Staff learned that Tubac is in compliance with ADWR's monitoring and reporting requirements.

G. ARIZONA CORPORATION COMMISSION COMPLIANCE

A check with the Utilities Division Compliance Unit showed no outstanding compliance issues for Tubac.

H. REPRODUCTION COST NEW (RCN) AND ORIGINAL COST (OC)

Tubac submitted an RCN Asset Listing for the year ending December 31, 2001. This RCN reported an OC plant-in-service value of $1,993,115 and an RCN plant-in-service value of $3,476,815. Staff has evaluated Tubac's RCN and recommends that its cost values not be accepted for purposes of setting rates in this proceeding for the following reasons:

1. The RCN submitted by Tubac is no more than an "asset listing" that lists all the assets of the utility even if an asset item is retired, abandoned or no longer exists. If an RCN is to be considered, the RCN should be a "valuation study" to reproduce, replace or reconstruct existing physical properties (actual plant that is used and useful).
2. Tubac's RCN has incomplete Plant Descriptions and Quantities.
3. The Handy-Whitman Factors were not used properly. Tubac used a composite Index number for all plant accounts. The actual Handy-Whitman Index numbers are arranged to follow the classification of the National Association

of Regulatory Utility Commissioners ("NARUC") Account numbers and differ by geographical regions.

4. Tubac trended all plant items using their composite Handy-Whitman Factor. Handy-Whitman is used to trend cost for utility construction and should not be used for plant items like Office Furniture, Computer, Transportation, Stores, Tools, and Communication Equipment.
5. Tubac trended the OC values for Accounts in Organization, Franchises, and Land & Land Rights. These Accounts should not be trended in RCN Studies.
6. Tubac added corporate overhead to the asset items in a haphazard fashion without identification which makes it impossible to perform an accurate RCN.
7. No contributed plant was identified or removed from the plant-in-service base.

Through the field inspection and the RCN Asset Listing, Staff identified the following plant items as not used and useful:

I. Staff's Adjustment – Well #1 not used and useful:

Acct. 314 - Well #1 at OC of	$617
Acct. 314 - Well #1 at OC of	$1,007
Total:	$1,624

I. POST-TEST YEAR PLANT

In its rate application filing, Tubac submitted $44,500 worth of post-test year plant for the year 2002. This $44,500 was based on estimated budget projections and not on actual costs. In response to Staff's data requests, Tubac has submitted actual project cost amounts as follows:

Acct. No.	Description	Estimated Amounts	Actual Amounts
304	Structures & Improvements	$500	$734
311	Pumping Equipment	$2,450	$28,825
331	Transmission & Distribution	$37,050	$55,070
340	Office Furniture & Equipment	$3,800	$3,237
346	Communication Equipment	$700	$785
	Total:	$44,500	$88,861

Staff has inspected and verified plant items for Account Nos. 311 and 331. As revealed through the field inspection and data requests, these post-test year plant items were constructed and placed into service before December 31, 2002. Therefore, Staff finds

these post-test year plant items for Account Nos. 311 and 331 to be used and useful from an engineering perspective.

J. DEPRECIATION RATES

Tubac conducted a book depreciation study for the Tubac water system in the prior rate proceeding (Decision No. 60172, dated May 7, 1997). However, in that proceeding, Tubac's study was not approved and the current authorized depreciation rates at that time were readopted. These same readopted rates were used by Tubac in this rate proceeding, with the addition of five proposed rates, and are presented in Table B. Staff recommends that Tubac's depreciation rates delineated in Table B be used for this proceeding.

Table B. Water Depreciation Rates

Account No.	Depreciable Plant	Rate
	Intangible	
301	Organization	0%
302	Franchises	0%
303	Miscellaneous Intangibles	0%
	Source of Supply	
310	Land and Land Rights	0%
311	Structures and Improvements	2.40%
312	Collecting and Impounding Res.	0%
313	Lakes, Rivers, Other Intakes	0%
314	Wells and Springs	3.08%
	Pumping	
320	Land and Land Rights	0%
321	Structures and Improvements	1.94%
323	Other Power Production	0%
325	Electric Pumping Equipment	4.24%
326	Diesel Pumping Equipment	**5.00%**
328.10	Gas Engine Pumping Equipment	4.24%
	Water Treatment	
330	Land and Land Rights	0%
331	Structures and Improvements	0%
332	Water Treatment Equipment	**4.00%**
	Transmission and Distribution	
340	Land and Land Rights	0%
341	Structures and Improvements	1.92%
342	Distribution, Reservoirs, & ST	1.62%

343	Transmission and Distribution	1.97%
344	Fire Mains	0%
345	Services	2.45%
346	Meters	2.42%
348	Hydrants	1.97%
349	Other Transmission & Distribution	0%
	General	
389	Land and Land Rights	0%
390	Structures and Improvements	**2.89%**
391	Office Furniture and Equipment	3.28%
391.10	Computer Equipment	3.28%
392	Transportation Equipment	**25.00%**
393	Stores Equipment	4.00%
394	Tools, Shop and Garage	3.42%
395	Laboratory Equipment	0%
396	Power Operated Equipment	0%
397	Communication Equipment	5.03%
398	Miscellaneous Equipment	**4.93%**

Note: New addition of depreciation rates in this proceeding.

K. OTHER ISSUES

1. Service Line and Meter Installation Charges

Tubac has requested to change its service line and meter installation charges. These charges are refundable advances and Tubac's proposed charges are within Staff's experience of reasonable and customary charges, with the exception of the 2-inch meter. Therefore, Staff accepts Tubac's proposed service line and meter installation charges, with the exception of the 2-inch meter size. For 2-inch meters, the typical charges vary according to meter type (turbine or compound). Therefore, Staff recommends adopting a service line and meter installation charge of "At cost" for the 2-inch size.

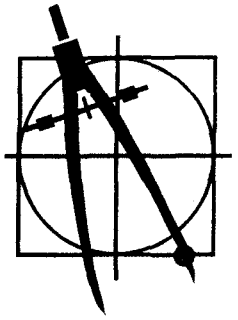
Table C. Service Line and Meter Installation Charges

Meter Size	Current Charges	Proposed Charges	Staff Recommendation
5/8 x3/4-inch	$320	$500	$500
3/4-inch	$360	$575	$575
1-inch	$420	$600	$660
1-1/2-inch	$635	$900	$900
2-inch	$1,090	$2,200	**At cost**

3-inch	At cost	At cost	At cost
4-inch	At cost	At cost	At cost
6-inch	At cost	At cost	At cost

2. Curtailment Plan Tariff

A curtailment plan tariff is an effective tool to allow a water company to manage its resources during periods of shortages due to pump breakdowns, droughts, or other unforeseeable events. Since Tubac does not have this type of tariff, this rate proceeding provides an opportune time to prepare and file such a tariff. Staff recommends that Tubac file a curtailment plan tariff within 90 days after the effective date of an order issued in this proceeding. This tariff shall be submitted to the Director of Utilities Division for his review and certification. Staff also recommends that this tariff shall generally conform to the sample tariff found posted on the Commission's web site (www.cc.state.az.us/utility) or available upon request from Commission Staff.



Engineering Report for Arizona-American Water Company (Havasu Water District)

Docket No. WS-01303A-02-0869 (Rates)

By: Marlin Scott, Jr.
Utilities Engineer

August 26, 2003

CONCLUSIONS

A. The Arizona-American Water Company – Havasu Water District ("Havasu") system has adequate well and storage capacities to serve the customer base. (See Section C, page 11.)

B. The Arizona Department of Environmental Quality ("ADEQ") has determined that Havasu's system, PWS #08-015, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4. (See Section E, page 12.)

C. Because Havasu has arsenic concentrations of 18 parts per billon ("ppb") at both Wells #8 and #9, Havasu is currently evaluating its options to achieve the new arsenic level of 10 ppb. Havasu is not asking for any arsenic removal cost recovery in this proceeding. (See Section E, page 13.)

D. Havasu is not located within any Active Management Area ("AMA"), therefore is not subject to any AMA's reporting and conservation requirements. (See Section F, page 14.)

E. Havasu has no outstanding Arizona Corporation Commission compliance issues. (See Section G, page 14.)

F. Staff has confirmed that the Havasu post-test year plant items for Account Nos. 304, 330 and 331 were in service before December 31, 2002 and finds these plant items to be used and useful from an engineering perspective. (See Section H, page 15.)

RECOMMENDATIONS

1. Havasu has a non-account water loss of 14.2% which is not within the acceptable limits. Staff recommends that effective upon the date an order is issued in this proceeding, Havasu should monitor its system and file semi-annual reports within 30 days after the end of each 6-month period for one year, with the Director of the Utilities Division, indicating the quantity of water pumped, gallons sold and water loss percentage for each

month during that 6-month period. If the reduction of water loss to less than 10% cannot be achieved, Havasu shall submit to the Director of the Utilities Division a plan which outlines the procedures, steps, and time frames to achieve acceptable water losses. This plan shall be submitted within 18 months after the effective date of an order issued in this proceeding. (See Section C, page 11.)

2. Water testing expenses are based upon participation in the ADEQ Monitoring Assistance Program. Annual testing expenses should be adjusted to $3,356 as described in Table A. (See Section E, page 12.)

3. Staff has evaluated Havasu's Reproduction Cost New ("RCN") Asset Listing and recommends that its values not be accepted for purposes of setting rates in this proceeding. (See Section H, page 14.)

4. Staff recommends that Havasu's depreciation rates delineated in Table B be used for this proceeding. (See Section J, page 16.)

5. Staff recommends the acceptance of Havasu's proposed Service Line and Meter Installation Charges, except for the 2-inch meter size. For the 2-inch size, Staff recommends adopting a charge of "At cost". (See Section K.1, page 17.)

6. Staff recommends that Havasu file a curtailment plan tariff within 90 days after the effective date of an order issued in this proceeding. (See Section K.2, page 18.)

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A. LOCATION OF HAVASU

Arizona-American Water Company – Havasu Water District ("Havasu") serves a community in the northern portion of Lake Havasu City, Mohave County. Figure 1 shows the location of Havasu within Mohave County and Figure 2 shows the certificated areas, a 5-1/2 square-mile area in Lake Havasu City and a 1/4 square-mile area at Interstate 40.

The 1/4 square-mile certificated area located at the intersection of Highway 95 and Interstate 40 is approximately 12 miles north of Lake Havasu City. This area is known as Arizona Gateway and is not part of this rate proceeding due to the fact that Havasu does not own the water facilities and no customers are being billed at this time.

B. DESCRIPTION OF THE WATER SYSTEM

The water system was field inspected on March 25, 2003, by Marlin Scott, Jr., Staff Utilities Engineer, in the accompaniment of Mark Clark, Operations Manager and Dave Evans, Operations Superintendent, for Havasu.

The current operation of the water system consists of five wells, storage tank/booster station sites, and a distribution system serving 1,189 customers at the end of the test year. A schematic of this system process is shown as Figure 3. A detailed plant facility listing follows:

Table 1-A. Well Data

Well Information	Well #1 (Not-in-Service)	Well #2 (Not-in-Service)	Well #3
ADWR ID No.	55-601829	55-534237	55-601831
Casing Size	6-inch	12-inch	8-inch
Casing Depth	180 ft.	148 ft.	160 feet
Pump Size	7-1/2-Hp		15-Hp
Pump Type	Submersible		Submersible
Pump Yield	50 GPM		250 GPM
Wellhead meter			4-inch
Treatment			Gas chlorination
Generator			Natural gas
Fencing	30' x 40'	50' x 50'	50' x 110'

Table 1-B. Well Data

Well Information	♥ Well #4 (Construction well)	Well #5 (With Wellsite #3)	Well #6 (Not-in-Service)
ADWR ID No.	55-601832	55-601833	
Casing Size	10-inch	8-inch	
Casing Depth	245 ft.	150 ft.	355 ft.
Pump Size	5-Hp	30-Hp	
Pump Type	Submersible	Submersible	
Pump Yield	75 GPM	175 GPM	
Wellhead meter	2-inch	3-inch	
Treatment	None	Gas chlorination	
Generator	None	Natural gas	
Fencing	20' x 20'	50' x 110'	

♥ Note: Well #4 is not connected to the distribution system.

Table 1-C. Well Data

Well Information	Well #7	Well #8	Well #9 (Not-in-Service)
ADWR ID No.	55-539646	55-512988	New Well
Casing Size	10-inch	8-inch	
Casing Depth	150 feet	420 ft.	790 feet
Pump Size	20-Hp	15-Hp	
Pump Type	Submersible	Submersible	
Pump Yield	550 GPM	100 GPM	
Wellhead meter	6-inch	3-inch	
Treatment	Gas chlorination	Gas chlorination	
Generator	None	None	
Fencing	40' x 50'	70' x 110'	

Table 2. Storage & Booster Plant

Location	Plant	Capacity/Quantity
@ Well #3/#5	Storage tank	100,000 gallons
	Booster pumps	Two 25-Hp & one 30-Hp
	Pressure tank	8,000 gallon
	Fencing (w/ wells)	50' x 110'
Near Well #4	Storage tank	125,000 gallons
	Booster pumps	Two 25-Hp

	Pressure tank	10,000 gallon
	Fencing	50' x 50'
@ Well #8	Storage tank	250,000 gallons
	Booster pumps	Two 15-Hp & one 50-Hp
	Pressure tank	10,000 gallon
	Fencing (w/ Well #8)	70' x 110'
Booster Station #3	Storage tank	125,000 gallons
	Booster pumps	Two 20-Hp & one 40-Hp
	Pressure tank	5,000 gallon
	Fencing	70' x 110'

Table 3. Water Mains

Diameter	Material	♣ Length
6-inches and over	Various	60,002 ft.
4-inches and under	Various	21,968 ft.
	Total:	81,970 ft.

♣ Note: Since Havasu did not provide this information; this data was retrieved from the 1999 Annual Report.

Table 4. Customer Meters

Size	* Quantity
5/8 x 3/4-inch	1,169
3/4-inch	-
1- inch	6
1-1/2-inch	-
2-inch	5
3-inch	3
4-inch	6
6-inch	-
Total:	1,189

*Note: At end of test year 2001.

Table 5. Fire Hydrants

Size	Quantity
Standard	Owned by Fire District

Table 6. Equipment & Structures

Equipment & Structures
Field office trailer, 8' x 18' at Well #8
torage shed, 10' x 15' at Booste tation #3

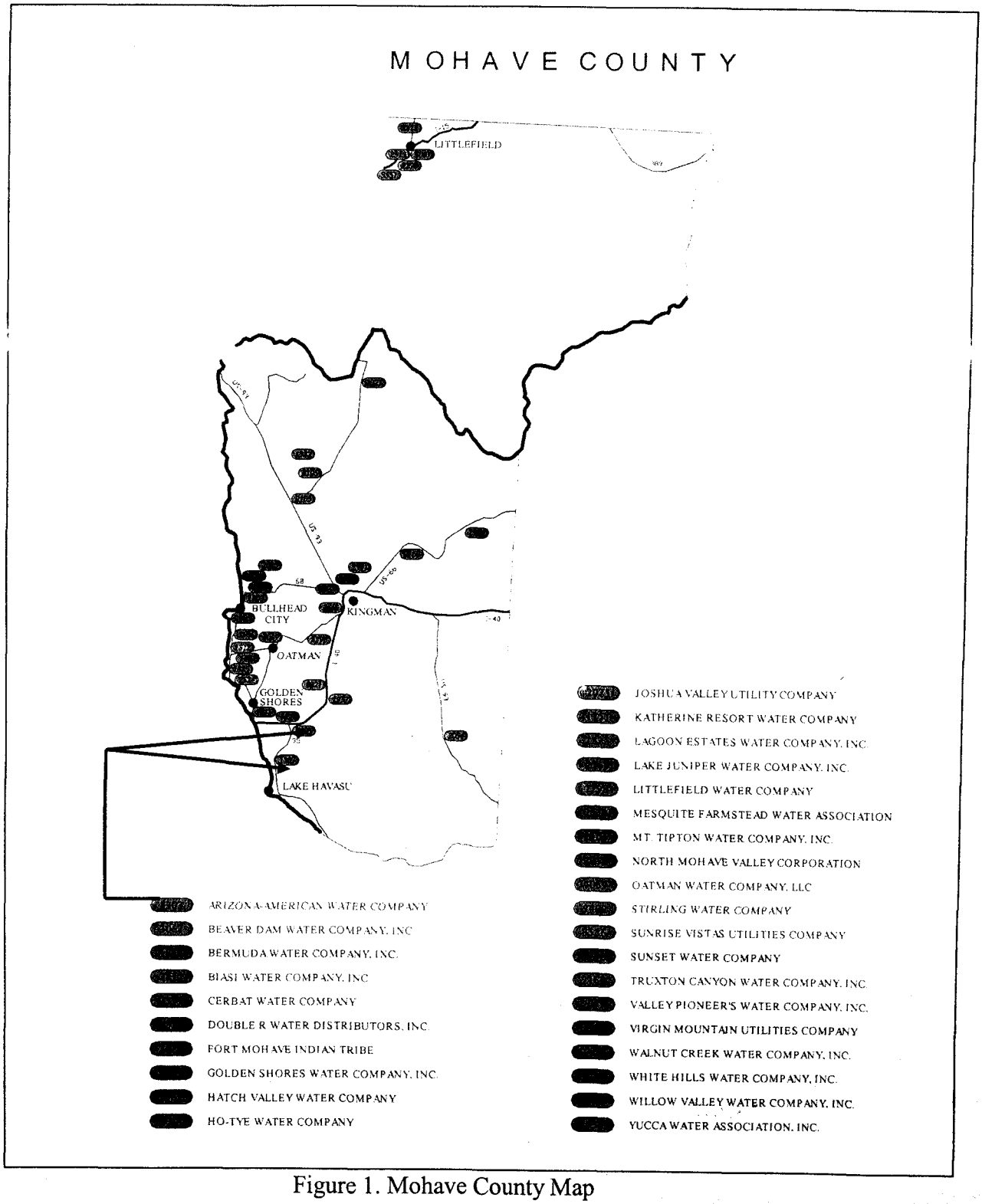


Figure 1. Mohave County Map

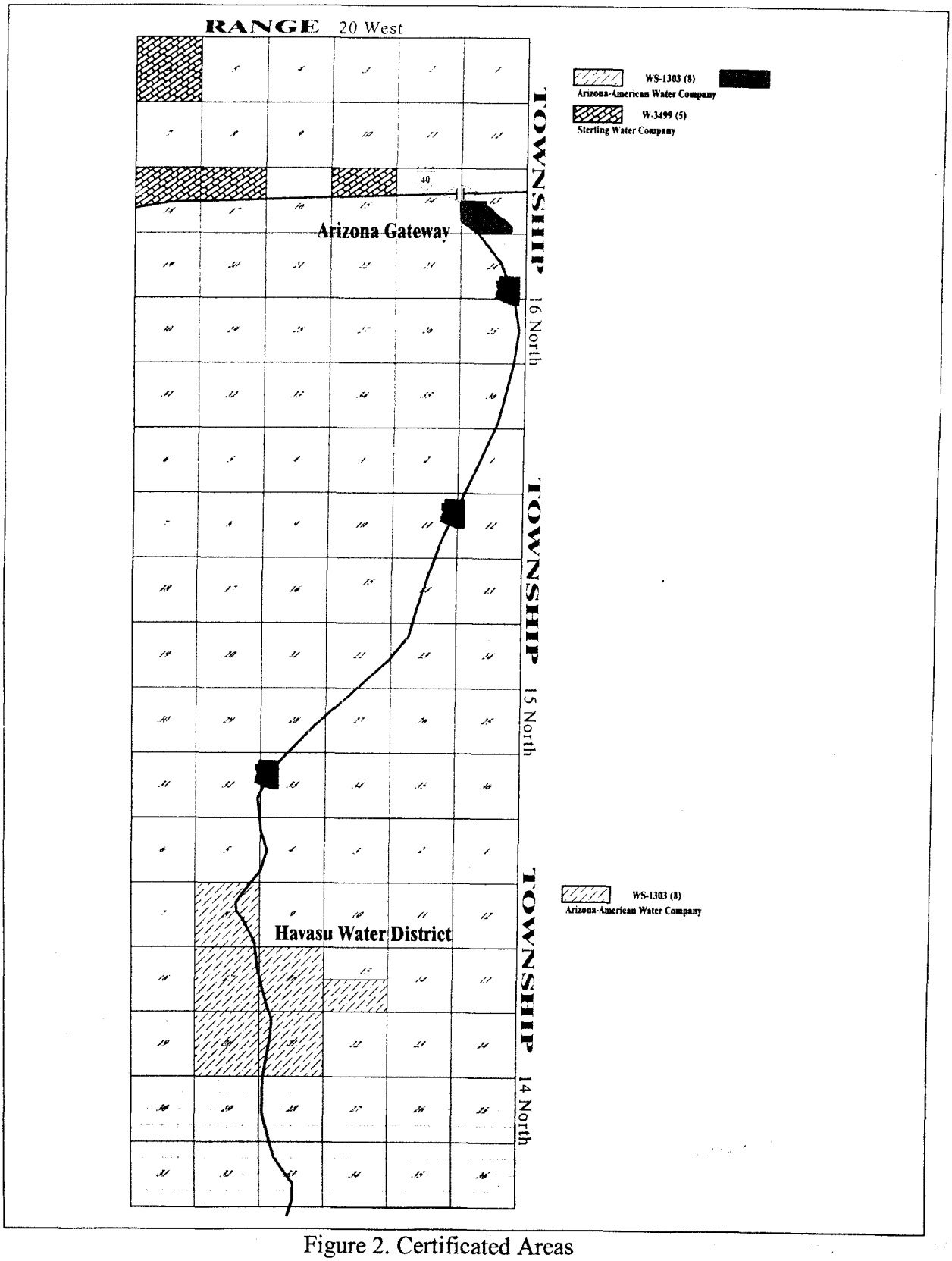


Figure 2. Certificated Areas

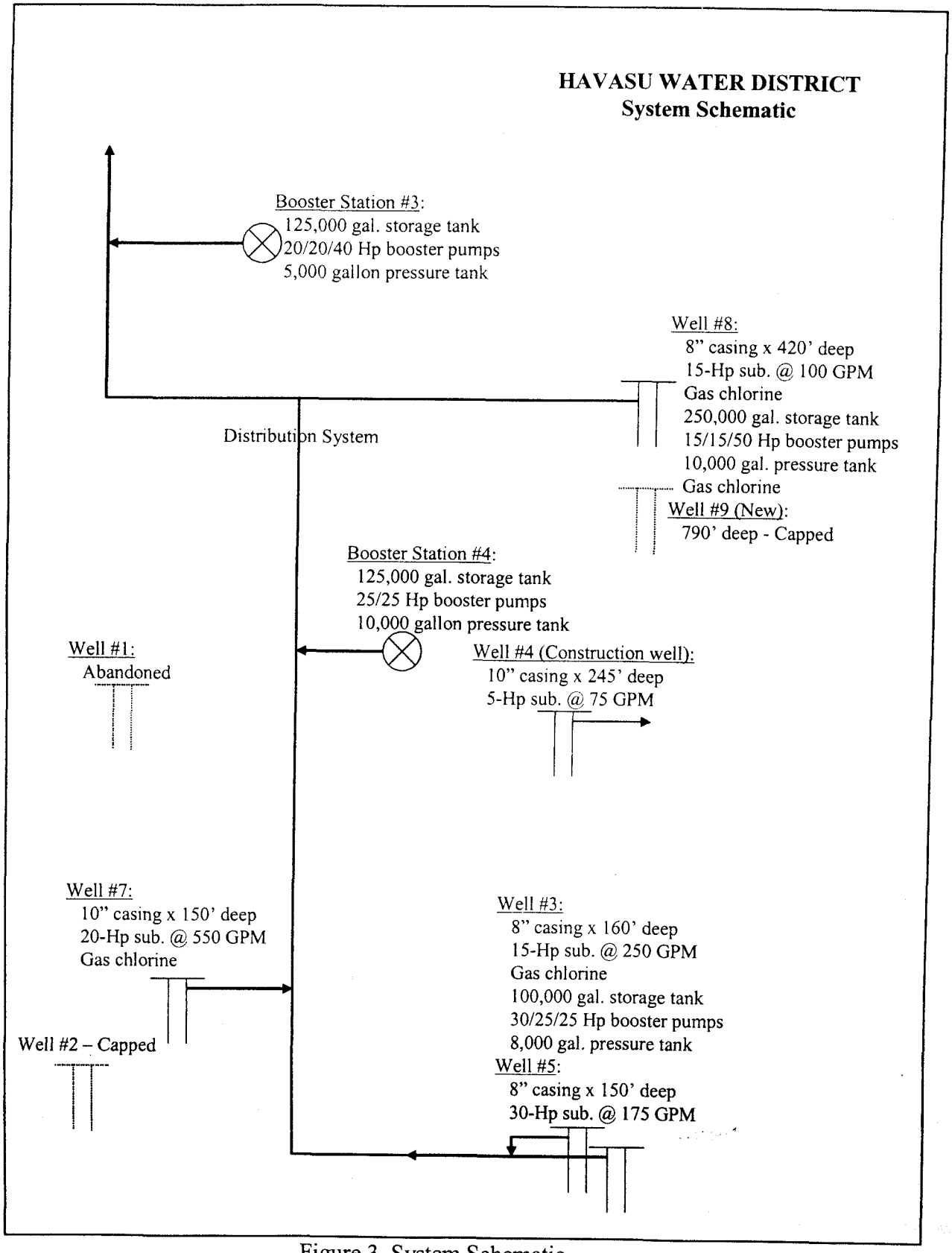


Figure 3. System Schematic

C. WATER USE

Water Sold

Based on the information provided by Havasu, water use for the year 2002 is presented below. Customer consumption experienced a high monthly water use of 668 gallons per day ("GPD") per connection in June and a low monthly water use of 237 GPD per connection in December for an average annual use of 463 GPD per connection.

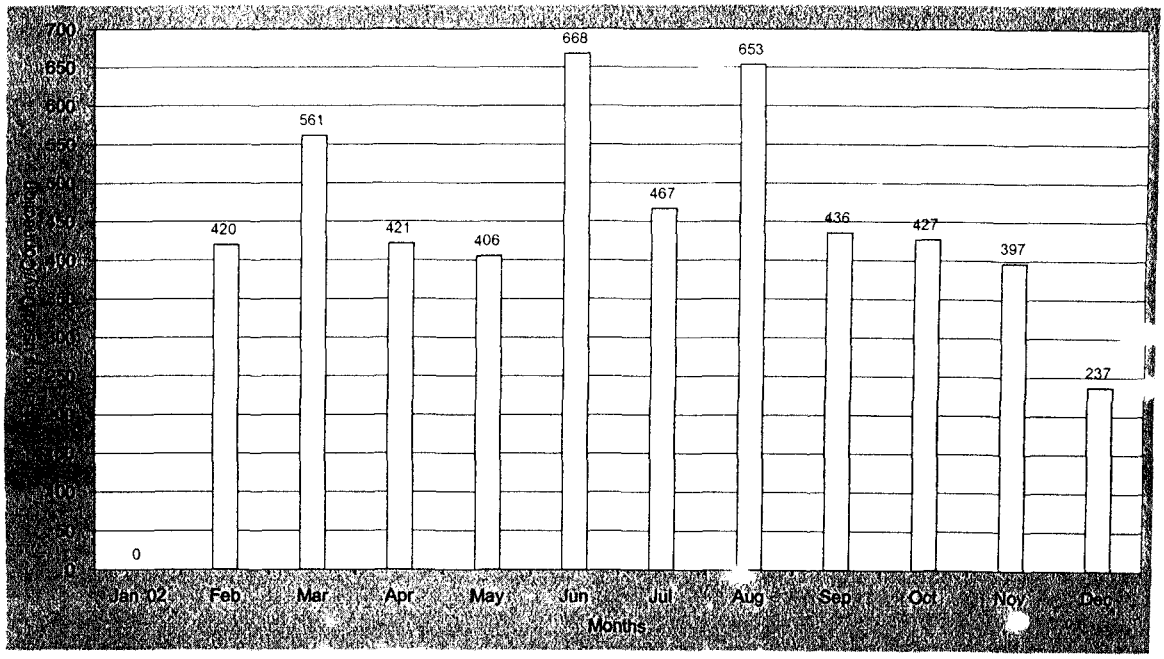


Figure 4. Water Use

Non-Account Water

Havasu reported 239,785,000 gallons pumped and 205,784,000 gallons sold for the year 2002, resulting in a water loss of 14.2%. Non-account water should be 10% or less and never more the 15%. Staff reviewed the 2002 Water Use Data Sheet submitted by Havasu and questioned some of the monthly data, i.e., gallons sold is more than gallons pumped. Therefore, Staff recommends that effective upon the date an order is issued in this proceeding, Havasu should monitor its system and file semi-annual reports within 30 days after the end of each 6-month period for one year, with the Director of the Utilities Division, indicating the quantity of water pumped, gallons sold and water loss percentage for each month during that 6-month period.

If the reduction of water loss to less than 10% cannot be achieved, Havasu shall submit to the Director of the Utilities Division a plan which outlines the procedures, steps, and time frames to achieve acceptable water losses. This plan shall be submitted within 18 months after the effective date of an order issued in this proceeding.

System Analysis

The water system's current well capacity of 1,075 gallons per minute ("GPM") and storage capacity of 600,000 gallons is adequate to serve the present customer base and reasonable growth.

D. GROWTH

Figure 5 details the customer growth using linear regression analysis. The number of service connections was obtained from annual reports (under Havasu Water Company) submitted to the Commission. During the test year 2001, Havasu had 1,189 customers and it is projected that Havasu could have approximately 1,470 customers by 2007.

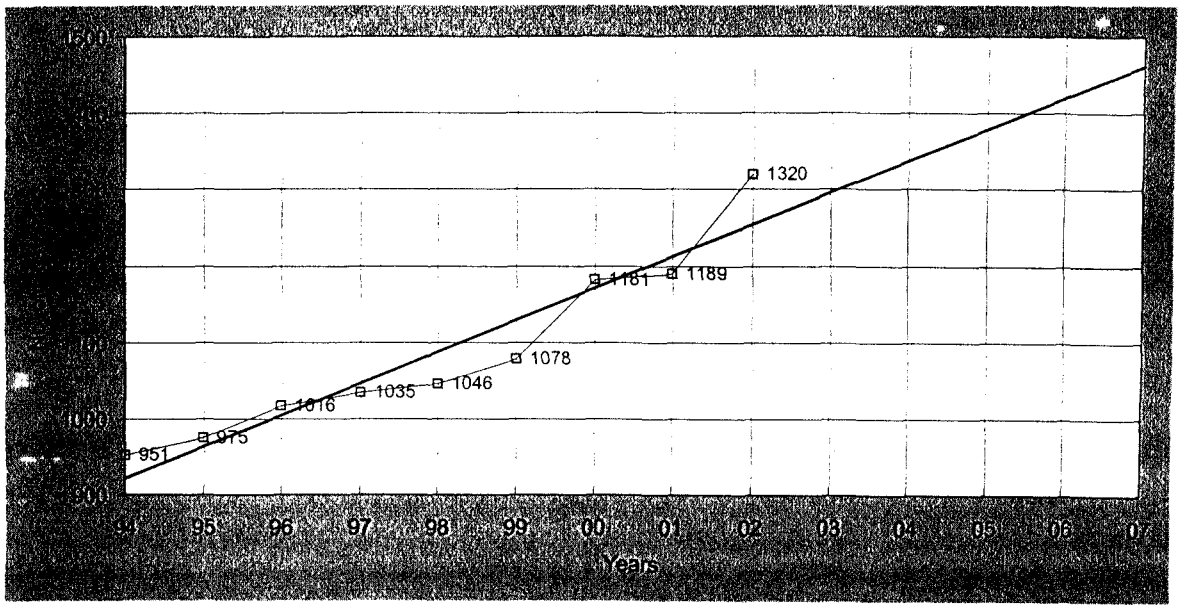


Figure 5. Growth Projection

E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) COMPLIANCE

Compliance

ADEQ has determined that the Havasu system, PWS #08-015, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

Water Testing Expense

Havasu is subject to mandatory participation in the Monitoring Assistance Program ("MAP"). Starting January 1, 2002, water companies paid a fixed $250 per year fee, plus an additional fee of $2.07 per service connection, regardless of meter size for participation in MAP. Participation in the MAP program is mandatory for water systems, which serve less than 10,000 persons (approximately 3,300 service connections).

Havasu reported its water testing expense within the management fees during the test year. Table A shows Staff's estimated annual monitoring expense with participation in the MAP. Water testing expenses should be adjusted to the annual expense amount shown in Table A, which is $3,356.

Table A. Water Testing Cost

Monitoring (Tests per 3 years, unless noted.)	Cost per test	No. of tests per 3 years	Total 3 year cost	Annual Cost
Total coliform – monthly	$17	144	$2,448	$816
Inorganics – Priority Pollutants	$240	MAP	MAP	MAP
Radiochemical – per 4 years	MAP	MAP	MAP	MAP
Phase II and V:				
Nitrate - annual	$25	15	$375	$125
Nitrite – once per period	MAP	MAP	MAP	MAP
Asbestos – per 9 years	MAP	MAP	MAP	MAP
MAP – IOCs, SOCs, & VOCs	MAP	MAP	MAP	$2,332
Lead & Copper – per 3 years	$25	10	$250	$83
Total				**$3,356**

Note: ADEQ's MAP invoice for the 2003 Calendar Year was $2,332.42.

Arsenic

The U.S. Environmental Protection Agency has reduced the arsenic maximum contaminant level ("MCL") in drinking water from 50 parts per billion ("ppb") to 10 ppb. The date for compliance with the new MCL is January 23, 2006. Havasu indicated its arsenic levels for Wells #8 and the new Well #9 to be both at 18 ppb. Based on these arsenic concentrations, Havasu is currently evaluating its options for these wells, possibly the adsorption treatment method, in order to achieve the 10 ppb MCL. Havasu is also following an arsenic pilot study in its Sun City West District for media selection guidance. A preliminary design for arsenic treatment is scheduled by Havasu to occur

sometime in 2003. Havasu is not asking for arsenic removal cost recovery in this proceeding.

F. ARIZONA DEPARTMENT OF WATER RESOURCES (ADWR) COMPLIANCE

Havasu is not located in any ADWR Active Management Area. Havasu's water source is supplied through wells that pump groundwater that is considered mainstream Colorado River water. This water pumped is pursuant to a contract Arizona-American Water Company has entered into with the U.S. Bureau of Reclamation that allows delivery up to 1,420 acre-feet per year. During the test year 2001, Havasu pumped 736 acre-feet of water.

G. ARIZONA CORPORATION COMMISSION COMPLIANCE

A check with the Utilities Division Compliance Unit showed no outstanding compliance issues for Havasu.

H. REPRODUCTION COST NEW (RCN) AND ORIGINAL COST (OC)

Havasu submitted an RCN Asset Listing for the year ending December 31, 2001. This RCN reported an OC plant-in-service value of $1,989,979 and an RCN plant-in-service value of $3,163,440. Staff has reviewed Havasu's RCN and recommends that its cost values not be accepted for purposes of setting rates in this proceeding for the following reasons:

1. The RCN submitted by Havasu is no more than an "asset listing" that lists all the assets of the utility even if an asset item is retired, abandoned or no longer exists. If an RCN is to be considered, the RCN should be a "valuation study" to reproduce, replace or reconstruct existing physical properties (actual plant that is used and useful).
2. Havasu's RCN has incomplete Plant Descriptions and Quantities.
3. The Handy-Whitman Factors were not used properly. Havasu used a composite Index number for all plant accounts. The actual Handy-Whitman Index numbers are arranged to follow the classification of the National Association of Regulatory Utility Commissioners ("NARUC") Account numbers and differ by geographical regions.
4. Havasu trended all plant items using their composite Handy-Whitman Factor. Handy-Whitman is used to trend cost for utility construction and should not be used for plant items like Office Furniture, Computer, Transportation, Stores, Tools, and Communication Equipment.

5. Havasu trended the OC values for Accounts in Organization, Franchises, and Land & Land Rights. These Accounts should not be trended in RCN Studies.
6. Havasu added corporate overhead to the asset items in a haphazard fashion without identification which makes it impossible to perform an accurate RCN.
7. No contributed plant was identified or removed from the plant-in-service base.

Through the field inspection and the RCN Asset Listing, Staff identified the following plant items as not used and useful:

I. Staff's Adjustments (Plant items not used and useful):

Acct. 310 Land - Well #1 at OC of $2,000
Acct. 310 Land - Well #2 at OC of $2,000
Acct. 310 Land - Well #6 at OC of $1,746
Acct. 311 Structure - Well #1 at OC of $4[illegible]
Acct. 314 Well #1 at OC of $3,800
Acct. 314 Well #2 at OC of $2,564
Acct. 314 Well #6 at OC of $64,564
Acct. 325 Pump - Well #1 at OC of $244

Total: $77,319

I. POST-TEST YEAR PLANT

In its rate application filing, Havasu submitted $212,200 worth of post-test year plant for the year 2002. This $212,000 was based on estimated budget projections and not on actual cost amounts. In response to Staff's data requests, Havasu has submitted actual project cost amounts as follows:

Acct. No.	Description	Estimated Amounts	Actual Amounts
303	Land & Land Rights	$1,700	$2,972
304	Structures & Improvements	$28,300	$38,587
330	Distribution Reservoirs	$119,000	$74,786
331	Transmission & Distribution	$38,900	$60,041
340	Office Furniture & Equipment	$21,700	$12,353
346	Communication Equipment	$2,600	$5,540
	Total:	$212,200	$194,278

Staff has inspected and verified plant items for Account Nos. 304, 330 and 331. As revealed through the field inspection and data requests, these post-test year plant items were constructed and placed into service before December 31, 2002. Therefore, Staff

finds these post-test year plant items to be used and useful from an engineering perspective.

J. DEPRECIATION RATES

In its prior rate proceeding and its Decision No. 57743, Havasu's depreciation rates were adopted. These same rates were used by Havasu in this rate proceeding and are presented in Table B. Staff recommends the depreciation rates delineated in Table B be used for this proceeding.

Table B. Water Depreciation Rates

Account No.	Depreciable Plant	Rate
	Intangible	
301	Organization	0%
302	Franchises	0%
303	Miscellaneous Intangibles	0%
	Source of Supply	
310	Land and Land Rights	0%
311	Structures and Improvements	2.79%
312	Collecting and Impounding Res.	2.54%
313	Lakes, Rivers, Other Intakes	0%
314	Wells and Springs	2.54%
	Pumping	
320	Land and Land Rights	0%
321	Structures and Improvements	0%
323	Other Power Production	5.12%
325	Electric Pumping Equipment	3.71%
326	Diesel Pumping Equipment	0%
328.10	Gas Engine Pumping Equipment	0%
	Water Treatment	
330	Land and Land Rights	0%
331	Structures and Improvements	0%
332	Water Treatment Equipment	12.00%
	Transmission and Distribution	
340	Land and Land Rights	0%
341	Structures and Improvements	0%
342	Distribution, Reservoirs, & ST	2.33%
343	Transmission and Distribution	2.13%
344	Fire Mains	0%

345	Services	2.89%
346	Meters	3.52%
348	Hydrants	0%
349	Other Transmission & Distribution	0%
	General	
389	Land and Land Rights	0%
390	Structures and Improvements	2.03%
391	Office Furniture and Equipment	4.10%
391.10	Computer Equipment	4.10%
392	Transportation Equipment	25.00%
393	Stores Equipment	3.93%
394	Tools, Shop and Garage	7.55%
395	Laboratory Equipment	3.06%
396	Power Operated Equipment	9.23%
397	Communication Equipment	4.10%
398	Miscellaneous Equipment	6.19%

K. OTHER ISSUES

1. Service Line and Meter Installation Charges

Havasu has requested to change its service line and meter installation charges. These charges are refundable advances and Havasu's proposed charges are within Staff's experience of reasonable and customary charges, with the exception of the 2-inch meter. Therefore, Staff accepts Havasu's proposed service line and meter installation charges, with the exception of the 2-inch meter size. For 2-inch meters, the typical charges vary according to meter type (turbine or compound). Therefore, Staff recommends adopting a service line and meter installation charge of "At cost" for the 2-inch size.

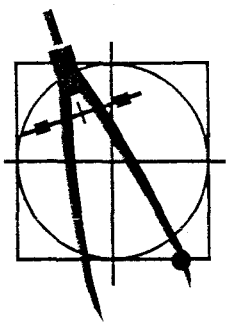
Table C. Service Line and Meter Installation Charges

Meter Size	Current Charges	Proposed Charges	Staff Recommendation
5/8 x3/4-inch	$275	$500	$500
3/4-inch	$295	$575	$575
1-inch	$325	$660	$660
1-1/2-inch	$475	$900	$900
2-inch	$650	$2,200	**At cost**
Larger than 2"	At cost	At cost	At cost

2. Curtailment Plan Tariff

A curtailment plan tariff is an effective tool to allow a water company to manage its resources during periods of shortages due to pump breakdowns, droughts, or other unforeseeable events. Since Havasu does not have this type of tariff, this rate proceeding provides an opportune time to prepare and file such a tariff. Staff recommends that Havasu file a curtailment plan tariff within 90 days after the effective date of an order issued in this proceeding. This tariff shall be submitted to the Director of Utilities Division for his review and certification. Staff also recommends that this tariff shall generally conform to the sample tariff found posted on the Commission's web site (www.cc.state.az.us/utility) or available upon request from Commission Staff.

EXHIBIT MSJ-3



Engineering Report for Arizona-American Water Company (Mohave Water District)

Docket No. WS-01303A-02-0869 (Rates)

By: Marlin Scott, Jr.
Utilities Engineer

August 26, 2003

The Arizona-American Water Company –Mohave Water District consists of five water systems; 1) Camp Mohave System, 2) Lake Mohave Highlands System, 3) Desert Foothills System, 4) Rio Vista Ranches System, and 5) Mohave Water – Main System.

CONCLUSIONS

Camp Mohave System

A. Camp Mohave has a non-account water loss of 4.7% which is within acceptable limits. (See Section C, page 18.)

B. The Camp Mohave system has adequate well and storage capacities to serve the customer base. (See Section C, page 19.)

C. The Arizona Department of Environmental Quality ("ADEQ") has determined that the Camp Mohave system, PWS #08-037, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4. (See Section E, page 19.)

D. Camp Mohave indicated its arsenic level for Well #2 is less than 3 parts per billon ("ppb"). Based on this arsenic concentration, Camp Mohave is currently meeting the new arsenic level. (See Section E, page 20.)

Lake Mohave Highlands System

E. The Lake Mohave system has adequate well and storage capacities to serve the customer base. (See Section C, page 25.)

F. ADEQ has determined that the Lake Mohave system, PWS #08-062, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4. (See Section E, page 26.)

G. Lake Mohave indicated its arsenic levels for Wells #1 and #2 to be both at 1 ppb. Based on these arsenic concentrations, Lake Mohave is currently meeting the new arsenic level. (See Section E, page 26.)

Desert Foothills System

H. The Desert Foothills system has adequate well and storage capacities to serve the customer base. (See Section C, page 31.)

I. ADEQ has determined that the Desert Foothills system, PWS #08-137, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4. (See Section E, page 31.)

J. Desert Foothills indicated its arsenic level for Well #2 to be 8.3 ppb. Based on this arsenic concentration, Desert Foothills is currently meeting the new arsenic level. (See Section E, page 32.)

Rio Vista Ranches System

K. Rio Vista is a consecutive water system to Bermuda Water Company ("Bermuda") and has no master-meter; therefore, the water loss cannot be determined. (See Section C, page 35.)

L. Rio Vista is a consecutive water system to Bermuda and has no well, storage or pumping facilities. (See Section C, page 35.)

M. ADEQ has determined that the Rio Vista system, PWS #08-333, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4. (See Section E, page 36.)

N. Since Rio Vista receives its source supply from Bermuda, Bermuda has indicated that their arsenic levels from their wells serving Rio Vista range from 1 ppb to 5 ppb. Based on these arsenic concentrations, Rio Vista is currently meeting the new arsenic level. (See Section E, page 36.)

Mohave Water - Main System

O. The Mohave Main system has adequate well and storage capacities to serve the customer base. (See Section C, page 43.)

P. ADEQ has determined that the Mohave Main system, PWS #08-032, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4. (See Section E, page 44.)

Q. Mohave Main indicated its arsenic levels for all its six wells have levels of 4 ppb or less. Based on these arsenic concentrations, Mohave Main is currently meeting the new arsenic level. (See Section E, page 46.)

R. The Mohave Water District is not located in any Active Management Area. (See Section F, page 46.)

S. The Mohave Water District has no outstanding Arizona Corporation Commission compliance issues. (See Section G, page 46.)

RECOMMENDATIONS

Camp Mohave System

1. Water testing expenses are based upon participation in the ADEQ Monitoring Assistance Program. Annual testing expenses should be adjusted to $682 as described in Table CM-A. (See Section E, page 19.)

Lake Mohave Highlands System

2. Lake Mohave has a non-account water loss of 29.5% which is not within the acceptable limits. Staff recommends that effective upon the date an order is issued in this proceeding, Lake Mohave should monitor its system and file semi-annual reports within 30 days after the end of each 6-month period for one year, with the Director of the Utilities Division, indicating the quantity of water pumped, gallons sold and water loss percentage for each month during that 6-month period. If the reduction of water loss to less than 10% cannot be achieved, Lake Mohave shall submit to the Director of the Utilities Division a plan which outlines the procedures, steps, and time frames to achieve acceptable water losses. This plan shall be submitted within 18 months after the effective date of an order issued in this proceeding. (See Section C, page 25.)

3. Water testing expenses are based upon participation in the ADEQ MAP. Annual testing expenses should be adjusted to $718 as described in Table LM-A. (See Section E, page 26.)

Desert Foothills System

4. Desert Foothills has a non-account water loss of 12.2% which is not within the acceptable limits. Staff recommends that effective upon the date an order is issued in this proceeding, Desert Foothills should monitor its system and file semi-annual reports within 30 days after the end of each 6-month period for one year, with the Director of the Utilities Division, indicating the quantity of water pumped, gallons sold and water loss percentage for each month during that 6-month period. If the reduction of water loss to

less than 10% cannot be achieved, Desert Foothills shall submit to the Director of the Utilities Division a plan which outlines the procedures, steps, and time frames to achieve acceptable water losses. This plan shall be submitted within 18 months after the effective date of an order issued in this proceeding. (See Section C, page 30.)

5. Water testing expenses are based upon participation in the ADEQ MAP. Annual testing expenses should be adjusted to $1,174 as described in Table DF-A. (See Section E, page 31.)

Rio Vista Ranches System

6. Water testing expenses are based upon non-participation in the ADEQ MAP. Annual testing expenses should be adjusted to $246 as described in Table RV-A. (See Section E, page 36.)

Mohave Water - Main System

7. Mohave Main has a non-account water loss of 19.3% which is not within the acceptable limits. Staff recommends that effective upon the date an order is issued in this proceeding, Mohave Main should monitor its system and file semi-annual reports within 30 days after the end of each 6-month period for one year, with the Director of the Utilities Division, indicating the quantity of water pumped, gallons sold and water loss percentage for each month during that 6-month period. If the reduction of water loss to less than 10% cannot be achieved, Mohave Main shall submit to the Director of the Utilities Division a plan which outlines the procedures, steps, and time frames to achieve acceptable water losses. This plan shall be submitted within 18 months after the effective date of an order issued in this proceeding. (See Section C, page 43.)

8. Water testing expenses are based upon non-participation in the ADEQ MAP. Annual testing expenses should be adjusted to $16,590 as described in Table MM-A. (See Section E, page 44.)

9. Staff has evaluated Mohave's Reproduction Cost New ("RCN") Asset Listing and recommends that its value not be accepted for purposes of setting rates in this proceeding. (See Section H, page 46.)

10. With the exception of one project at $72,240, Staff has confirmed that the post-test year plant items for Account Nos. 304 (partial), 311, 320 and 330 were in service before December 31, 2002 and finds these plant items to be used and useful from an engineering perspective. (See Section I, page 47.)

11. Staff recommends that Mohave's depreciation rates delineated in Table MM-B be used for this proceeding. (See Section J, page 48.)

12. Staff recommends the acceptance of Mohave's proposed Service Line and Meter Installation Charges, except for the 2-inch meter size. For the 2-inch size, Staff recommends adopting a charge of "At cost". (See Section K.1, page 50.)

13. Staff recommends that Mohave file Curtailment Plan Tariffs for each system within 90 days after the effective date of an order issued in this proceeding. (See Section K.2, page 51.)

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PURPOSE OF REPORT

This engineering report was prepared in response to a rate application filed by Arizona-American Water Company – Mohave Water District ("Mohave"). This report will provide descriptions of each water utility system; provide information on their status with other regulatory agencies, and any other information which would impact their ability to provide service to existing or future customers. Mohave consists of the following five water systems:

MOHAVE WATER DISTRICT - Bullhead City Area

1. Camp Mohave System, PWS #08-037
2. Lake Mohave Highlands System, PWS #08-062
3. Desert Foothills System, PWS #08-137
4. Rio Vista Ranches System, PWS #08-333
5. Mohave Water – Main System, PWS #08-032

This report will have an outline as follows, with each water system being discussed separately using the following format:

A. LOCATION OF SYSTEM
B. DESCRIPTION OF SYSTEM
C. WATER USE
D. GROWTH
E. ADEQ COMPLIANCE
F. ADWR COMPLIANCE
G. ACC COMPLIANCE
H. REPRODUCTION COST NEW AND ORIGINAL COST EVALUATION
I. POST-TEST YEAR PLANT
J. DEPRECIATION RATES
K. OTHERS
    1. Service Line and Meter Installation Charges
    2. Curtailment Plan Tariff

Mohave was field inspected on March 25 - 27, 2003, by Marlin Scott, Jr., Staff Utilities Engineer, in the accompaniment of Mark Clark, Operations Manager and Dave Evans, Operations Superintendent, for Mohave.

Figure 1 shows the location of Mohave within Mohave County and Figure 2 shows the four certificated areas totaling 26-1/2 square-miles.

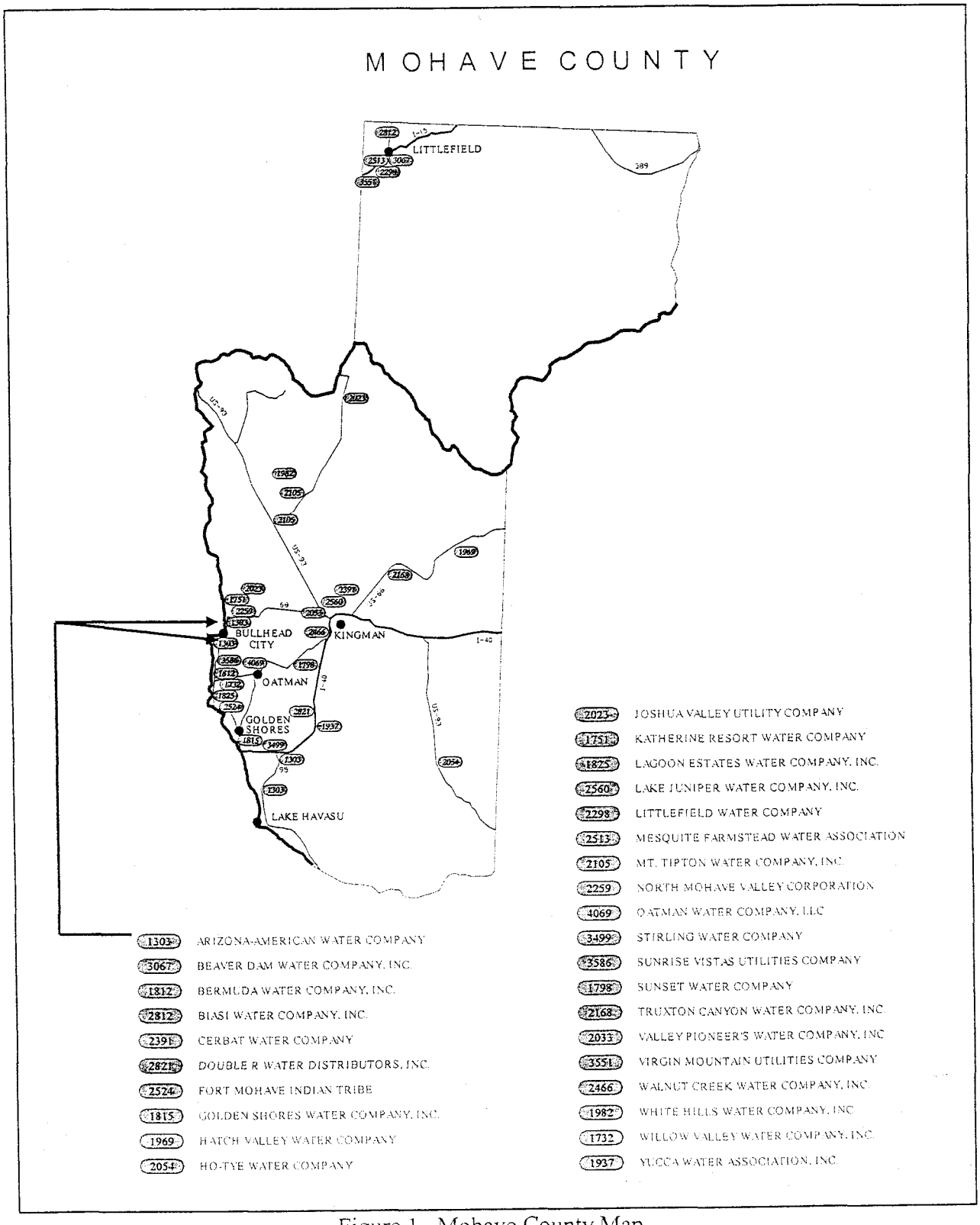


Figure 1. Mohave County Map

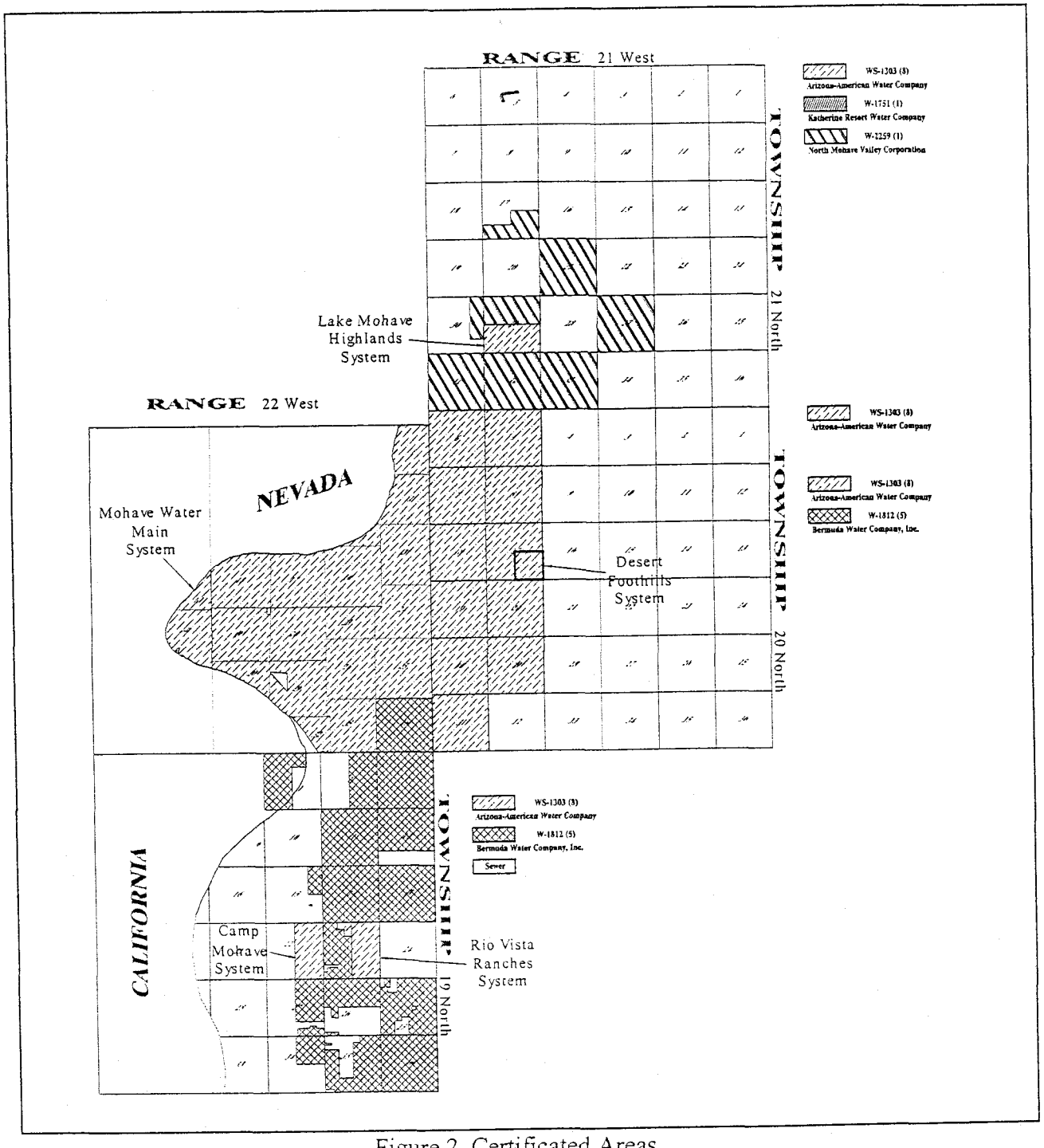


Figure 2. Certificated Areas

DISCUSSIONS

CAMP MOHAVE SYSTEM, PWS #08-037

A. LOCATION OF SYSTEM

The Camp Mohave System ("Camp Mohave") serves a portion of southern Bullhead City, Mohave County, with a 1/2 square-mile of certificated area.

B. DESCRIPTION OF SYSTEM

Camp Mohave has a system having one pumping site consisting of a well, storage tank, pumping facilities and a distribution system serving approximately 98 customers. This system is also interconnected with Bermuda Water Company. A schematic of this system process is shown in Figure CM-1. Detailed plant facilities are:

Table CM-1. Well Data

Well Information	Well #1 (Not-in-Service)	Well #2
ADWR ID No.		55-559559
Casing Size	Capped	8-inch
Casing Depth		312 ft.
Pump Size		20-Hp
Pump Type		Submersible
Pump Yield		500 GPM
Wellhead meter		6-inch
Treatment		Sand trap filter

Table CM-2. Storage & Booster Plant

Location	Plant	Capacity/Quantity
@ Well site #1/#2	Storage tank	250,000 gallons (1996)
	Booster pumps	Two 15-Hp & two 40-Hp
	Pressure tank	5,000 gallon
	Chlorination	Gas
	Generator	Diesel
	Fencing	110' x 220'

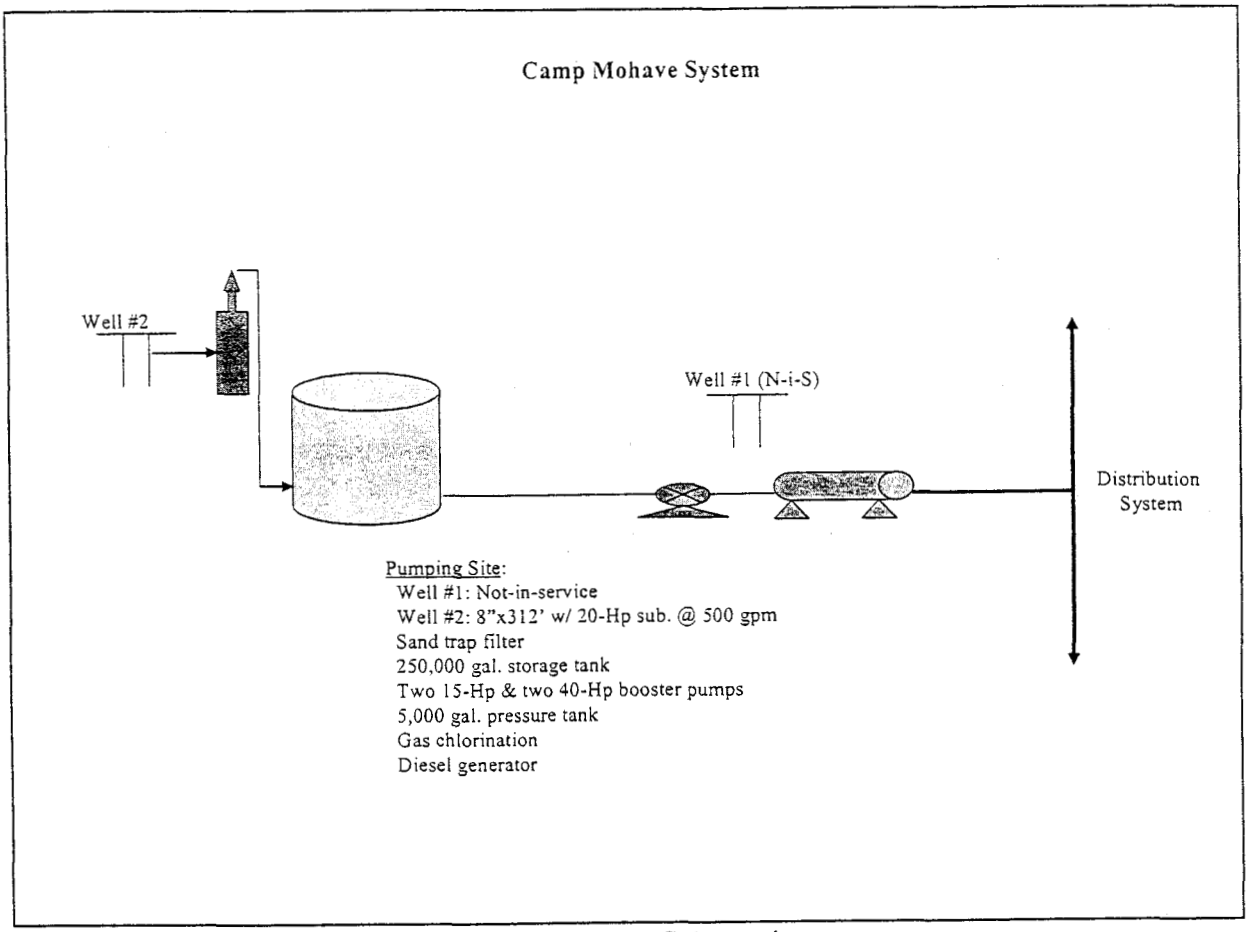


Figure CM-1. System Schematic

Table CM-3. Water Mains

Diameter	Material	Length
	Grouped w/ Mohave Water - Main System.	

Table CM-4. Customer Meters

Size	Quantity
5/8 x 3/4-inch	98
3/4-inch	
1- inch	
Total:	98

Table CM-5. Fire Hydrants

Size	Quantity
None	None

C. WATER USE

Water Sold

Based on the information provided by Camp Mohave, water use for the year 2002 is presented below. Customer consumption included a high monthly water use of 1,090 gallons per day ("GPD") per connection in August and a low monthly water use of 455 GPD per connection in December for an average annual use of 652 GPD per connection.

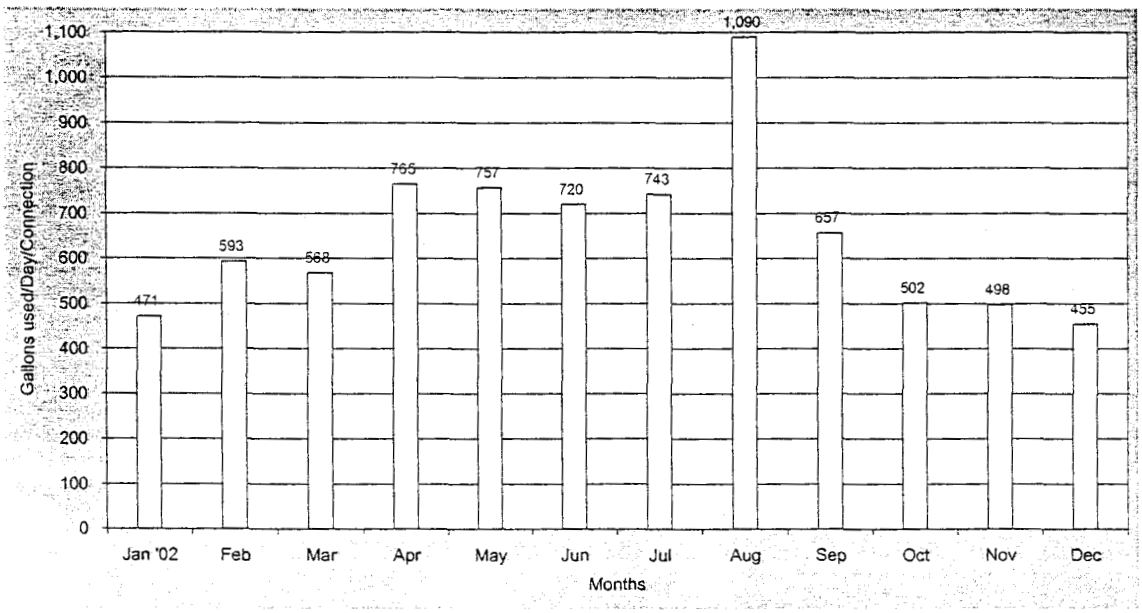


Figure CM-2. Water Use

Non-Account Water

Camp Mohave reported 23,130,000 gallons pumped and 22,040,000 gallons, resulting in a water loss of 4.7%. Non-account water should be 10% or less.

System Analysis

The water system's current well capacity of 500 gallons per minute ("GPM") and storage capacity of 250,000 gallons is adequate to serve the present customer base and reasonable growth.

D. GROWTH

See the Mohave Water – Main System section of this report.

E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) COMPLIANCE

Compliance

ADEQ has determined that the Camp Mohave system, PWS #08-037, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

Water Testing Expense

Camp Mohave is subject to mandatory participation in the Monitoring Assistance Program ("MAP"). Starting January 1, 2002, water companies paid a fixed $250 per year fee, plus an additional fee of $2.07 per service connection, regardless of meter size for participation in MAP. Participation in the MAP program is mandatory for water systems, which serve less than 10,000 persons (approximately 3,300 service connections).

Camp Mohave reported its water testing expense within the management fees during the test year. Table CM-A shows Staff's estimated annual monitoring expense with participation in the MAP. Water testing expenses should be adjusted to the annual expense amount shown in Table CM-A, which is $682.

Table CM-A. Water Testing Cost

Monitoring (Tests per 3 years, unless noted.)	Cost per test	No. of tests per 3 years	Total 3 year cost	Annual Cost
Total coliform – monthly	$17	36	$612	$204
Inorganics – Priority Pollutants	$240	MAP	MAP	MAP
Radiochemical – per 4 years	MAP	MAP	MAP	MAP
Phase II and V:				

Nitrate - annual	$25	3	$75	$25
Nitrite – once per period	MAP	MAP	MAP	MAP
Asbestos – per 9 years	MAP	MAP	MAP	MAP
MAP – IOCs, SOCs, & VOCs	MAP	MAP	MAP	$411
Lead & Copper – per 3 years	$25	5	$125	$42
Total				**$682**

Note: ADEQ's MAP invoice for the 2003 Calendar Year was $411.46.

Arsenic

The U.S. Environmental Protection Agency has reduced the arsenic maximum contaminant level ("MCL") in drinking water from 50 parts per billion ("ppb") to 10 ppb. The date for compliance with the new MCL is January 23, 2006. Camp Mohave indicated its arsenic level for its Well #2 to be less than 3 ppb. Based on this arsenic concentration, Camp Mohave is currently meeting the new arsenic MCL.

F. ARIZONA DEPARTMENT OF WATER RESOURCES (ADWR) COMPLIANCE

See the Mohave Water – Main System section of this report.

G. ARIZONA CORPORATION COMMISSION COMPLIANCE

See the Mohave Water – Main System section of this report.

H. REPRODUCTION COST NEW (RCN) AND ORIGINAL COST (OC) EVALUATION

See the Mohave Water – Main System section of this report.

I. POST-TEST YEAR PLANT

See the Mohave Water – Main System section of this report.

J. DEPRECIATION RATES

See the Mohave Water – Main System section of this report.

K. OTHER ISSUES

1. Service Line and Meter Installation Charges

See the Mohave Water – Main System section of this report.

2. Curtailment Plan Tariff

See the Mohave Water – Main System section of this report.

LAKE MOHAVE HIGHLANDS SYSTEM, PWS #08-062

A. LOCATION OF SYSTEM

The Lake Mohave Highlands System ("Lake Mohave") serves a portion of northern Bullhead City, Mohave County, with a 1/2 square-mile of certificated area.

B. DESCRIPTION OF SYSTEM

Lake Mohave has a system having three pumping sites consisting of three wells, two storage tanks, pumping facilities and a distribution system serving approximately 164 customers. This system is also interconnected with North Mohave Valley Water Company. A schematic of this system process is shown in Figure LM-1. Detailed plant facilities are:

Table LM-1. Well Data

Well Information	Well #1 (West)	Well #2 (East)	Pegasus Well
ADWR ID No.	55-603417	55-556101	55-548414
Casing Size	10-inch	8-inch	14-inch
Casing Depth	500 ft.	505 ft.	760 ft.
Pump Size	20-Hp	20-Hp	
Pump Type	Submersible	Submersible	Construction water
Pump Yield	150 GPM	150 GPM	
Wellhead meter	4-inch	4-inch	
Treatment	Gas chlorination	Gas chlorination	
Generator	Diesel	Diesel	

Table LM-2. Storage & Booster Plant

Location	Plant	Capacity/Quantity
@ Well site #1/#2	Storage tank	100,000 gallon
	Booster pumps	20-Hp & 25-Hp
	Pressure tank	10,000 gallon
	Fencing	120' x 140'
Upper Booster Sta.	Booster pumps	Two 5-Hp
	Pressure tank	3,000 gallon
	Fencing	50' x 50'

@ Pegasus Well	Storage tank	123,000 gallon
	Booster pumps	Two 25-Hp & 7-1/2-Hp
	Pressure tank	1,000 gallon
	Fencing	100' x 75'

Table LM-3. Water Mains

Diameter	Material	Length
	Grouped w/ Mohave Water – Main System.	

Table LM-4. Customer Meters

Size	Quantity
5/8 x 3/4-inch	164
3/4-inch	
1- inch	
Total:	164

Table LM-5. Fire Hydrants

Size	Quantity
Standard	Owned by fire district

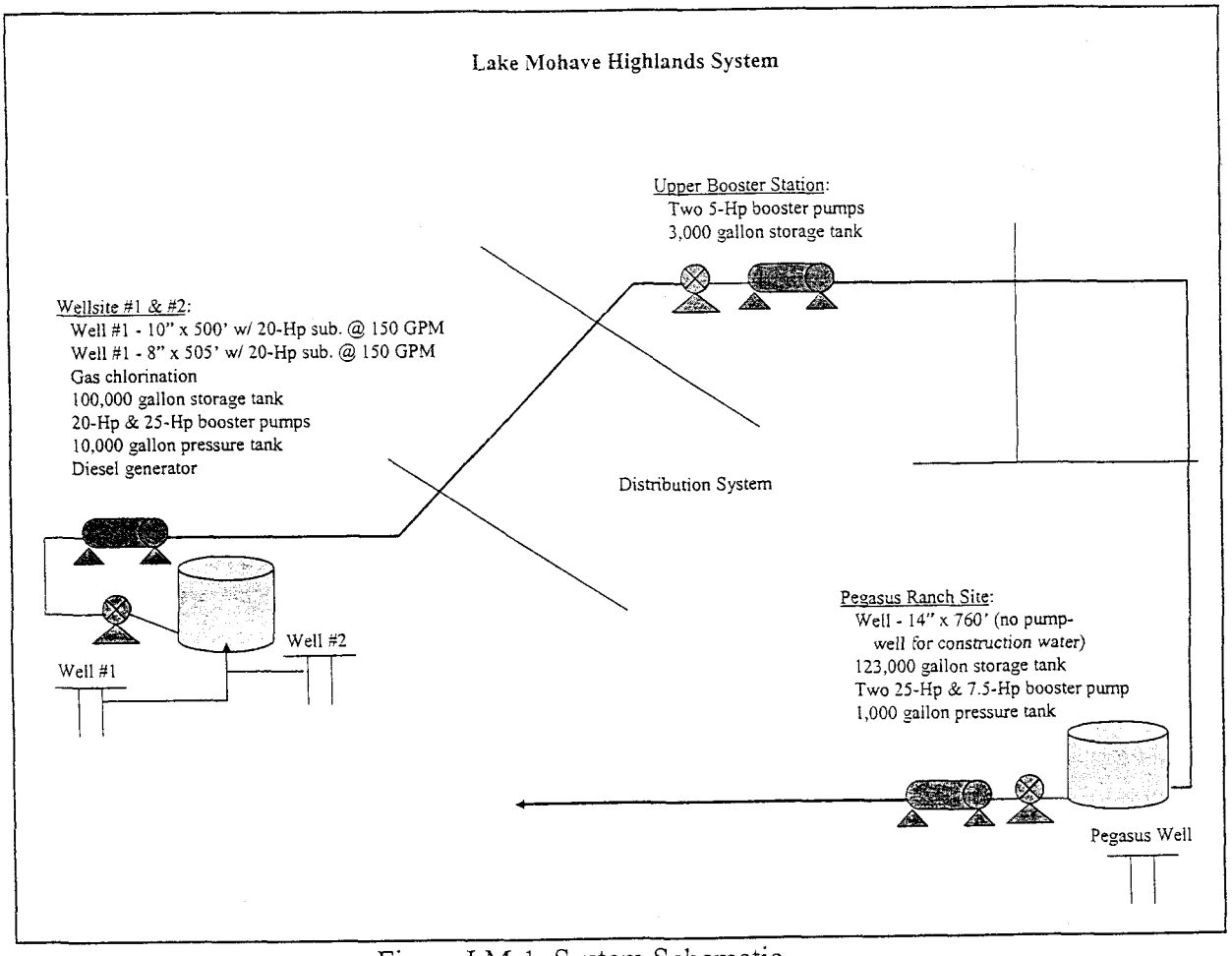


Figure LM-1. System Schematic

C. WATER USE

Water Sold

Based on the information provided by Lake Mohave, water use for the year 2002 is presented below. Customer consumption included a high monthly water use of 380 GPD per connection in August and a low monthly water use of 220 GPD per connection in February for an average annual use of 303 GPD per connection.

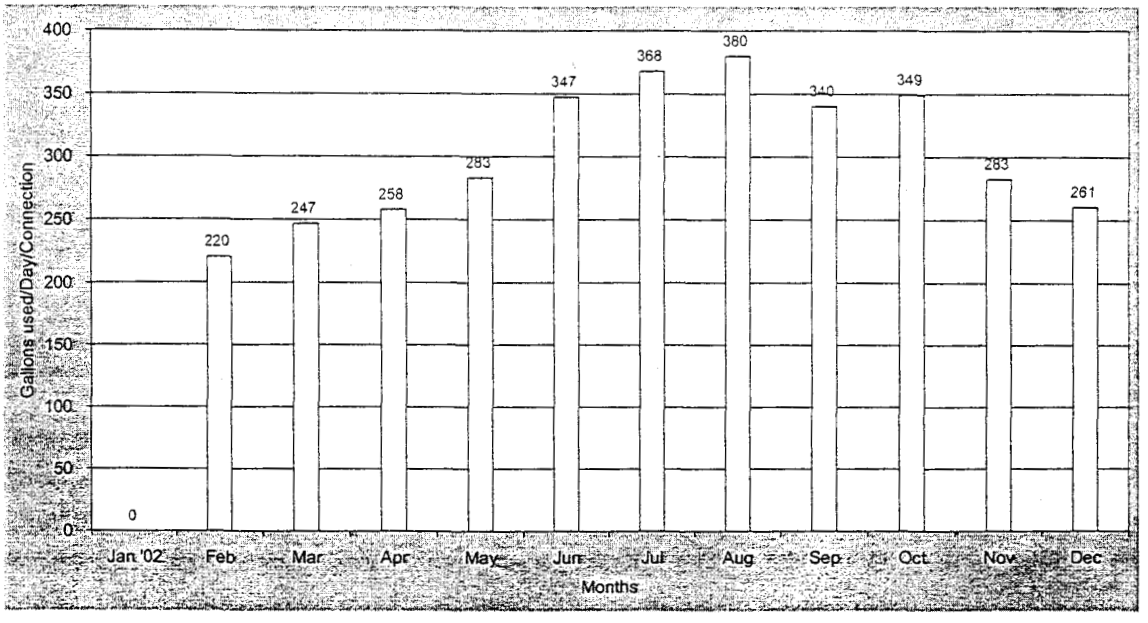


Figure LM-2. Water Use

Non-Account Water

Lake Mohave reported 23,627,000 gallons pumped and 16,665,000 gallons sold for the year 2002, resulting in a water loss of 29.5%. Non-account water should be 10% or less and never more the 15%. Staff reviewed the 2002 Water Use Data Sheet submitted by Lake Mohave and questioned why this system had a high water loss. Lake Mohave indicated that the construction water amounts were not recorded. Therefore, Staff recommends that effective upon the date an order is issued in this proceeding, Lake Mohave should monitor its system and file semi-annual reports within 30 days after the end of each 6-month period for one year, with the Director of the Utilities Division, indicating the quantity of water pumped, gallons sold and water loss percentage for each month during that 6-month period.

If the reduction of water loss to less than 10% cannot be achieved, Lake Mohave shall submit to the Director of the Utilities Division a plan which outlines the procedures, steps, and time frames to achieve acceptable water losses. This plan shall be submitted within 18 months after the effective date of an order issued in this proceeding.

System Analysis

The water system's current well capacity of 300 GPM and storage capacity of 223,000 gallons is adequate to serve the present customer base and reasonable growth.

D. GROWTH

See the Mohave Water – Main System section of this report.

E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) COMPLIANCE

Compliance

ADEQ has determined that the Lake Mohave system, PWS #08-062, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

Water Testing Expense

Lake Mohave reported its water testing expense within the management fees during the test year. Lake Mohave is subject to mandatory participation in the MAP. Table LM-A shows Staff's estimated annual monitoring expense with participation in the MAP. Water testing expenses should be adjusted to the annual expense amount shown in Table LM-A, which is $718.

Table LM-A. Water Testing Cost

Monitoring (Tests per 3 years, unless noted.)	Cost per test	No. of tests per 3 years	Total 3 year cost	Annual Cost
Total coliform – monthly	$17	36	$612	$204
Inorganics – Priority Pollutants	$240	MAP	MAP	MAP
Radiochemical – per 4 years	MAP	MAP	MAP	MAP
Phase II and V:				
Nitrate - annual	$25	3	$75	$25
Nitrite – once per period	MAP	MAP	MAP	MAP
Asbestos – per 9 years	MAP	MAP	MAP	MAP
MAP – IOCs, SOCs, & VOCs	MAP	MAP	MAP	$447
Lead & Copper – per 3 years	$25	5	$125	$42
Total				**$718**

Note: ADEQ's MAP invoice for the 2003 Calendar Year was $446.65.

Arsenic

Lake Mohave indicated its arsenic levels for Wells #1 and #2 to be both at 1 ppb. Based on these arsenic concentrations, Lake Mohave is currently meeting the new arsenic MCL.

F. ARIZONA DEPARTMENT OF WATER RESOURCES (ADWR) COMPLIANCE

See the Mohave Water – Main System section of this report.

G. ARIZONA CORPORATION COMMISSION COMPLIANCE

See the Mohave Water – Main System section of this report.

H. REPRODUCTION COST NEW (RCN) AND ORIGINAL COST (OC) EVALUATION

See the Mohave Water – Main System section of this report.

I. POST-TEST YEAR PLANT

See the Mohave Water – Main System section of this report.

J. DEPRECIATION RATES

See the Mohave Water – Main System section of this report.

K. OTHER ISSUES

1. Service Line and Meter Installation Charges

See the Mohave Water – Main System section of this report.

2. Curtailment Plan Tariff

See the Mohave Water – Main System section of this report.

DESERT FOOTHILLS SYSTEM, PWS #08-137

A. LOCATION OF SYSTEM

The Desert Foothills System ("Desert Foothills") serves a portion of eastern Bullhead City, Mohave County, and is located within the main 25 square-mile certificated area.

B. DESCRIPTION OF SYSTEM

Built in 1998, Desert Foothills has a system having two pumping sites consisting of two wells, one storage tank, pumping facilities and a distribution system serving approximately 218 customers. A schematic of this system process is shown in Figure DF-1. Detailed plant facilities are:

Table DF-1. Well Data

Well Information	Well #1	Well #2
ADWR ID No.	55-551125	55-557919
Casing Size	5-inch	12-inch
Casing Depth	1,212 ft.	1,060 ft.
Pump Size	10-Hp	100-Hp
Pump Type	Submersible	Submersible
Pump Yield	30 GPM	500 GPM
Wellhead meter		6-inch
Treatment	Gas chlorination	Gas chlorination
Generator	Natural gas	Natural gas

Table DF-2. Storage & Booster Plant

Location	Plant	Capacity/Quantity
@ Well site #1/#2	Storage tank	500,000 gallon
	Booster pumps	Three 10-Hp & one 25-Hp
	Pressure tank	5,000 gallon
	Fencing	230' x 200'
Terrances B. Sta.	Booster pumps	Two 10-Hp & one 40-Hp
	Pressure tank	3,000 gallon
	Fencing	70' x 70'

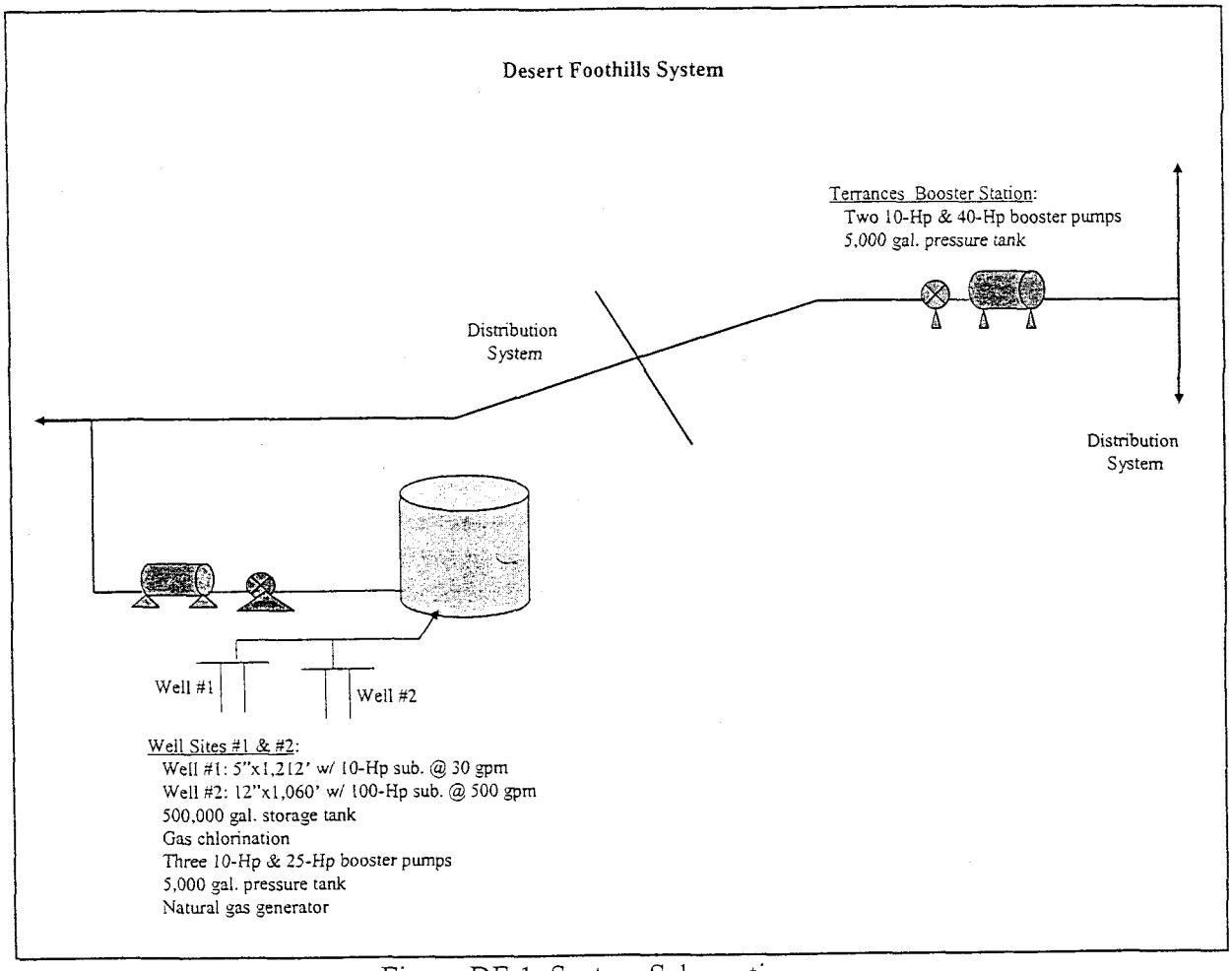


Figure DF-1. System Schematic

Table DF-3. Water Mains

Diameter	Material	Length
	Grouped w/ Mohave Water – Main System.	

Table DF-4. Customer Meters

Size	Quantity
5/8 x 3/4-inch	218
3/4-inch	
1- inch	
Total:	218

Table DF-5. Fire Hydrants

Size	Quantity
None	None

C. WATER USE

Water Sold

Based on the information provided by Desert Foothills, water use for the year 2002 is presented below. Customer consumption included a high monthly water use of 1,266 GPD per connection in August and a low monthly water use of 504 GPD per connection in December for an average annual use of 837 GPD per connection.

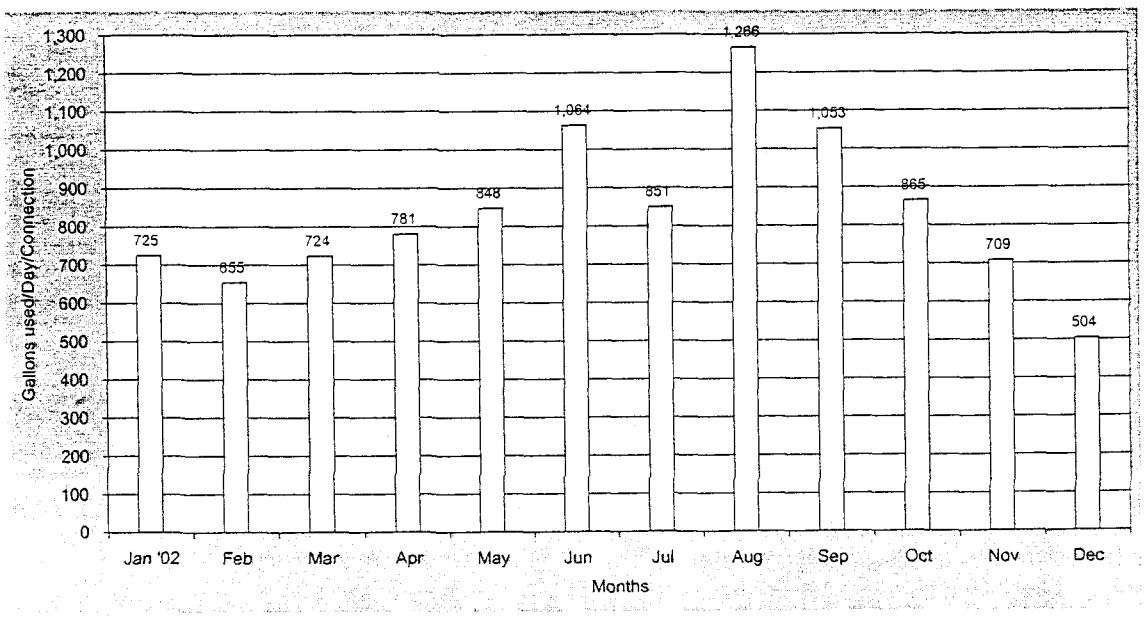


Figure DF-2. Water Use

Non-Account Water

Desert Foothills reported 84,374,000 gallons pumped and 74,109,000 gallons sold for the year 2002, resulting in a water loss of 12.2%. Non-account water should be 10% or less and never more the 15%. Staff reviewed the 2002 Water Use Data Sheet submitted by Desert Foothills and questioned some of the monthly data, i.e., gallons sold is more than gallons pumped. Therefore, Staff recommends that effective upon the date an order is issued in this proceeding, Desert Foothills should monitor its system and file semi-annual reports within 30 days after the end of each 6-month period for one year, with the

Director of the Utilities Division, indicating the quantity of water pumped, gallons sold and water loss percentage for each month during that 6-month period.

If the reduction of water loss to less than 10% cannot be achieved, Desert Foothills shall submit to the Director of the Utilities Division a plan which outlines the procedures, steps, and time frames to achieve acceptable water losses. This plan shall be submitted within 18 months after the effective date of an order issued in this proceeding.

System Analysis

The water system's current well capacity of 530 GPM and storage capacity of 500,000 gallons is adequate to serve the present customer base and reasonable growth.

D. GROWTH

See the Mohave Water – Main System section of this report.

E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) COMPLIANCE

Compliance

ADEQ has determined that the Desert Foothills system, PWS #08-137, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

Water Testing Expense

Desert Foothills reported its water testing expense within the management fees during the test year. Desert Foothills is subject to mandatory participation in the MAP. Table DF-A shows Staff's estimated annual monitoring expense with participation in the MAP. Water testing expenses should be adjusted to the annual expense amount shown in Table DF-A, which is $1,174.

Table DF-A. Water Testing Cost

Monitoring (Tests per 3 years, unless noted.)	Cost per test	No. of tests per 3 years	Total 3 year cost	Annual Cost
Total coliform – monthly	$17	72	$1,224	$408
Inorganics – Priority Pollutants	$240	MAP	MAP	MAP

Radiochemical – per 4 years	MAP	MAP	MAP	MAP
Phase II and V:				
Nitrate - annual	$25	3	$75	$25
Nitrite – once per period	MAP	MAP	MAP	MAP
Asbestos – per 9 years	MAP	MAP	MAP	MAP
MAP – IOCs, SOCs, & VOCs	MAP	MAP	MAP	$658
Lead & Copper – per 3 years	$25	10	$250	$83
Total				**$1,174**

Note: ADEQ's MAP invoice for the 2003 Calendar Year was $657.79.

Arsenic

Desert Foothills indicated its arsenic level for Well #2 to be 8.3 ppb. Based on this arsenic concentration, Desert Foothills is currently meeting the new arsenic MCL.

F. ARIZONA DEPARTMENT OF WATER RESOURCES (ADWR) COMPLIANCE

See the Mohave Water – Main System section of this report.

G. ARIZONA CORPORATION COMMISSION COMPLIANCE

See the Mohave Water – Main System section of this report.

H. REPRODUCTION COST NEW (RCN) AND ORIGINAL COST (OC) EVALUATION

See the Mohave Water – Main System section of this report.

I. POST-TEST YEAR PLANT

See the Mohave Water – Main System section of this report.

J. DEPRECIATION RATES

See the Mohave Water – Main System section of this report.

K. OTHER ISSUES

1. Service Line and Meter Installation Charges

See the Mohave Water – Main System section of this report.

2. Curtailment Plan Tariff

See the Mohave Water – Main System section of this report.

RIO VISTA RANCHES SYSTEM, PWS #08-333

A. LOCATION OF SYSTEM

The Rio Vista Ranches System ("Rio Vista") is a consecutive water system to Bermuda Water Company and serves a subdivision in southern Bullhead City, Mohave County, with a 1/2 square-mile of certificated area.

B. DESCRIPTION OF SYSTEM

Since Rio Vista is a consecutive system, Rio Vista has no pumping facilities. This system only has a distribution system serving approximately 37 customers. Detailed plant facilities are:

Table RV-1. Water Mains

Diameter	Material	Length
	Grouped w/ Mohave Water – Main System.	

Table RV-2. Customer Meters

Size	Quantity
5/8 x 3/4-inch	218
3/4-inch	
1- inch	
Total:	218

Table RV-3. Fire Hydrants

Size	Quantity
None	None

C. WATER USE

Water Sold

Based on the information provided by Rio Vista, water use for the year 2002 is presented below. Customer consumption included a high monthly water use of 1,556 GPD per connection in July and a low monthly water use of 369 GPD per connection in December for an average annual use of 773 GPD per connection.

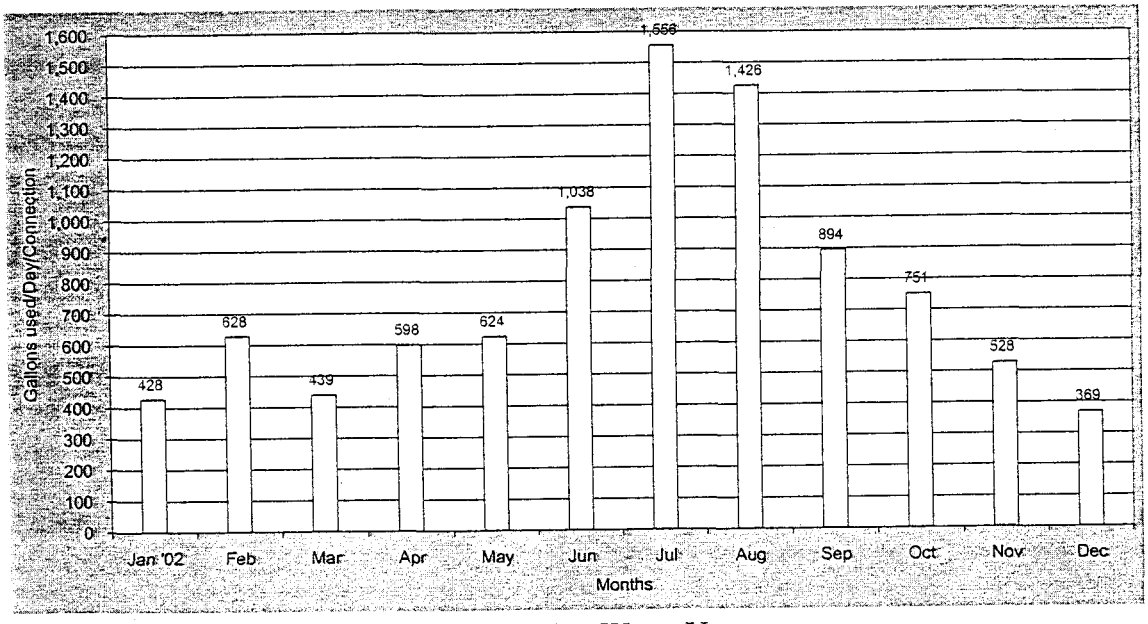


Figure RV-1. Water Use

Non-Account Water

Rio Vista is a consecutive water system to Bermuda Water Company and has no master-meter; therefore, the water loss cannot be determined.

System Analysis

Rio Vista is a consecutive water system to Bermuda Water Company and has no well, storage or pumping facilities.

D. GROWTH

See the Mohave Water – Main System section of this report.

E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) COMPLIANCE

Compliance

ADEQ has determined that the Rio Vista system, PWS #08-333, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

Water Testing Expense

Rio Vista reported its water testing expense within the management fees during the test year. Since Rio Vista is a consecutive water system to Bermuda Water Company, Rio Vista does not participate in the MAP. Table RV-A shows Staff's estimated annual monitoring expense without participation in the MAP. Water testing expenses should be adjusted to the annual expense amount shown in Table RV-A, which is $246.

Table RV-A. Water Testing Cost

Monitoring (Tests per 3 years, unless noted.)	Cost per test	No. of tests per 3 years	Total 3 year cost	Annual Cost
Total coliform – monthly	$17	36	$612	$204
Lead & Copper – per 3 years	$25	5	$125	$42
Total				**$246**

Arsenic

Since Rio Vista is a consecutive water system to Bermuda Water Company and receives its source supply from Bermuda, Bermuda has indicated that their arsenic levels from their wells serving Rio Vista range from 1 ppb to 5 ppb. Based on these arsenic concentrations, Rio Vista is currently meeting the new arsenic MCL.

F. ARIZONA DEPARTMENT OF WATER RESOURCES (ADWR) COMPLIANCE

See the Mohave Water – Main System section of this report.

G. ARIZONA CORPORATION COMMISSION COMPLIANCE

See the Mohave Water – Main System section of this report.

H. REPRODUCTION COST NEW (RCN) AND ORIGINAL COST (OC) EVALUATION

See the Mohave Water – Main System section of this report.

I. POST-TEST YEAR PLANT

See the Mohave Water – Main System section of this report.

J. DEPRECIATION RATES

See the Mohave Water – Main System section of this report.

K. OTHER ISSUES

1. Service Line and Meter Installation Charges

See the Mohave Water – Main System section of this report.

2. Curtailment Plan Tariff

See the Mohave Water – Main System section of this report.

MOHAVE WATER – MAIN SYSTEM, PWS #08-032

A. LOCATION OF SYSTEM

The Mohave Water – Main System ("Mohave Main") serves Bullhead City, Mohave County, with an approximate 25 square-miles of certificated area.

B. DESCRIPTION OF SYSTEM

The current operation of the water system consists of seven wells, 12 storage tanks, two booster station sites, and a distribution system serving approximately 16,905 customer/units. A schematic of this system process is shown as Figure MM-1. Detailed plant facility listing follows:

Table MM-1-A. Well Data

Well Information	River Bend Well #2	Rivera Well	Big Ben Acres Well #1
ADWR ID No.	55-603415	55-603474	55-603476
Casing Size	16-inch	16-inch	
Casing Depth	200 ft.	101 ft.	115 feet
Pump Size	25-Hp	18-Hp	
Pump Type	Vertical turbine	Vertical turbine	Vertical turbine
Pump Yield			
Wellhead meter	(Not-in-Service)	(Not-in-Service)	(Monitoring well)
Treatment			
Generator			
Fencing	120' x 120' x 120'		

Table MM-1-B. Well Data

Well Information	Big Ben Acres Well #2	Well 16-1	Well 16-2
ADWR ID No.	55-519149	55-603473	55-603472
Casing Size	18-inch	14/16-inch	10/12-inch
Casing Depth	280 ft.	400 ft.	610 ft.
Pump Size	100-Hp	200-Hp	75-Hp
Pump Type	Vertical turbine	Vertical turbine	Submersible
Pump Yield	1,900 GPM	2,375 GPM	600 GPM
Wellhead meter	12-inch	10-inch	8-inch
Treatment	Gas chlorination	Gas chlorination	Gas chlorination

Generator	None	Portable diesel	None
Fencing	100' x 150'	100' x 250'	100' x 120'

Table MM-1-C. Well Data

Well Information	Well 16-3	Well 24-1
ADWR ID No.	55-509446	55-506309
Casing Size	16-inch	16-inch
Casing Depth	602 feet	515 ft.
Pump Size	75-Hp	250-Hp
Pump Type	Vertical turbine	Submersible
Pump Yield	550 GPM	2,000 GPM
Wellhead meter	12-inch	6-inch
Treatment	Gas chlorination	Gas chlorination
Generator	None	Diesel
Fencing	80' x 300'	250' x 300'

Table MM-1-D. Well Data

Well Information	Bullhead City Well #5	Bullhead City Well #4	Bullhead City Well #3
ADWR ID No.	55-603477	55-603479	55-603478
Casing Size	18-inch	12-inch	12-inch
Casing Depth	450 ft.	580 ft.	157 ft.
Pump Size	40-Hp	20-Hp	7-1/2-Hp
Pump Type	Submersible	Vertical turbine	Submersible
Pump Yield	350 GPM		
Wellhead meter	6-inch	(Not-in-Service)	(Not-in-Service)
Treatment	Gas chlorination		
Generator	None		
Fencing	50' x 50'	20' x 20'	50' x 60'

Table MM-2. Storage & Booster Plant

Location	Plant	Capacity/Quantity
@ River Bend Well #2	Storage tank	100,000 gallon (N-i-S)
	Booster pumps	None
	Pressure tank	5,000 gallon -1974 (N-i-S)
	Building	Wooden, 20' x 25'
	Fencing (w/ well)	120' x 120' x 120'

@ Rivera Well	Building	Metal warehouse, 24' x 35'
	Fencing	
@ Big Ben Acres #1/#2	Storage tank	123,000 gallon
	Booster pumps	Two 50-Hp vertical
	Pressure tank	None
	Fencing (w/ wells)	100' x 150'
River View Mall B.S.	Storage tank	35,000 gallon
	Booster pumps	Two 15-Hp & 50-Hp
	Pressure tank	5,000 gallon
	Fencing	40' x 80'
@ Well 16-1	Storage tanks	1.0 MG & 424,000 gallons
	Booster pump	15-Hp
	Pressure tank	None
	Building	Chlorine storage, 8' x 10'
	Fencing (w/ well)	100' x 250'
@ Well 16-2	Storage tanks	1.0 MG & 250,000 gallons
	Booster pumps	Two 5-Hp & two 15-Hp VT
	Pressure tank	5,000 gallon & 10,000 gallon
	Building	Wooden, 8' x 20'
	Fencing (w/ well)	100' x 120'
@ Well 16-3	Storage tank	None
	Booster pumps	None
	Pressure tank	None
	Building	Metal warehouse, 25' x 40'
	Fencing (w/ well)	80' x 300'
@ Well 24-1	Storage tank	1.0 MG
	Booster pumps	Two 100-Hp VT
	Pressure tank	None
	Fencing	250' x 300'
Desert Glen B. S.	Storage tank	200,000 gallon
	Booster pumps	Two 15-Hp & one 100-Hp
	Pressure tank	3,000 gallon
	Fencing	170' x 120'
@ BHC Well #4	Storage tank	123,000 gallon
	Booster pumps	Two 20-Hp VT
	Pressure tank	Bladder tanks
	Fencing	????

Larado Tanksite	Storage tank	500,000 gallon
Silver Creek Tanksite	Storage tank	300,000 gallon

Table MM-3. Water Mains

Diameter	Material	♦Length
6-inches and over	Various	1,021,682 ft.
4-inches and under	Various	18,217 ft.
	Total:	1,039,899 ft.

♦Note: Since Mohave did not provide this information; this data was retrieved from the 1999 Annual Report.

Table MM-4. Customer Meters

Size	♦Quantity
5/8 x 3/4-inch	13,226
3/4-inch	-
1- inch	229
1-1/2-inch	15
2-inch	259
3-inch Comp.	3
3-inch Turb.	25
Total:	13,757

♦Note: From 1999 Annual Report.

Table MM-5. Fire Hydrants

Size	Quantity
None	None
	(Owned by others.)

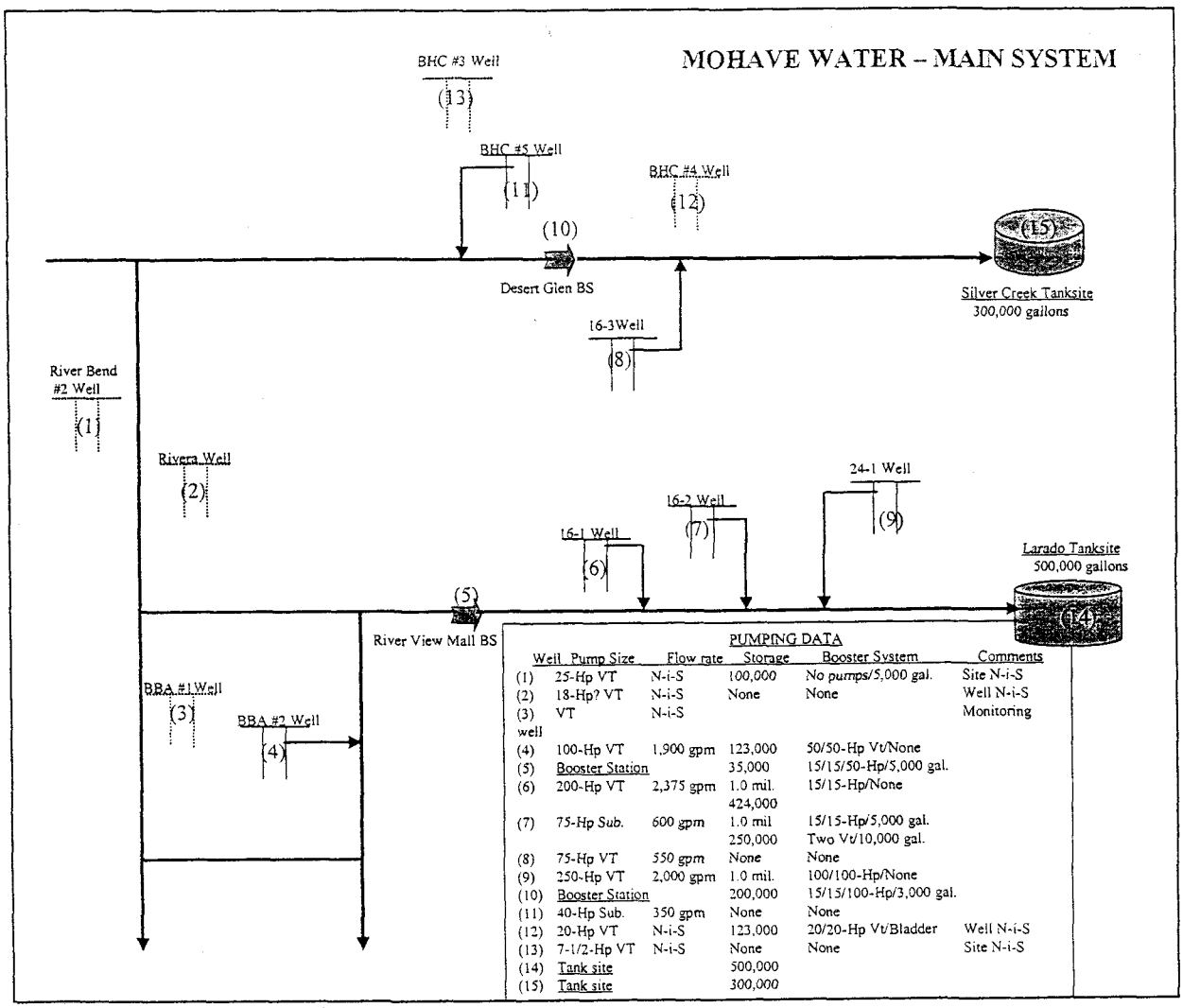


Figure MM-1. System Schematic

C. WATER USE

Water Sold

Based on the information provided by Mohave Main, water use for the year 2002 is presented below. Customer consumption included a high monthly water use of 480 GPD per connection in September and a low monthly water use of 267 GPD per connection in March for an average annual use of 355 GPD per connection.

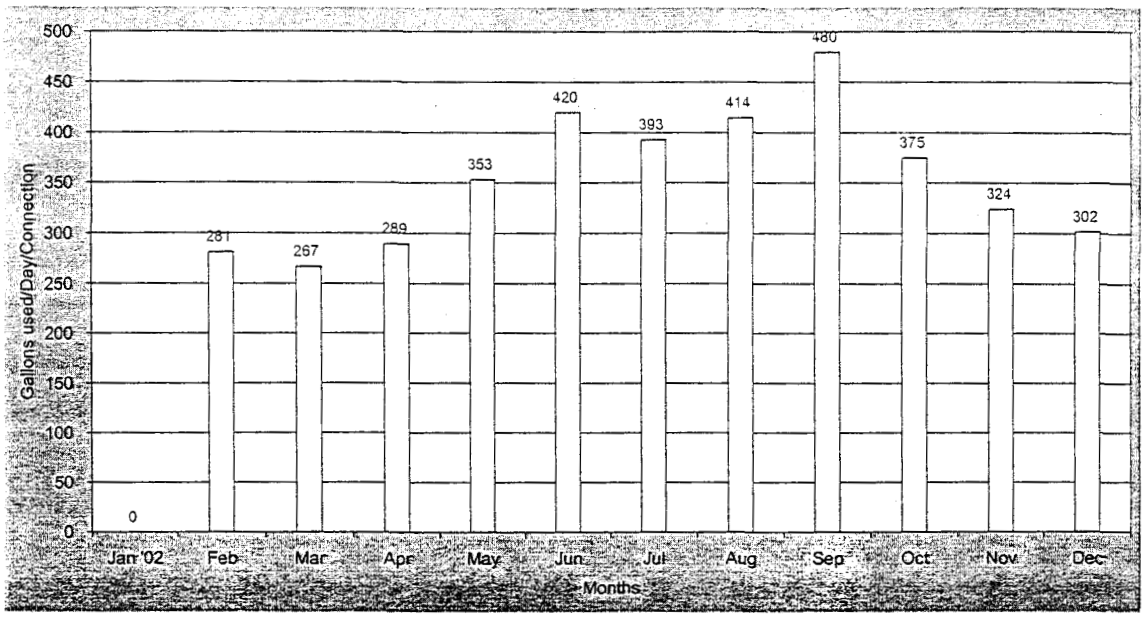


Figure MM-2. Water Use

Non-Account Water

Mohave Main reported 1,893,403,000 gallons pumped and 1,527,235,000 gallons sold for the year 2002, resulting in a water loss of 19.3%. Non-account water should be 10% or less and never more than 15%. Staff reviewed the 2002 Water Use Data Sheet submitted by Mohave Main and questioned why this system had a high water loss. Mohave Main indicated that the construction water amounts were not recorded. Therefore, Staff recommends that effective upon the date an order is issued in this proceeding, Mohave Main should monitor its system and file semi-annual reports within 30 days after the end of each 6-month period for one year, with the Director of the Utilities Division, indicating the quantity of water pumped, gallons sold and water loss percentage for each month during that 6-month period.

If the reduction of water loss to less than 10% cannot be achieved, Mohave Main shall submit to the Director of the Utilities Division a plan which outlines the procedures, steps, and time frames to achieve acceptable water losses. This plan shall be submitted within 18 months after the effective date of an order issued in this proceeding.

System Analysis

The water system's current well capacity of 7,775 GPM and storage capacity of 4,955,000 gallons is adequate to serve the present customer base and reasonable growth.

D. GROWTH

Figure MM-3 details the customer growth using linear regression analysis. The number of service connections was obtained from annual reports submitted to the Commission. During the test year 2001, the Mohave had 16,905 customer/units and it is projected that this district could have approximately 18,300 customer/units by 2007.

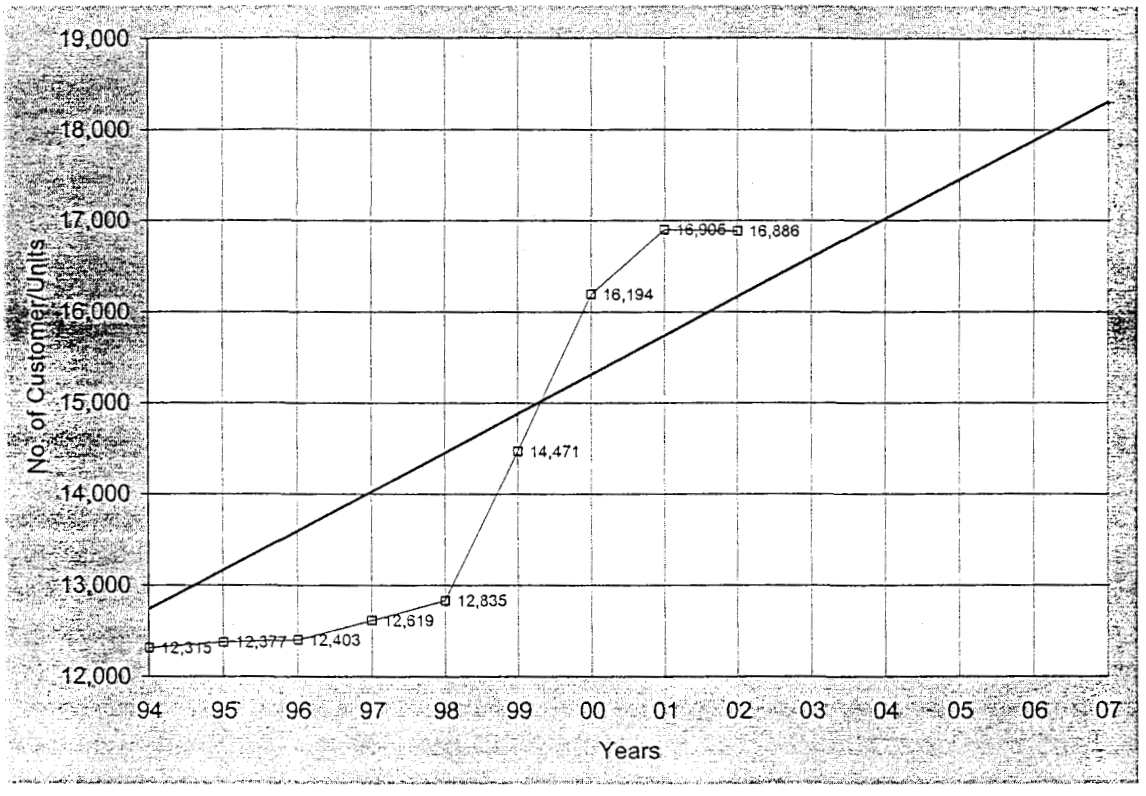


Figure MM-3. Growth Projection

E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) COMPLIANCE

Compliance

ADEQ has determined that the Mohave Main system, PWS #08-032, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

Water Testing Expense

Mohave Main reported its water testing expense within the management fees during the test year. Since Mohave Main serves more than 10,000 persons, Mohave Main does not

participate in the MAP. Table MM-A shows Staff's estimated annual monitoring expense and these expenses should be adjusted to the annual expense amount shown in Table MM-A, which is $16,590.

Table MM-A. Water Testing Cost

Monitoring (Tests per 3 years, unless noted.)	Cost per test	No. of tests per 3 years	Total 3 year cost	Annual Cost
Total coliform – monthly	$17	1,440	$24,480	$8,160
Inorganics – Priority Pollutants	$240	6	$1,440	$480
Radiochemical – per 4 years				
Gross Alpha	$55	6	$330	$83
Radium 226	$80	6	$480	$120
Radium 228	$110	6	$660	$165
Phase II and V:				
Nitrate - annual	$25	30	$750	$250
Nitrite – per 9 years	$15	6	$90	$10
Asbestos – per 9 years	$160	6	$960	$107
Inorganics – Ba, CN, F	$36	6	$216	$72
VOC's	$220	7	$1,540	$513
Pesticides/PCB's/Unreg./SOC's:				
EDB & DBCP	$160	6	$960	$320
Group 1 - alachlor, etc.	$160	6	$960	$320
Group 2 - aldrin, etc.	$160	6	$960	$320
Group 3 - 2,4 - D, etc.	$175	6	$1,050	$350
Group 4 - Benzo(a)pyrene, etc.	$350	6	$2,100	$700
Group 5 - aldicarb, etc.	$280	6	$1,680	$560
Trihalomethane	$150	7	$3,150	$1,050
Glyphosate	$160	6	$960	$320
Endothall	$160	6	$960	$320
Diquat	$160	6	$960	$320
Dioxin	$600	9	$5,400	$1,800
Lead & Copper – per 3 years	$25	30	$750	$250
Total				**$16,590**

Arsenic

Mohave Main indicated its arsenic levels for all its six wells have levels of 4 ppb or less. Based on these arsenic concentrations, Mohave Main is currently meeting the new arsenic MCL.

F. ARIZONA DEPARTMENT OF WATER RESOURCES (ADWR) COMPLIANCE

Mohave is not located in any ADWR Active Management Area. Mohave's water source is supplied through wells that pump groundwater that is considered mainstream Colorado River water. This water is pumped pursuant to an agreement entitled, "Subcontract Between City of Bullhead City and Arizona-American Water Company for Use of Colorado River Water". The term of the contract is not specifically defined. Under the contract, the volume of water subcontracted is based upon the amount of water reasonably and beneficially necessary to provide water service to actual water service connections located within the contract area (Mohave's Bullhead City CC&N).

G. ARIZONA CORPORATION COMMISSION COMPLIANCE

A check with the Utilities Division Compliance Unit showed no outstanding compliance issues for the Mohave Water District.

H. REPRODUCTION COST NEW (RCN) AND ORIGINAL COST (OC)

RCN

Mohave submitted an RCN Asset Listing for the year ending December 31, 2001. This RCN reported an OC plant-in-service value of $22,821,781 and an RCN plant-in-service value of $36,364,361 for all five water systems. Staff has reviewed Mohave's RCN and recommends that its cost values not be accepted for purposes of setting rates in this proceeding for the following reasons:

1. The RCN submitted by Mohave is no more than an "asset listing" that lists all the assets of the utility even if an asset item is retired, abandoned or no longer exists. If an RCN is to be considered, the RCN should be a "valuation study" to reproduce, replace or reconstruct existing physical properties (actual plant that is used and useful).
2. Mohave's RCN has incomplete Plant Descriptions and Quantities.
3. The Handy-Whitman Factors were not used properly. Mohave used a composite Index number for all plant accounts. The actual Handy-Whitman Index numbers are arranged to follow the classification of the National

Association of Regulatory Utility Commissioners ("NARUC") Account numbers and differ by geographical regions.

4. Mohave trended all plant items using their composite Handy-Whitman Factor. Handy-Whitman is used to trend cost for utility construction and should not be used for plant items like Office Furniture, Computer, Transportation, Stores, Tools, and Communication Equipment.
5. Mohave trended the OC values for Accounts in Organization, Franchises, and Land & Land Rights. These Accounts should not be trended in RCN Studies.
6. Mohave added corporate overhead to the asset items in a haphazard fashion without identification which makes it impossible to perform an accurate RCN.
7. No contributed plant was identified or removed from the plant-in-service base.

Used and Useful

Through the field inspection and the RCN Asset Listing, Staff considered six plant sites not used and useful. Through data requests, Mohave could not cross-reference their location codes to these specific sites. Therefore, Staff cannot verify if the following plant sites were treated appropriately and removed from the RCN:

I. Staff's Adjustment #1 - (Plant items not used and useful):

1. Camp Mohave - Well #1 — Cannot identify.
2. MM – River Bend #2 Well Site: (Land, Well, Pumps, Tanks, Building) — Cannot identify.
3. MM – Well Rivera — Cannot identify.
4. MM – Big Ben Acres Well #1 — Cannot identify.
5. MM – Bullhead City Well #4 — Cannot identify.
6. MM – Bullhead City Well Site #3 — Cannot identify.

Unidentified Plant Items

Mohave had 105 asset listing items shown as "Unidentified", "Interest Privile"or "blank". Staff could not identify which asset item belonged to which pumping site. Through Data Request MSJ 22-5, Az-Am provided partial plant description of 84 asset listing items with the remaining 21 items still "Unidentified". Therefore, due to this incomplete RCN, Staff removed the following 21 asset listing items:

II. Staff's Adjustment #2 – (Plant items unidentified):

Asset ID	Asset Description	Qty.	Class	Acq. Date	Original Cost
1603918	UNIDENTIFIED	1	W31000	19720701	15,000
1605625	UNIDENTIFIED	1	W31000	19760701	16,784
1607148	UNIDENTIFIED	1	W31000	19780701	30,333

1610256	UNIDENTIFIED	1	W31000	19810101	1,602
1603340	UNIDENTIFIED	1	W31400	19700701	10,354
1604975	UNIDENTIFIED	1	W31400	19750701	23,599
1606412	UNIDENTIFIED	1	W31400	19770701	3,158
1602579	UNIDENTIFIED	1	W34200	19670701	13,373
1603341	UNIDENTIFIED	1	W34200	19700701	15,115
1603638	UNIDENTIFIED	1	W34200	19710701	7,069
1603919	UNIDENTIFIED	1	W34200	19720701	1,652
1604297	UNIDENTIFIED	1	W34200	19730701	34,114
1604976	UNIDENTIFIED	1	W34200	19750701	24,365
1605627	UNIDENTIFIED	1	W34200	19760701	87
1607149	UNIDENTIFIED	1	W34200	19780701	245
1603923	UNIDENTIFIED	1	W39000	19720701	283
1605631	UNIDENTIFIED	1	W39000	19760701	467
1606414	UNIDENTIFIED	1	W39000	19770701	25,461
1607154	UNIDENTIFIED	1	W39000	19780701	2,427
1608165	UNIDENTIFIED	1	W39000	19790701	1,803
1609089	UNIDENTIFIED	1	W39000	19800701	6,701
				Total:	**$233,992**

I. POST-TEST YEAR PLANT

In its rate application filing, Mohave submitted $984,000 worth of post-test year plant for the year 2002. In response to Staff's data requests, Mohave has submitted actual project cost amounts as follows:

Acct. No.	Description	Estimated Amount	Actual Amount
303	Land & Land Rights	$15,600	$26,825
304	Structures & Improvements	$255,600	$383,473
307	Wells & Springs	$11,000	$0
311	Pumping Equipment	$0	**$146,092**
320	Water Treatment Equipment	$0	$1,674
330	Distribution Reservoirs	$409,500	$396,801
331	Transmission & Distribution	$30,000	$0
339	Other Plant & Miscellaneous	$23,400	$0

340	Office Furniture & Equipment	$196,000	$184,040
341	Transportation Equipment	$17,600	$21,278
343	Tools, Shop & Garage Equip.	$1,500	$2,321
346	Communication Equipment	$23,800	$26,850
	Total:	$984,000	$1,189,356
Staff's Adjustment:			
311	Pumping Equipment		**($72,240)**
	TOTAL (with Staff's Adjustment):		$1,117,116

Staff has inspected and verified plant items for Account Nos. 304 (partial), 311, 320 and 330 as adjusted by Staff above. As revealed through the field inspection and data requests, these post-test year plant items were constructed and placed into service before December 31, 2002, with the exception of one project in Account No. 311 at $72,240. This $72,240 project labeled as, "CC – Plant Replacement" could not be identified by Mohave and verified by Staff. With the exception of this $72,240 project, Staff finds these plant items to be used and useful from an engineering perspective.

J. DEPRECIATION RATES

In its prior rate proceeding and its Decision No. 56806, Mohave's depreciation rates were adopted. These same rates were used by Mohave in this rate proceeding and are presented in Table MM-B. Staff recommends the depreciation rates delineated in Table MM-B be used for this proceeding.

Table MM-B. Water Depreciation Rates

Account No.	Depreciable Plant	Rate
	Intangible	
301	Organization	0%
302	Franchises	0%
303	Miscellaneous Intangibles	0%
	Source of Supply	
310	Land and Land Rights	0%
311	Structures and Improvements	2.83%
312	Collecting and Impounding Res.	2.54%
313	Lakes, Rivers, Other Intakes	0%
314	Wells and Springs	2.70%
	Pumping	
320	Land and Land Rights	0%

321	Structures and Improvements	2.39%
323	Other Power Production	0%
325	Electric Pumping Equipment	5.12%
326	Diesel Pumping Equipment	0%
328.10	Gas Engine Pumping Equipment	0%
	Water Treatment	
330	Land and Land Rights	0%
331	Structures and Improvements	2.50%
332	Water Treatment Equipment	12.00%
	Transmission and Distribution	
340	Land and Land Rights	0%
341	Structures and Improvements	1.81%
342	Distribution, Reservoirs, & ST	1.81%
343	Transmission and Distribution	2.61%
344	Fire Mains	0%
345	Services	5.41%
346	Meters	6.53%
348	Hydrants	0%
349	Other Transmission & Distribution	0%
	General	
389	Land and Land Rights	0%
390	Structures and Improvements	2.03%
391	Office Furniture and Equipment	4.10%
391.10	Computer Equipment	4.10%
392	Transportation Equipment	25.00%
393	Stores Equipment	3.93%
394	Tools, Shop and Garage	7.55%
395	Laboratory Equipment	3.06%
396	Power Operated Equipment	9.23%
397	Communication Equipment	4.10%
398	Miscellaneous Equipment	6.19%

K. OTHER ISSUES

1. Service Line and Meter Installation Charges

Mohave has requested to change its service line and meter installation charges. These charges are refundable advances and Mohave's proposed charges are within Staff's experience of reasonable and customary charges. For 2-inch meters, the typical charges vary according to meter type (turbine or compound). Therefore, Staff recommends adopting a service line and meter installation charge of "At cost" for the 2-inch size.

Table MM-C. Service Line and Meter Installation Charges

Meter Size	Current Charges	Proposed Charges
5/8 x3/4-inch	$275	$500
3/4-inch	$295	$575
1-inch	$325	$660
1-1/2-inch	$475	$900
2-inch	$650	**At cost**
3-inch	At cost	At cost
4-inch	At cost	At cost
6-inch	At cost	At cost
8-inch	At cost	At cost

2. Curtailment Plan Tariff

A Curtailment Plan Tariff is an effective tool to allow a water company to manage its resources during periods of shortages due to pump breakdowns, droughts, or other unforeseeable events. Since all the Mohave Water District systems do not have this type of tariff, this rate proceeding provides an opportune time to prepare and file such a tariff. Staff recommends that the Mohave Water District file curtailment tariffs for each system within 90 days after the effective date of an order issued in this proceeding. These tariffs shall be submitted to the Director of Utilities Division for his review and certification. Staff also recommends that these tariffs shall generally conform to the sample tariff found posted on the Commission's web site (www.cc.state.az.us/utility) or available upon request from Commission Staff.

SUMMARY

1. Three of the five Mohave Water District's water systems have non-account water loss of 10% or more. Effective upon the date an order is issued in this proceeding, these high water loss water systems should monitor and file semi-annual reports within 30 days after the end of each 6-month period for one year, with the Director of the Utilities Division, indicating the quantity of water pumped, gallons sold and water loss percentage for each month during that 6-month period. If the reduction of water loss to less than 10% cannot be achieved, Mohave Water District shall submit to the Director of the Utilities Division plans which outline the procedures, steps, and time frames to achieve acceptable water losses. These plans shall be submitted within 18 months after the effective date of an order issued in this proceeding

2. Four of the five water systems had adequate well and storage capacities to serve the customer base during the test year. One system is a consecutive system and has no well, storages or pumping facilities.

3. ADEQ has determined that all five of Mohave Water District's systems are currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

4. Staff's adjusted annual water testing cost for each system is as follows and should be adopted:

Water System		PWS #	Annual Cost
1.	Camp Mohave	08-037	$682
2.	Lake Mohave Highlands	08-062	$718
3.	Desert Foothills	08-137	$1,174
4.	Rio Vista	08-333	$246
5.	Mohave Water – Main	08-032	$16,590
		Total:	$19,410

5. All water systems have arsenic concentrations of 10 ppb or less and are currently meeting the new arsenic MCL.

6. Mohave Water District is not located in any ADWR Active Management Area.

7. Mohave Water District has no outstanding ACC compliance issues.

8. Staff recommends that Mohave's RCN value not be accepted for purposes of setting rates in this proceeding.

9. With the exception of one project, Staff has confirmed that the post-test year plant items for Account Nos. 304 (partial), 311, 320 and 330 were in service before December 31, 2002 and finds these plant items to be used and useful from an engineering perspective.

10. Staff recommends that Mohave's depreciation rates be used for this proceeding.

11. Staff recommends the acceptance of Mohave's proposed Service Line and Meter Installation Charges, except for the 2-inch meter size. For the 2-inch size, Staff recommends adopting a charge of "At cost".

12. Staff recommends that Mohave file Curtailment Plan Tariffs for all its systems within 90 days after the effective date of an order issued in this proceeding.

CHELUS

BEFORE THE ARIZONA CORPORATION COMMISSION

MARC SPITZER
Chairman
JIM IRVIN
Commissioner
WILLIAM A. MUNDELL
Commissioner
JEFF HATCH-MILLER
Commissioner
MIKE GLEASON
Commissioner

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WEST WATER AND WASTEWATER DISTRICTS.	)	DOCKET NO. WS-01303A-02-0867
IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WATER AND WASTEWATER DISTRICTS.	)	DOCKET NO. WS-01303A-02-0868
IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS MOHAVE WATER DISTRICT AND ITS HAVASU WATER DISTRICT.	)	DOCKET NO. W-01303A-02-0869

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS ANTHEM WATER DISTRICT, ITS AGUA FRIA WATER DISTRICT, AND ITS ANTHEM/AGUA FRIA WASTEWATER DISTRICT.	)	DOCKET NO. WS-01303A-02-0870

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS TUBAC WATER DISTRICT.	)	DOCKET NO. W-01303A-02-0908

DIRECT TESTIMONY

OF

JOHN A. CHELUS

UTILITIES ENGINEER

UTILITIES DIVISION

SEPTEMBER 5, 2003

TABLE OF CONTENTS

Schedules

SUMMARY OF DIRECT TESTIMONY
OF JOHN A. CHELUS
ARIZONA-AMERICAN WATER COMPANY, INC.
SUN CITY WEST DISTRICT
DOCKET NO. WS-01303A-02-0867

Sun City West – Water

CONCLUSIONS

1. The Sun City West water system has a non-account water loss of 6.0 percent. The Cool Well system has a non-account water loss of 10.0 percent. These levels are acceptable in this rate proceeding.

2. Based on data submitted by the Company from Maricopa County Environmental Services Department ("MCESD"), MCESD has determined that systems PWS #04-07-150, Sun City West, and PWS # 04-07-080, Cool Well, are currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

3. The most recent lab analysis for the Sun City West water system indicates that six of the ten wells have Arsenic levels above 10 ppb. The Cool Well system had an arsenic value of 5 ppb. The Company is currently evaluating its options to achieve the new arsenic level of 10 parts per billon.

4. The Sun City West Water District is located within the Phoenix Active Management Area ("AMA") and is in compliance with the AMA's reporting and conservation requirements.

5. The Sun City West Water District has no outstanding Arizona Corporation Commission compliance issues.

6. Staff considers the reported water testing expenses for the Sun City West Water District reasonable.

RECOMMENDATIONS

1. It is recommended that the Sun City West Water District continue to use depreciation rates as delineated in Exhibit 6 of Schedule JAC-1.

2. Staff recommends the adoption of the Company proposed Service Line and Meter Installation Charges except for the 2 inch meter size. For the 2 inch meter size, Staff recommends adopting a charge of "At Cost". (Schedule JAC-1 Section K)

3. Staff recommends that the Sun City West Water District file curtailment tariffs within 90 days after the effective date of any decision and order pursuant to this application. The tariff shall be submitted to the Director of the Utilities Division for his review and certification. Staff also recommends that the tariff shall generally conform to the sample tariff found posted on the Commission's web site (www.cc.state.az.us/utility) or available upon request from Commission Staff.

4. Staff recommends that Arizona American be required to install additional storage or production capacity to meet 24 hour storage requirements to the Cool Well system no later than December 31, 2004 as discussed in Schedule JAC-1, Section C.

5. Staff has evaluated Sun City West Water District's RCN and recommends that its cost values not be accepted for purposes of setting rates in this proceeding.

6. Engineering Staff recommends the acceptance without adjustment of the Sun City West's revised *Pro Forma* Plant Schedule B-2, page 9 supplied in data response JAC-13-5, provided by Mr. Tom Bourassa as discussed in Schedule JAC-1, Section I and Exhibit 5. However, this "used and useful" determination does not imply a specific treatment for rate base or rate making purposes. The direct testimony of Mr. Darron Carlson will discuss the post test year rate base and rate making treatment in this case.

7. Staff recommends adjustment of original Cost rate base by $19,743 as delineated in Schedule JAC-1, Section H.

Sun City West – Wastewater

CONCLUSIONS

1. The Sun City West Wastewater District has no outstanding Arizona Corporation Commission compliance issues.

RECOMMENDATIONS

1. It is recommended that the Sun City West Wastewater District continue to use depreciation rates as delineated in Exhibit 5 of Schedule JAC-2.

2. Staff has evaluated Sun City West Wastewater District's RCN and recommends that its cost values not be accepted for purposes of setting rates in this proceeding.

3. Engineering Staff recommends the acceptance without adjustment of the Sun City West Wastewater District's revised *Pro Forma* Plant Schedule B-2, page 9 supplied in data response JAC-13-5, provided by Mr. Tom Bourassa as discussed in Schedule JAC-2, Section H and

Exhibit 4. However, this "used and useful" determination does not imply a specific treatment for rate base or rate making purposes. The direct testimony of Mr. Darron Carlson will discuss the post test year rate base and rate making treatment in this case.

4. Staff recommends adjustment of original Cost rate base by $215,448 as delineated in Schedule JAC-2, Section I.

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is John A. Chelus. 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") as a Utilities Engineer - Water/Wastewater for the Utilities Division

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

A. I have been employed by the Commission since September 1990.

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

A. I inspect, investigate, and evaluate water and wastewater systems; obtain data, prepare investigative reports; suggest corrective action and provide technical recommendations on water and wastewater system deficiencies; and provide written and oral testimony on rate and other cases before the Commission.

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

A. I have analyzed approximately 130 companies in various capacities for the Utilities Division.

Q. Have you previously testified before this Commission?

A. Yes, I have.

Q. What is your educational background?

A. I graduated from the Rochester Institute of Technology in 1976 with a Bachelors Degree in Civil Engineering and from Oklahoma State University in 1978 with a Masters Degree in Environmental Engineering.

Q. Briefly describe your pertinent work experience.

A. I worked for the Dallas Water Utilities as an engineer in the Wastewater Division, and then in the Engineering Design Division from 1978 to 1981. I moved to Grand Junction, Colorado and worked for Multi Mineral Corporation as a research engineer until 1982. After this I worked for Westwater Engineering Consultants as a design engineer. In 1983, I was employed by Sauter Construction as a construction engineer for the construction of the Ute Water Treatment facilities in Palisade, Colorado. In 1984 and 1985, I was employed by the City of Grand Junction as a Grade IV wastewater operator at their 12 million gallon per day activated sludge treatment facility. In 1986, I moved to Phoenix and began working for the Arizona Department of Environmental Quality ("ADEQ"), Office of Water Quality, as a design review engineer, and then as a field engineer. I stayed at ADEQ until transferring to the Commission in 1990.

II. PURPOSE OF TESTIMONY

Q. What was your assignment in this rate proceeding?

A. My assignment was to provide engineering evaluations of the Arizona-American Water Company, Inc. ("Az-Am") – Sun City West Water and Wastewater District operations.

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

A. To present the findings of my engineering evaluations of the Az-Am – Sun City West Water and Wastewater District operations. Those findings are contained in my Engineering Reports that I have prepared for this proceeding. These reports are included as Schedules JAC-1 and JAC-2 in this direct testimony.

III. ENGINEERING REPORTS

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

A. After reviewing Az-Am's Sun City West rate applications, I physically inspected the water and wastewater systems to evaluate their operations and to determine which plant items were or were not used and useful. I contacted the Arizona Department of Environmental Quality ("ADEQ"), Maricopa County Environmental Services Department ("MCESD"), Arizona Department of Water Resources ("ADWR") and the Commission's Compliance Section Unit to determine if Az-Am was in compliance with ADEQ, MCESD, ADWR and Commission regulations. I obtained information from Az-Am regarding water usage, wastewater flow, water testing, growth, Reproduction Cost new plant, depreciation rates and post-test year plant and analyzed that information. Based on this data, I made my evaluations and prepared my Engineering Reports.

Q. Do Schedules JAC-1 and JAC-2 accurately describe the Az-Am Sun City West District as you found it during your investigation?

A. Yes, to the best of my knowledge.

IV. REPRODUCTION COST NEW ANALYSIS

Q. Did Az-Am Sun City West Water and Wastewater Districts submit Reproduction Cost New (RCN) studies as part of their applications?

A. Az-Am submitted an RCN asset listings for the year ending December 31, 2001. The RCN's reported the following original cost and RCN, plant in service values.

	Original Cost	RCN
Sun City West (Water)	$29,950,788	$42,839,171
Sun City West (Wastewater)	$39,775,541	$59,511,483

Q. What is Staff's position concerning the RCN study, which was submitted by Az-Am in this proceeding?

A. Staff has evaluated the RCN for the Sun City West Water and Wastewater Districts and recommends that the RCN values not be accepted for the purposes of setting rates in this proceeding.

Q. Why has Staff taken that position?

A. There are many reasons which include:

1. The Az-Am RCN is no more than an "asset listing" that lists all the past and present assets of the utility, even if an asset item is retired, abandoned or no longer exists. If an RCN is to be considered, the RCN should be a "valuation study" to reproduce, replace or construct existing physical properties (actual plant that is used and useful.) For example, the Sun City West Waterwater RCN included asset items for chlorine gas disinfection which is no longer being used. The Company identified some of these items in response to data request JAC-28-3.

2. No contributed plant was identified or removed from plant in service base.

3. The Handy Whitman factors were not used properly. A composite index number was used for all plant accounts. The actual Handy-Whitman index numbers are arranged to follow the plant classification of the National Association of Regulatory Utility Commissioners ("NARUC") and differ by geographical regions.

4. All plant items were trended using the Handy-Whitman index. However, the Handy Whitman index should only be used for utility construction and should not be used for plant items such as office furniture, computers, transportation equipment, stores, tools and communication equipment.

5. In some instances, organization, franchise, and land costs were trended. These accounts should not be trended in RCN studies.

6. Audited portions exhibited misclassifications of plant in service. For example, in the Sun City West water RCN, Chairs were listed and trended under the account for services, tanks were listed under the account for pumps, and landscaping was listed under the account for wells.

7. Az-Am added corporate labor and overhead to the asset items in a haphazard fashion without identification which makes it impossible to perform an accurate RCN. In some cases, the corporate labor and overhead for a number of assets appears to be added to only one asset item. In addition, it is questionable that this overhead should even be included in the RCN determination. For example, responses to data request JAC-13-4

lists the following plant costs and corporate overhead and labor:

Asset Number	District	Project	Labor and Parts	Corporate Labor & Overhead
3134501	SSW - Water	Sub. Motor and Pump	$37,714.34	$11,573.97
3094749	SSW- Waste	Purchase Kawasaki Mule	$6,800	$22,527.61
3094750	SSW-Waste	Purchase Kawasaki Mule	$6,800	$1,861.91
3094750	SSW-Waste	Purchase 2001 Chevy Truck	$17,852.98	$19.13
3134483	SSW-Waste	Purchase Ford with Boom	$96,791.28	$26,596.97

In the above table, asset number 3134501 was an entry for the replacement of a submersible pump and motor. The invoice provided by Az-Am totaled $37,714.34 for the parts and the labor to install them. In addition, Az-Am added $11,573.97 as "labor and overhead" without any invoices or justification. Asset numbers 3094749 and 3094750 are for Kawasaki Mule utility vehicles purchased on the same purchase order for $6,800 each. Az-Am then added labor and overhead of $22,527.61 to one of the vehicles and $1,861.91 to the other with no justification. Az-Am only added $19.13 in labor and overhead to asset number 3094750 for a Chevy Truck. And finally, asset number 3134483 is an entry for a Ford F550B truck with a boom attached. The invoice provided by Az-Am is for $96,791.28 which is for the truck, the boom, and the labor to install the boom. In addition, Az-Am is claiming undocumented labor and overhead of $26,596.97

8. Az-Am's RCNs have incomplete Plant Descriptions and Quantities. For example many asset numbers are listed as unidentified.

Q. Why didn't Staff amend or revise the RCN submitted by Arizona-American?

A. A properly prepared RCN Study begins with a complete inventory of the plant-in-service that is used and useful. The appropriate trend factors are then applied to reproduce each plant item at today's cost. The RCN is only valid if the person preparing the study knows precisely what the plant item is so that the appropriate trend factor is applied. In order to conduct a RCN study, the following information needs to be provided:

a. Complete and accurate plant descriptions for the plant-in-service for each independent system including the year the plant was installed. Such plant would include wells, booster pumps, hydrants, storage tanks, pressure tanks, mains, meters, treatment equipment, structures, etc.

b. Verification of plant item brand names, size and quantities.

As discussed above, Staff found the methodology and data for the Az-Am RCN to be

irreparably flawed. To prepare a RCN from a zero base starting place for a company as large and complex as this would be beyond the resources of Staff. Moreover, it is the sole responsibility of the Company if it wishes consideration of an RCN in a rate making proceeding, to prepare and present a valid and understandable study.

V. CONCLUSIONS AND RECOMMENDATIONS

Q. Based on your investigation and evaluation, do you have any recommendations?

A. Yes.

Q. Please summarize your findings and recommendations for the Sun City West District contained in Engineering Reports JAC-1 and JAC-2.

A. After my engineering evaluations of the Az-Am – Sun City West Districts' operation, Staff concludes and recommends that:

Sun City West - Water District

CONCLUSIONS

1. Arizona-American Water Company – Sun City West Water District has a non-account water loss of 6.0 percent. The Cool Well system has a non-account water loss of 10.0 percent. These levels are acceptable in this rate proceeding.

2. Based on data submitted by the Company from Maricopa County Environmental Services Department (MCESD), MCESD has determined that systems PWS #04-07-150, Sun City West, and PWS # 04-07-080 Cool Well are currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

3. The most recent lab analysis for the Sun City West system indicates that six of the ten wells have Arsenic levels above 10 ppb. The Cool Well system had an arsenic value of 5 ppb. The Company is currently evaluating its options to achieve the new arsenic level of 10 parts per billon.

4. The Sun City West Water District is located within the Phoenix Active Management Area ("AMA") and is in compliance with the AMA's reporting and conservation requirements.

5. The Sun City West Water District has no outstanding Arizona Corporation Commission compliance issues.

6. Staff considers the reported water testing expenses for the Sun City West District reasonable.

RECOMMENDATIONS

1. It is recommended that the Company continue to use depreciation rates as delineated in Exhibit 6 of Schedule JAC-1.

2. Staff recommends the adoption of the Company proposed Service Line and Meter Installation Charges except for the 2 inch meter size. For the 2 inch meter size, Staff recommends adopting a charge of "At Cost".

3. Staff recommends that the Company file a curtailment tariff within 90 days after the effective date of any decision and order pursuant to this application. The tariff shall be submitted to the Director of the Utilities Division for his review and certification. Staff also recommends that the tariff shall generally conform to the sample tariff found posted on the Commission's web site (www.cc.state.az.us/utility) or available upon request from Commission Staff.

4. Staff recommends that the Company be required to install additional storage or production capacity to meet 24 hour storage requirements to the Cool Well system no later than December 31, 2004.

5. Staff has evaluated Sun City West's RCN and recommends that its cost values not be accepted for purposes of setting rates in this proceeding.

6. Engineering Staff recommends the acceptance, without adjustment of the Company's revised *Pro Forma* Plant Schedules B-2, page 9 supplied in data response JAC-13-5, provided by Mr. Tom Bourassa. However, this "used and useful" determination does not imply a specific treatment for rate base or rate making purposes. The direct testimony of Mr. Darron Carlson will discuss the post test year rate base and rate making treatment in this case.

7. Engineering Staff recommends adjustment of original Cost rate base by $19,743 as delineated in Schedule JAC-1, Section H.

Sun City West – Wastewater District

CONCLUSIONS

1. The Sun City West Wastewater District has no outstanding Arizona Corporation Commission compliance issues.

RECOMMENDATIONS

1. It is recommended that the Company continue to use depreciation rates as delineated in Exhibit 5 of Schedule JAC-2.

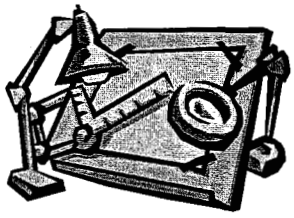
2. Staff has evaluated Sun City West's RCN and recommends that its cost values not be accepted for purposes of setting rates in this proceeding.

3. Engineering Staff recommends the acceptance, without adjustment of the Company's revised *Pro Forma* Plant Schedules B-2, page 9 supplied in data response JAC-13-5, provided by Mr. Tom Bourassa. However, this "used and useful" determination does not imply a specific treatment for rate base or rate making purposes. The direct testimony of Mr. Darron Carlson will discuss the post test year rate base and rate making treatment in this case.

4. Engineering Staff recommends adjustment of original Cost rate base by $215,448 as delineated in Schedule JAC-2, Section I.

Q. Does this conclude your direct testimony?

A. Yes, it does.



Engineering Report for Arizona-American Sun City West Water District (Rates)
Docket No. WS-01303A-02-0867
By John A. Chelus
September 5, 2003

CONCLUSIONS

A. Arizona-American Water Company – Sun City West Water system has a non-account water loss of 6.0%. The Cool Well system has a non-account water loss of 10.0%. These levels are acceptable in this rate proceeding. (See Section C, page 6.)

B. Based on data submitted by the Company from Maricopa County Environmental Services Department ("MCESD"), MCESD has determined that systems PWS #04-07-150, Sun City West, and PWS #04-07-080, Cool Well, are currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4. (See Section E, page 9.)

C. The most recent lab analysis for the Sun City West system indicates that six of the ten wells have Arsenic levels above 10 ppb. The Cool Well system had an arsenic value of 5 ppb. The Company is currently evaluating its options to achieve the new arsenic level of 10 parts per billon. (See Section E, page 9.)

D. The Sun City West District is located within the Phoenix Active Management Area ("AMA") and is in compliance with the AMA's reporting and conservation requirements. (See Section F, page 10.)

E. The Sun City West District has no outstanding Arizona Corporation Commission compliance issues. (See Section G, page 10.)

F. Staff considers the reported water testing expenses for the Sun City West District reasonable. (See Section E, page 9)

RECOMMENDATIONS

1. It is recommended that the Company continue to use depreciation rates as delineated in Exhibit 6. (See Section J, page 11 and Exhibit 6)

2. Staff recommends the adoption of the Company proposed Service Line and Meter Installation Charges except for the 2 inch meter size. For the 2 inch meter size, Staff recommends adopting a charge of "At Cost". (See Section K. 1, page 12.)

3. Staff recommends that the Company file a curtailment tariff within 90 days after the effective date of any decision and order pursuant to this application. The tariff shall be submitted to the Director of the Utilities Division for his review and certification. Staff also recommends that the tariff shall generally conform to the sample tariff found posted on the Commission's web site (www.cc.state.az.us/utility) or available upon request from Commission Staff.

4. Staff recommends that the Company be required to install additional storage or production capacity to meet 24 hour storage requirements to the Cool Well system no later than December 31, 2004. (See Section C, page 6)

5. Staff has evaluated Sun City West's RCN and recommends that its cost values not be accepted for purposes of setting rates in this proceeding. (See Section H, page 10 and Direct Testimony)

6. Staff Engineering recommends the acceptance without adjustment of the Company's revised *Pro Forma* Plant Schedule B-2, page 9 supplied in data response JAC-13-5, provided by Mr. Tom Bourassa. However, this "used and useful" determination does not imply a specific treatment for rate base or rate making purposes. The direct testimony of Mr. Darron Carlson will discuss the post test year rate base and rate making treatment in this case. (See Section I ,Post Test Year Plant, page 11 and Exhibit 5)

7. Engineering Staff recommends adjustment of original Cost rate base by $19,743. (See Section H, Page 10.

TABLE OF CONTENTS

EXHIBITS

A. LOCATION OF COMPANY

Arizona American – Sun City West District ("Arizona American" or "Company") serves approximately 15,000 customers in Sun City West Arizona, Maricopa County. Exhibit 1 describes the location of the Company within Maricopa County, and Exhibit 2 describes the certificated area of the water company within Maricopa County.

B. DESCRIPTION OF THE WATER SYSTEM

The plant facilities were visited on March 19, 2003 and May 22, 2003 by John A. Chelus, Utilities Engineer, in the accompaniment of Tom DeYoung, Operations Superintendent - Water. There are two systems listed under the Sun City West District. The Sun City West system serves the majority of the customers. The Cool Well System is a very small system serving approximately 21 customers. Exhibits 3 and 4 are schematics of the systems. The following tables describe the systems in more detail.

SUN CITY WEST SYSTEM - PWS-0407150
WELLS

Well Number	Location	ADWR Number *	Location Number	Pump HP	Pump Yield (gpm)	Well Depth (feet)	Casing Diameter	Meter Size	Year Drilled
Wells Serving Plant 1									
1.1	14141 W Meeker	55-547409		250	1,200	1,190	16	8	1995
1.2	19425 Wilson Way	55-610217	B(4-1)27cbb	200	1,060	716	16	10	1982/ 1986
1.3	14427 W. Yosemite	55-612963	B(4-1)28baa	200	800	1,032	16	10	1955
1.4	13503 W Daisy Ct.	55-610219	B(4-1)34acb	200	1,000	1,176	20	10	1982
1.5	17618 N Lasso Dr.	55-610220	B(4-1)13ddb	200	1,200	1,000	20	10	1947
Wells Serving Plant 2									
2.1	12702 W Stardust Blvd	55-547408		200	1,200	1,186	16	8	1995
2.2	13059 W Deer Valley	55-610215	B(4-1)23bbb	200	1,200	904	20	10	1982
2.3	13449 W Deer Valley	55-610241	B(4-1)22abb	200	1,200	852	20	10	1982
2.4	14207 W Parade Dr	55-520840	B(4-1)21abb	200	800	1,060	16	10	1988
2.5	21801 n 151ST Ave	55-612959	B(4-1)21ddb	200	990	963	20	8	1958

* Arizona Department of Water Resources Identification Number

SUN CITY WEST SYSTEM - PWS-0407150
(continued)

BOOSTER PUMPS			
SSW Plant 1		SSW Plant 2	
Horsepower	Quantity	Horsepower	Quantity
75	1	75	1
100	6	100	5
		150	2
		125 (Gas Engine)	1

FIRE HYDRANTS	
Quantity Standard	Quantity Other
1,114	

STORAGE TANKS		
Location	Capacity	Quantity
SSW Plant 1	1,000,000	2
SSW Plant 2	758,000	2

PRESSURE TANKS		
Location	Capacity	Quantity
SSW Plant 1	10,000	2
SSW Plant 2	10,000	2

MAINS		
Size (in inches)	Material	Length (in feet)
2		21,724
4	Various	675,377
6	Various	78,419
8	Various	72,619
10	Various	90,787
12	Various	26,836
16	Various	19,202
18	Various	6,782
20	Various	1,902
24	Various	0
Undetermined	Various	7,775

CUSTOMER METERS	
Size (in inches)	Quantity
5/8 x ¾	14,864
¾	
1	193
1 ½	
2	259
Comp. 3	13
Turbo 3	
Comp. 4	2
Turbo 4	
Comp. 6	1
Turbo 6	

TREATMENT EQUIPMENT: **Gas Chlorination at Each Well Site**

Cool Wells System – PWS – 0407080

WELLS

ADWR ID Number*	Pump HP	Pump Yield (gpm)	Well Depth (Feet)	Casing Diameter (inches)	Meter Size (inches)	Year Drilled
55-803469	50	300	850	16	4 Rockwell	1972

* Arizona Department of Water Resources Identification Number

BOOSTER PUMPS			
Horsepower	Quantity	Horsepower	Quantity
3	1	15	2
7	1		

FIRE HYDRANTS	
Quantity Standard	Quantity Other
0	0

STORAGE TANKS		
Capacity	Quantity	Built
10,000	1	1994

PRESSURE TANKS	
Capacity	Quantity
2,000	1

MAINS		
Size (in inches)	Material	Length (in feet)
6	PVC	8,000 ft
6	ACP	950 ft
4	PVC	2,100 ft
4	ACP	250 ft.

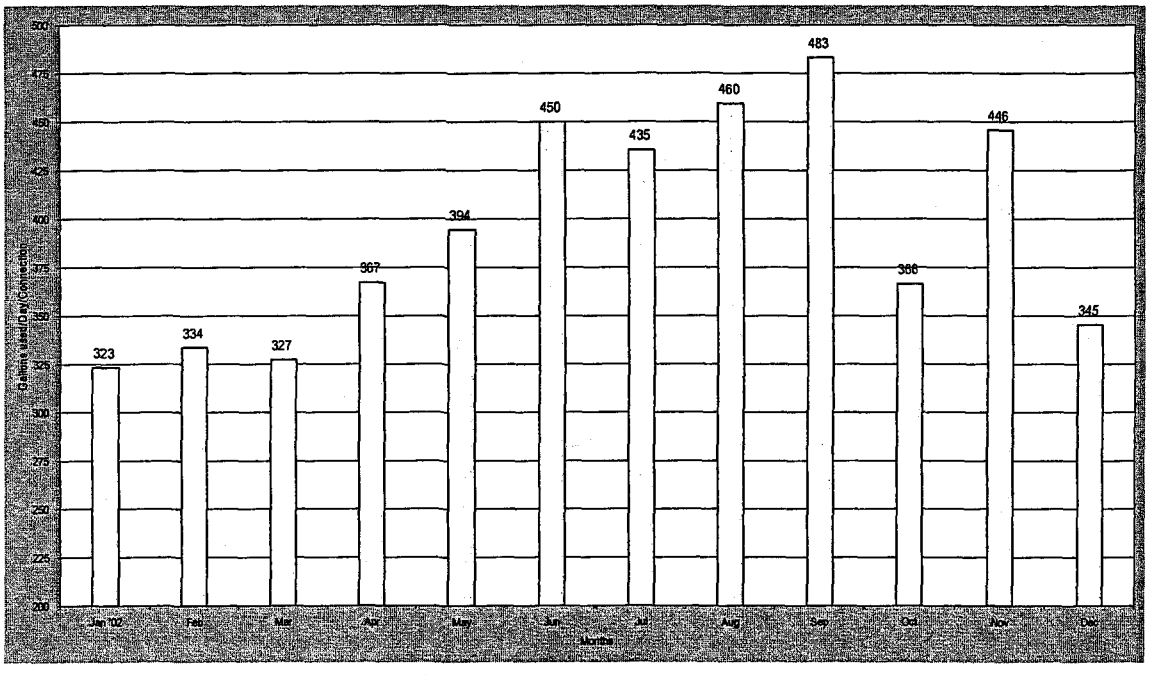
CUSTOMER METERS	
Size (in inches)	Quantity
5/8 x ¾	20
¾	
1	
1 ½	

C. WATER USE

Water Sold & Non-Account Water

Sun City West System

Based on the information provided by the Company, water use for the year 2002 is presented below. Customer consumption experienced a high monthly water use of 483 gallons per day ("GPD") per connection and a low monthly water use of 323 GPD per connection for an average annual use of 394 GPD per connection.



Sun City West System Water Use

Non-Account Water

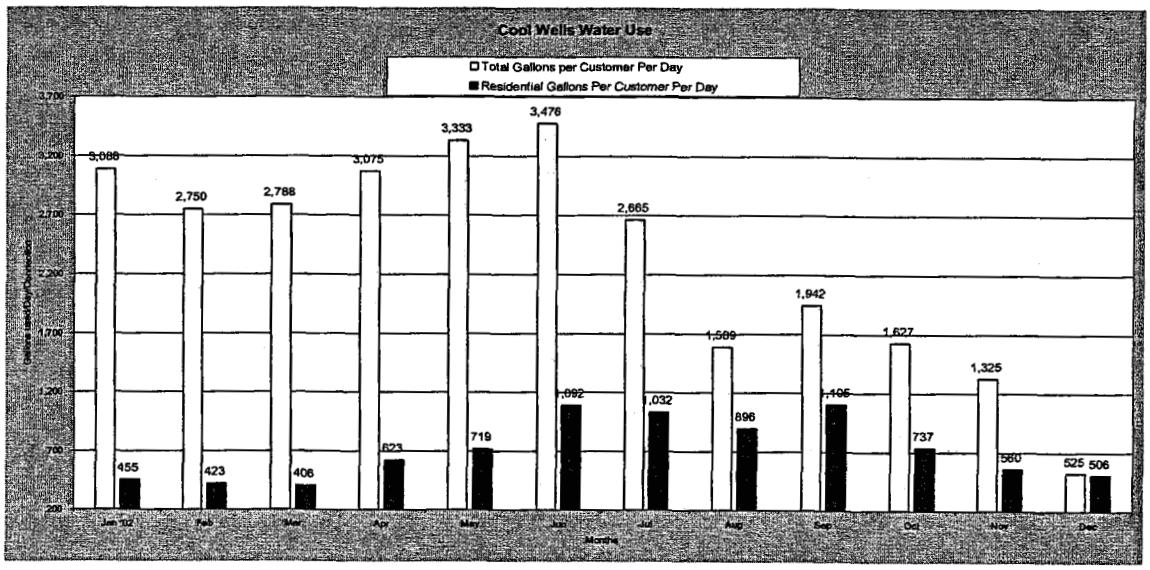
The Company reported 2,297,583,000 gallons pumped and 2,159,000,000 gallons sold, resulting in a water loss of 6.0%. This 6.0% is acceptable to Staff.

System Analysis

The water system's currently well capacity of 10,650 GPM and storage capacity of 4,016,000 gallons is adequate to serve the 15,227 connections.

Cool Wells System

Based on the information provided by the Company, water use for the year 2002 is presented below. This system has one large commercial sand and gravel customer which uses a large portion of the total gallons sold. The graph shows the total gallons per day consumption which includes the sand and gravel customer as well as the residential only usage. Total customer consumption experienced a high monthly water use of 3,476 gallons per day ("GPD") per connection and a low monthly water use of 525 GPD per connection for an average annual use of 2,349 GPD per connection. Residential customer consumption without the sand and gravel operation experienced a high monthly water use of 1,105 gallons per day per connection and a low monthly water use of 543 GPD per connection for an average annual use of 713 GPD per connection.



Non-Account Water

The Company reported 19,783,000 gallons pumped and 17,777,000 gallons sold, resulting in a water loss of 10%. This 10% is acceptable to Staff.

System Analysis

The Cool Well system's current well capacity of 300 GPM and storage capacity of 10,000 gallons is not adequate to serve the 21 service connections. The system is lacking in storage. Even though the Company reports that the sand and gravel operation uses water only when available, and in the event of an outage is voluntarily removed from service, additional storage is still required. An additional 11,000 gallons of storage is needed which will bring the total storage to 21,000 gallons. If the sand and gravel operation was included in the calculation, an additional 63,000 gallons would be required. Staff recommends that the Company be required to install additional storage or production capacity to the system to meet the 24 hour storage requirement no later than December 31, 2004.

D. GROWTH

The Company reported that the Sun City West system had 15,227 customers at the end of year 2002. The Cool Well system had 21 customers. Customer growth was not determined because there is an inconsistency in the way customers were counted prior to Arizona American purchasing the Company. Arizona American bases customer count by number of meters. Citizens Utilities, the previous owner of the Sun City West system, based the customer count on number of units being served by a meter. For example, Citizens would list a 50 unit apartment served by one meter as having 50 water customers. This made the customer count much larger for Citizens.

E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) COMPLIANCE

Compliance

Based on data submitted by the Company from Maricopa County Environmental Services Department ("MCESD"), MCESD has determined that systems PWS #04-07-150, Sun City West, and PWS # 04-07-080, Cool Well, are currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

Water Testing Expense

The Company reported water testing expenses for Sun City West Water of $6,069 on Schedule C-1 for the test year ending December 31, 2001. Staff considers the reported expense reasonable.

Arsenic

The U.S. Environmental Protection Agency has reduced the arsenic maximum contaminant level ("MCL") in drinking water from 50 parts per billion ("ppb") to 10 ppb. The date for compliance with the new MCL is January 23, 2006.

The most recent lab analyses for Sun City West are shown in the following table. Six of the ten wells have Arsenic levels above 10 ppb. The Cool Well system had an arsenic value of 5 ppb.

SUN CITY WEST SYSTEM - PWS-0407150

Well Number	Location	ADWR Number *	Arsenic Levels Parts Per Billion	Year Drilled
1.1	14141 W Meeker	55-547409	21	1995
1.2	19425 Wilson Way	55-610217	----	1982/ 1986
1.3	14427 W. Yosemite	55-612963	14	1955
1.4	13503 W Daisy Ct.	55-610219	22	1982
1.5	17618 N Lasso Dr.	55-610220	21	1947
2.1	12702 W Stardust Blvd	55-547408	5	1995
2.2	13059 W Deer Valley	55-610215	5	1982
2.3	13449 W Deer Valley	55-610241	6	1982
2.4	14207 W Parade Dr	55-520840	19	1988
2.5	21801 n 151ST Ave	55-612959	17	1958

* Arizona Department of Water Resources Identification Number

The Company completed an arsenic evaluation of all wells, performed cost analysis studies, sent out informational flyers to all customers who will be affected by the new standard, completed an arsenic removal pilot study at Sun City West in conjunction with the American Water Works Association Research Foundation and the EPA, has begun partnering in the City of Surprise arsenic pilot study at Roseview well, was represented in the national arsenic cost study analysis by EPA and the National Drinking

Water Advisory Council ("NDWAC"), and is currently involved with the Arizona Arsenic Master Plan hosted by ADEQ.

F. ARIZONA DEPARTMENT OF WATER RESOURCES (ADWR) COMPLIANCE

AZ-American Sun City West District is within the Phoenix Active Management Area (AMA), and consequently is subject to reporting and conservation rules (GPCD requirements). The Phoenix AMA reported that AZ-American Sun City West District is in total compliance with the ADWR reporting and conservation rules.

G. ARIZONA CORPORATION COMMISSION COMPLIANCE

A check with the Utilities Division Compliance Unit showed no outstanding compliance issues for the Sun City West District.

H. REPRODUCTION COST NEW (RCN) AND ORIGINAL COST (OC)

RCN Study

The Sun City West Water District submitted an RCN Asset Listing for the year ending December 31, 2001. This RCN reported an OC plant-in-service value of $29,950,788 and an RCN plant-in-service value of $42,839,171. Staff has evaluated Sun City West's RCN and recommends that its cost values not be accepted for purposes of setting rates in this proceeding. (See Direct Testimony for Discussion)

Original Cost Deductions

Based on a review of the RCN Asset listing, Engineering recommends the following reduction in original cost rate base. Unidentified and misclassified asset items were removed.

Asset ID	Item	Quantity	Account	Date Installed	Original Cost
Electric Pump Equipment					
3021932	UNIDENTIFIED	1	325	31-May-99	$11,175
Trans.& Dist.					
1678074	UNIDENTIFIED	0	343	01-Oct-87	$1,279
3118614	UNIDENTIFIED	6	343	31-Jul-01	$5,064
Services					
1678805	CHAIR EACH	6	345	15-Jan-90	$1,767
Miscellaneous					
1678407	UNIDENTIFIED	1	398	01-Apr-88	$458
				Total	**$19,743**

I. POST TEST YEAR PLANT

Arizona-American is requesting inclusion of certain capital improvements after the test year ending December 31, 2001. The post test year improvements are listed in Exhibit 5 of this report. These are the same improvements as shown in the Company's revised *Pro Forma* Plant Schedules B-2, page 9 supplied in data response JAC-13-5, provided by Mr. Tom Bourassa. Post test year improvements were inspected during the month of May of 2003 and represent calendar year 2002 additions. All major additions which were field auditable were inspected. There were some items that were not auditable or were not practical to audit (i.e., such as inter-office allocation of software costs, blanket repair accounts for mains, meters, pumps, etc.). However, every item which was auditable was in place, exactly as described, and operating, with no exceptions.

The findings of the field audit support the use, without adjustment, of the total post test year plant shown in Exhibit 5 of $533,799. However, this "used and useful" determination does not imply a specific treatment for rate base or rate making purposes. The direct testimony of Mr. Darron Carlson will discuss the post test year rate base and rate making treatment in this case.

J. DEPRECIATION RATES

The Company and Staff conducted depreciation studies for the Sun City West water system in the prior rate proceeding for Docket U-2335-95-417 and its rendered Decision No. 60172, dated May 7, 1997. In that proceeding, neither the Company's nor Staff's recommended depreciation rates were accepted and the Company was ordered to continue using the existing depreciation rates. These rates are presented in Exhibit 6. The Company has used these rates in this present rate case. It is recommended that the Company continue to use depreciation rates as delineated in Exhibit 6.

K. OTHER ISSUES

1. Curtailment Plan Tariff

A Curtailment Plan Tariff is an effective tool to allow a water company to manage its resources during periods of shortages due to pump breakdowns, droughts, or other unforeseeable events. Since the Company does not have this type of tariff, this application provides an opportune time to prepare and file such a tariff. Staff recommends that the Company file a curtailment tariff within 90 days after the effective date of any decision and order pursuant to this application. The tariff shall be submitted to the Director of the Utilities Division for his review and certification. Staff also recommends that the tariff shall generally conform to the sample tariff found posted on the Commission's web site (www.cc.state.az.us/utility) or available upon request form Commission Staff.

2. Service Line and Meter Installation Charges

The Company has requested to change its meter and service line charges. These charges are refundable advances and the Company's proposed charges are within Staff's experience of reasonable and customary charges, with the exception of the 2 inch meter. Therefore, Staff accepts the Company's proposed meter and service line installation charges, with the exception of the 2 inch meter. For the 2 inch meters, the typical charges vary according to the meter type (turbine or compound). Therefore, Staff recommends adopting a meter and service line charge of "At Cost" for the 2 inch meter size.

Service Line and Meter Installation Charges

Meter Size	Current Charges	Proposed Charges	Staff Recommendation
5/8 x3/4-inch	$320	$500	$500
3/4-inch	$360	$575	$575
1-inch	$415	$660	$660
1-1/2-inch	$725	$900	$900
2-inch	$1,090	$2,220	At Cost
3-inch	At actual cost	At cost	At cost
4-inch	At actual cost	At cost	At cost
6-inch	At actual cost	At cost	At cost
8-inch	At actual cost	At cost	At cost

3. Cool Well System Transfer

The water system known as Cool Well, PWS ID # 04-07-080 has in the past been part of the Sun City West District. AZ-American requested authority to transfer the parcel, which is served by this system to the Agua Fria District. This authority was granted by Decision No. 65757 dated March 20, 2003. the Decision states" IT IS FURTHER ORDERED that the Cool Well service area shall be transferred from the service area of Sun City West Water District to the Agua Fria District and existing and future customers shall be charged the existing rates and charges of the Sun City West District until the next general rate case of the Agua Fria District at which time those customers shall be charged the authorized rates and charges of the Agua Fria Water District."

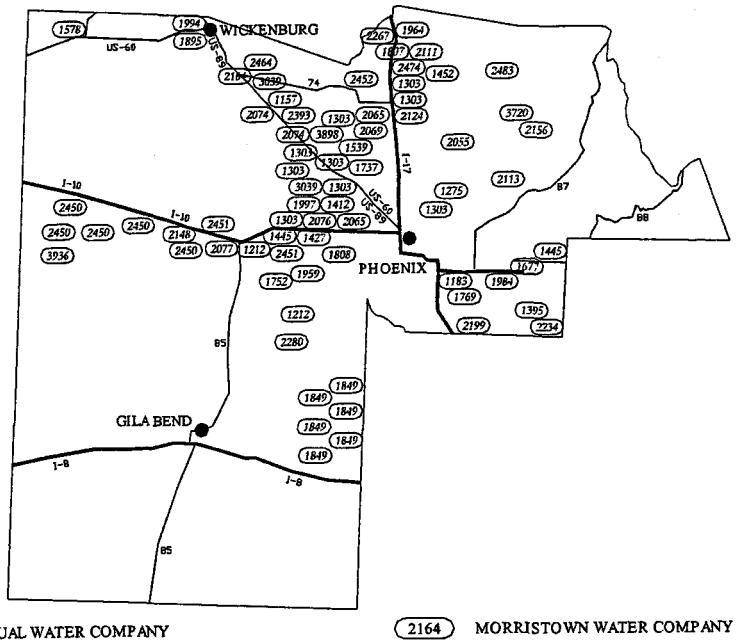
The system will be interconnected to the planned regional water system for operational redundancy and reliability reasons. The following table lists the cost of the plant in service by account number that were transferred.

Plant in Service Summary

Account No.	Name	Account Balance
301	Organization	$12,176.28
310	Land & Land Rights	2,265.78
311	Structures and Improvements	566.45
314	Wells and Springs	18,126.26
325	Electric Pumping Equipment	12,461.80
342	Distribution Reservoirs and Storage	11,328.91
343	Transmission and Distribution	38,291.72
345	Services	1,586.05
346	Meters	1,472.75
TOTAL	**Gross Plant in Service**	**$98,276.00**

Exhibit 1

MARICOPA COUNTY



- 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
- 3039 BROOKE WATER L.L.C.
- 1994 CABALLEROS WATER COMPANY, INC.
- 1452 CAVE CREEK WATER COMPANY
- 2113 CHAPARRAL CITY WATER COMPANY
- 2393 CHAPARRAL WATER COMPANY
- 1752 CLEARWATER UTILITIES COMPANY, INC.
- 1895 COUNTRY CLUB ACRES WATER COMPANY
- 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
- 3898 RANCHO CABRILLO 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

Exhibit 2

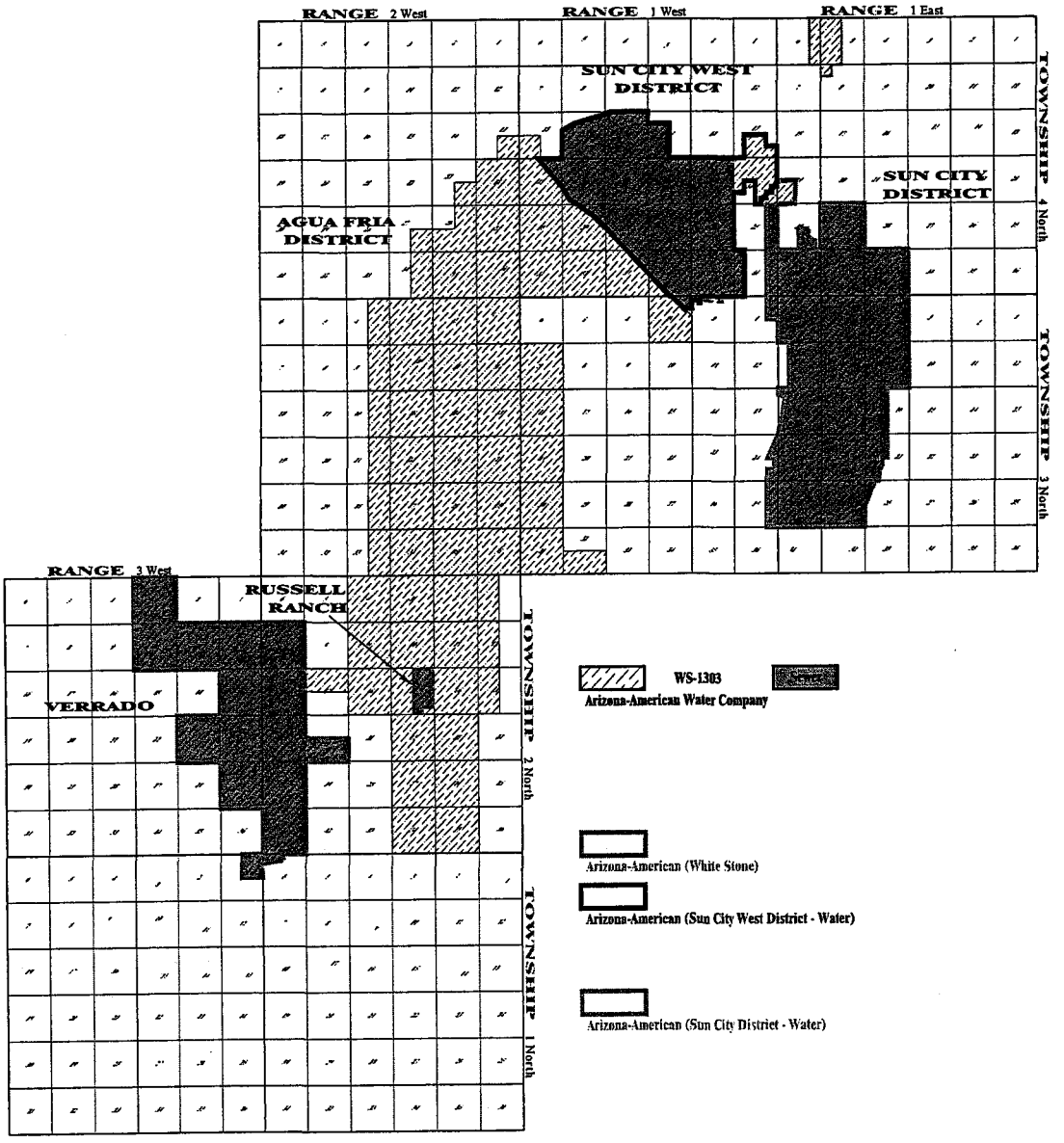

RANGE 2 West
RANGE 1 West
RANGE 1 East
SUN CITY WEST DISTRICT
SUN CITY DISTRICT
AGUA FRIA DISTRICT
TOWNSHIP 4 North
TOWNSHIP 3 North
RANGE 3 West
RUSSELL RANCH
VERRADO
TOWNSHIP 2 North
TOWNSHIP 1 North
WS-1303
Arizona-American Water Company
Arizona-American (White Stone)
Arizona-American (Sun City West District - Water)
Arizona-American (Sun City District - Water)

EXHIBIT 3

Sun City West Utilities Company
Sun City West Water System PWS - 0407150

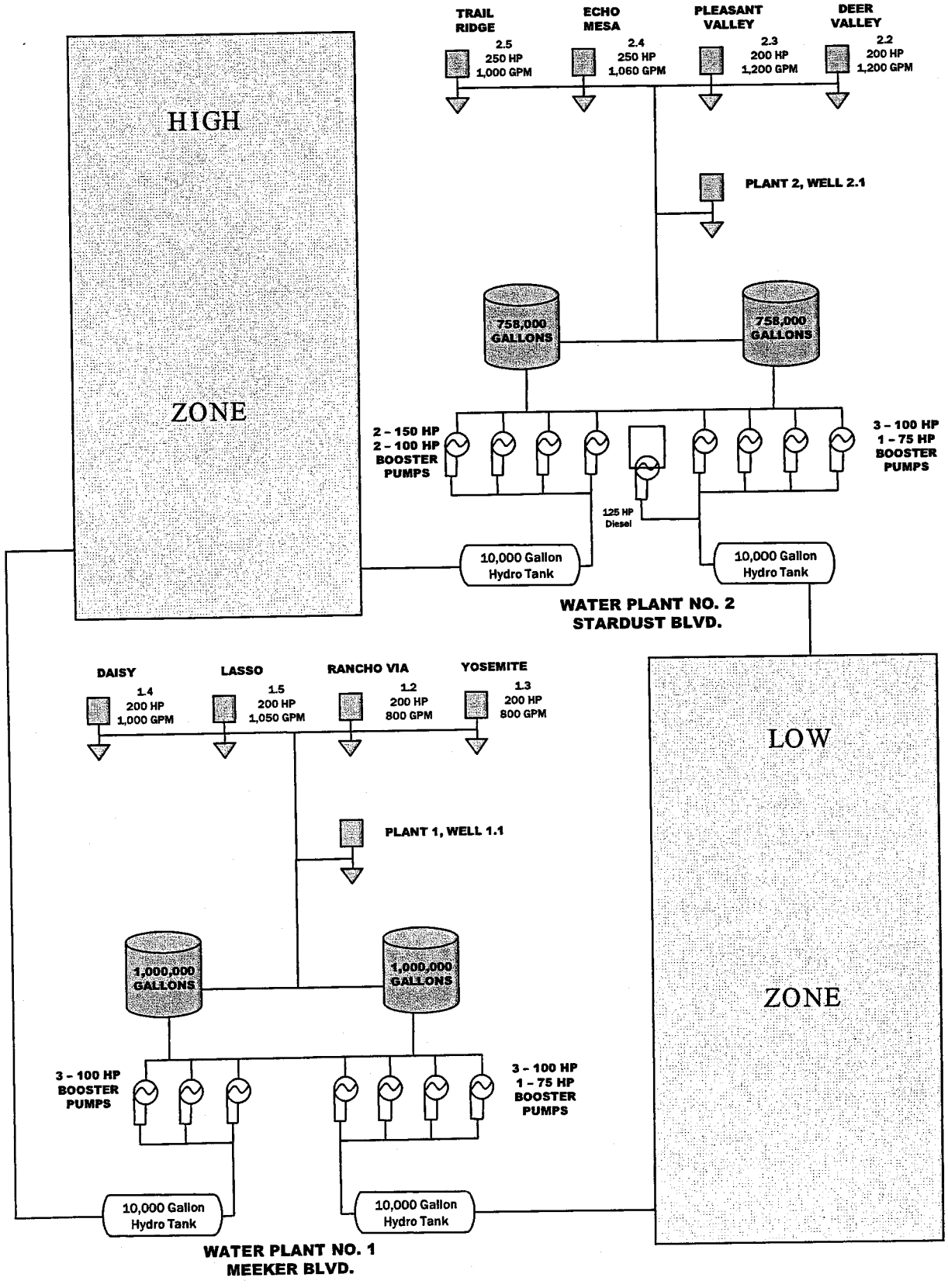


Exhibit 4

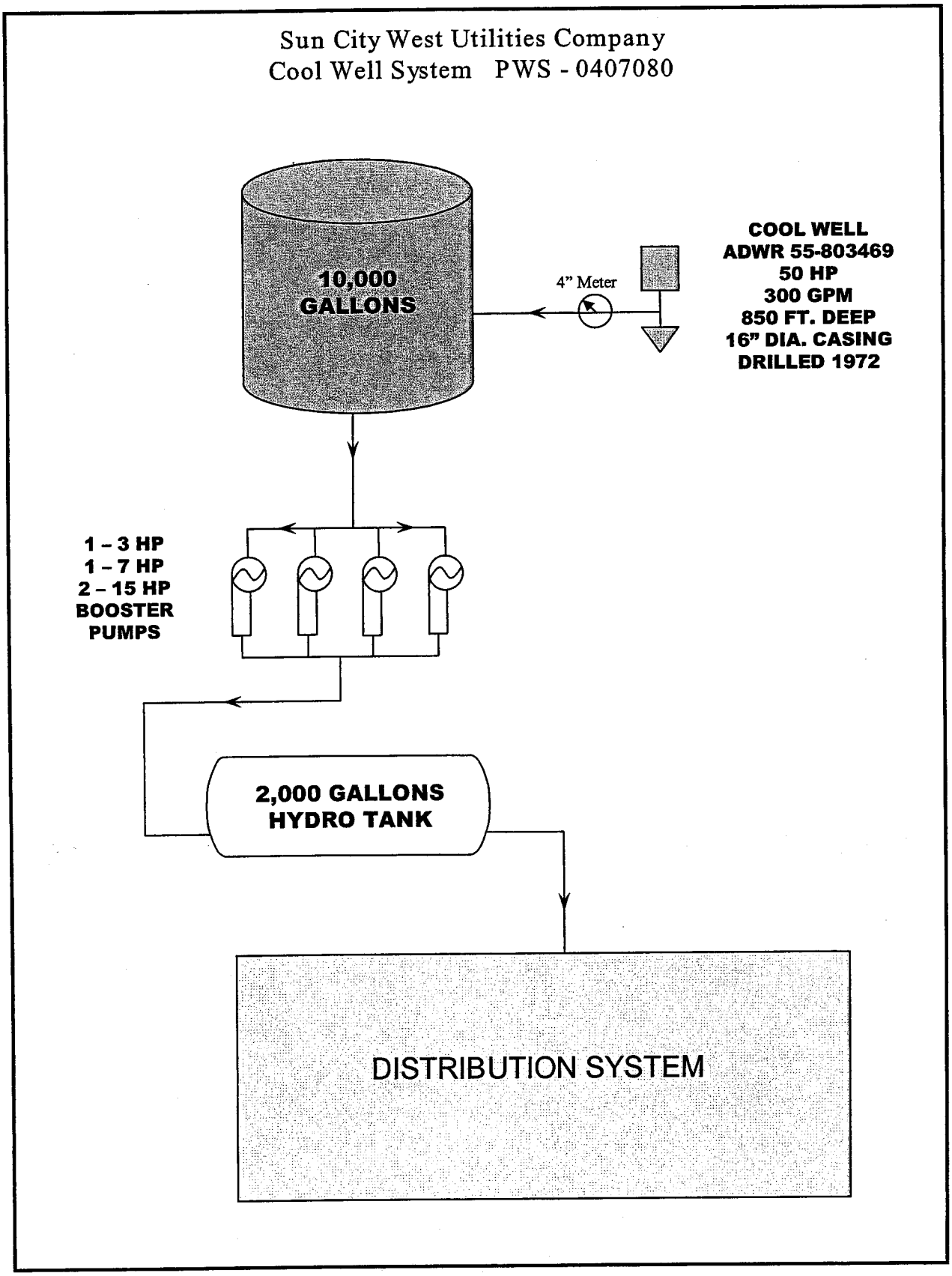

Sun City West Utilities Company
Cool Well System PWS - 0407080
10,000 GALLONS
4" Meter
COOL WELL
ADWR 55-803469
50 HP
300 GPM
850 FT. DEEP
16" DIA. CASING
DRILLED 1972
1 - 3 HP
1 - 7 HP
2 - 15 HP
BOOSTER
PUMPS
2,000 GALLONS
HYDRO TANK
DISTRIBUTION SYSTEM

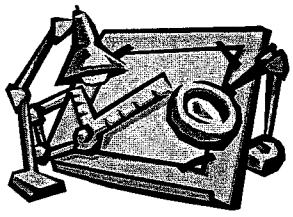
Exhibit 5

ARIZONA AMERICAN – SUN CITY WEST WATER
2002 POST TEST YEAR PLANT
AT DECEMBER 31, 2002

Account	Description	Amount
304 Structures & Improv.	Corporate Office/IT Allocation	$ 23,166
311 Pumping Equipment	Replace 10" Check @ Well 34B	2,695
	Replace Cl2 Unit @ SCW Well 1.3	3,648
	CC-Replace Chlorine System@ Well 21B	463
	Replace CL2 Unit @ Cool Well	1,879
	CC-Replace Sub Motor @ Well 21	41,343
	CC-Replace pump bowls @ Well 34A	109,482
	18" meter@WP#2 SCW High Zone	3,244
	Replace Cl2 Unit SCW Well 2.1	3,632
	Replace 10" Check Valve @ Well 34A	1,181
330 Distribution Reservoir	Security Tank Vents	72,452
	Security Tank Overflow Valves	73,339
331 Transmission & Dist.	Blanket Main Replacement	9,379
335 Hydrants	Blanket Hydrant Replacement	3,530
340 Office Furniture	Corporate Office/IT Allocation	102,106
346 Communication Equip	Corporate Office/IT Allocation	24,749
341 Transportation Equip	Replace SCW26 w/SCW 51	17,844
	Replace SCW36 w/SCW55	18,640
	Replace SCW25 w/SCW54	21,027
	TOTAL	$533,799.00

Exhibit 6. Depreciation Rates for Sun City West – Water

Account No.	Depreciable Plant	Rate
	Intangible	
301	Organization	0.00%
302	Franchises	0.00%
303	Miscellaneous Intangibles	0.00%
	Source of Supply	
310	Land and Land Rights	0.00%
311	Structures and Improvements	2.50%
312	Collecting and Impounding Res.	0.00%
313	Lakes, Rivers, Other Intakes	0.00%
314	Wells and Springs	2.52%
	Pumping	
320	Land and Land Rights	0.00%
321	Structures and Improvements	1.67%
323	Other Power Production	0.00%
325	Electric Pumping Equipment	4.42%
326	Diesel Pumping Equipment	4.42%
328.10	Gas Engine Pumping Equipment	4.42%
	Water Treatment	
330	Land and Land Rights	0.00%
331	Structures and Improvements	1.67%
332	Water Treatment Equipment	4.00%
	Transmission and Distribution	
340	Land and Land Rights	0.00%
341	Structures and Improvements	0.00%
342	Distribution, Reservoirs, & ST	1.67%
343	Transmission and Distribution	1.53%
344	Fire Mains	0.00%
345	Services	2.48%
346	Meters	2.51%
348	Hydrants	2.00%
349	Other Transmission & Distribution	0.00%
	General	
389	Land and Land Rights	0.00%
390	Structures and Improvements	1.68%
391	Office Furniture and Equipment	4.55%
391.10	Computer Equipment	4.55%
392	Transportation Equipment	25.00%
393	Stores Equipment	3.92%
394	Tools, Shop and Garage	4.14%
395	Laboratory Equipment	3.71%
396	Power Operated Equipment	5.14%
397	Communication Equipment	10.28%
398	Miscellaneous Equipment	4.98%



Engineering Report for Arizona-American Sun City West Wastewater District (Rates)
Docket No. WS-01303A-02-0867
By John A. Chelus
September 5, 2003

CONCLUSIONS

A. The Sun City West Wastewater District has no outstanding Arizona Corporation Commission compliance issues. as of December 31, 2002 as of December 31, 2002 (See Section F, page 5.)

RECOMMENDATIONS

1. It is recommended that the Company continue to use depreciation rates as delineated in Exhibit 5. (See Section G, page 5 and Exhibit 5)

2. Staff has evaluated Sun City West's RCN and recommends that its cost values not be accepted for purposes of setting rates in this proceeding. (See Section I, page 5 and Direct Testimony)

3.

4. Staff Engineering recommends the acceptance without adjustment of the Company's revised *Pro Forma* Plant Schedule B-2, page 9 supplied in data response JAC-13-5, provided by Mr. Tom Bourassa. However, this "used and useful" determination does not imply a specific treatment for rate base or rate making purposes. The direct testimony of Mr. Darron Carlson will discuss the post test year rate base and rate making treatment in this case. (See Section H, Post Test Year Plant, page 6 and Exhibit 4)

5. Engineering Staff recommends adjustment of original Cost rate base by $215,448. (See Section I, Page 6.

TABLE OF CONTENTS

EXHIBITS

A. LOCATION OF COMPANY

Arizona American – Sun City West District ("Arizona American" or "Company") serves approximately 15,000 customers in Sun City West Arizona, Maricopa County. Exhibit 1 describes the location of the Company within Maricopa County, and Exhibit 2 describes the certificated area of the water company within Maricopa County.

B. DESCRIPTION OF THE WASTEWATER SYSTEM

The plant facilities were visited on March 20, 2003 and May 22, 2003 by John A Chelus, Utilities Engineer, in the accompaniment of Mark Cardoza, Wastewater Plant Superintendent. The wastewater treatment plant consists of a 3.14 million gallon per day (MGD) activated sludge plant with nitrification/denitrification and filtration. Effluent goes through an effluent channel flow measuring weir and then enters 24 recharge basins with an effective surface area of approximately 124 acres and a total land area of 130 acres. Solids are disposed of at an on-site surface disposal site. This site will be taken out of service in 2003 once a new solids handling facility goes on-line. Sludge will be taken to a landfill. Exhibit 3 is a schematic of the system. The following tables describe the system in more detail.

Wastewater Treatment Plant

Equipment	Size
Solids Processing	Aerobic Digesters
Solids Disposal	Surface Disposal on-site 124 acres
Disinfection Equipment	Hypochlorite Injection at filter effluent
Filtration Equipment	Rapid Sand Filters

Lift Stations

Location Name	Horsepower per Pump	Quantity of Pumps	Capacity Per Pump (gpm)	Wet Well Capacity (gals)
Bell Rd & El Mirage	250 hp	4	2,800	124,000

Collection Mains

Size	Material	Length (feet)	Size	Material	Length (feet)
4"	VARIOUS	974	18"	VARIOUS	19,639
6"	VARIOUS	1,841	21"	VARIOUS	5,934
8"	VARIOUS	820,057	24"	VARIOUS	2,240
10"	VARIOUS	22,964	36"	VARIOUS	2,624
12"	VARIOUS	17,126	Undetermined	VARIOUS	6,816
15"	VARIOUS	20,090			

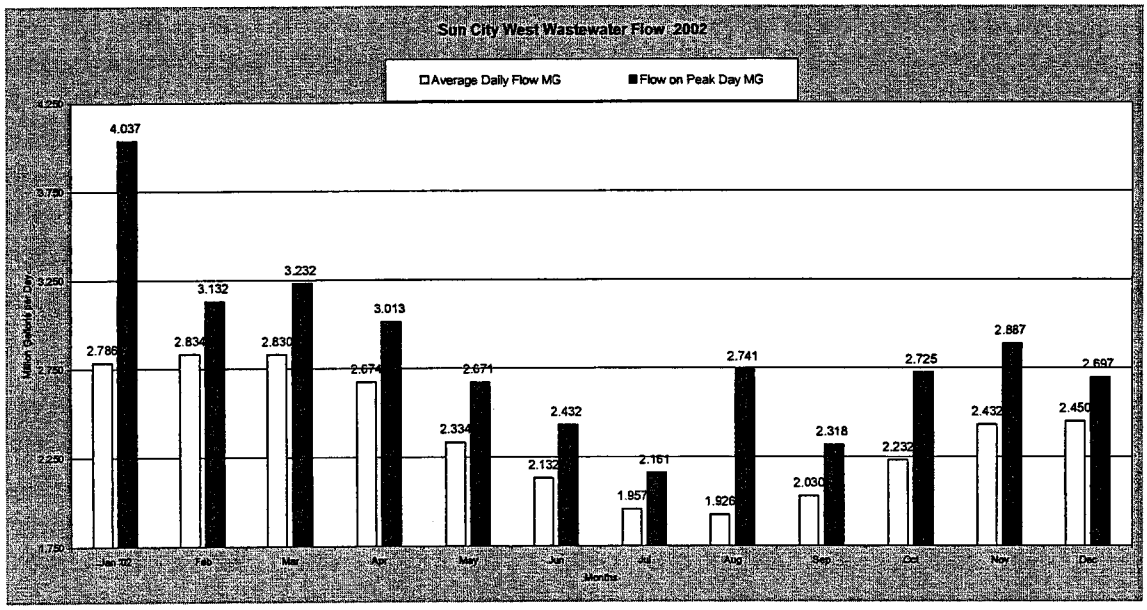
Manholes	
Type	Quantity
Standard	2,655

Cleanouts (Qty)
410

Force Mains		
Size	Material	Length (Feet)
18-inch	ACP	18,578

C. WASTEWATER FLOW

The wastewater treatment plant has a capacity of 3.14 MGD. In the year 2002, the highest average daily flow occurred in the month of February, when an average of 2.834 mgd was treated. The lowest average daily flow during the year 2002 was 1.926 mgd which occurred in August. The highest peak daily flow for the year occurred in February when 4.037 mgd was treated in one day. The Company is currently expanding the plant to treat 5.0 mgd.



D. GROWTH

The Company reported that the Sun City West system had 14,928 services at the end of year 2002. Customer growth was not determined because there is an inconsistency in the way customers were counted prior to Arizona American purchasing the Company. Arizona American bases customer count by number of services. Citizens Utilities based the customer count on number of units being served by a service. For example, Citizens would list a 50 unit apartment served by one service as having 50 customers. This made the customer count much larger for Citizens.

E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) COMPLIANCE

The Arizona Department of Environmental Quality ("ADEQ") and the Maricopa County Environmental Services Department ("MCESD") regulate the wastewater system under Wastewater Facility No. 04-37-018 and Aquifer Protection Permit No. P102667. The system is in full compliance for operation and maintenance, operator certification and discharge permit limits.

F. ARIZONA CORPORATION COMMISSION COMPLIANCE

A check with the Utilities Division Compliance Unit showed no outstanding compliance issues for the Sun City West District.

G. DEPRECIATION RATES

The Company and Staff conducted depreciation studies for the Sun City West wastewater system in the prior rate proceeding for Docket U-2335-95-417 and its rendered Decision No. 60172, dated May 7, 1997. In that proceeding, neither the Company's nor Staff's recommended depreciation rates were accepted and the Company was ordered to continue using the existing depreciation rates. These rates are presented in Exhibit 5. The Company has used these rates in this present rate case. It is recommended that the Company continue to use depreciation rates as delineated in Exhibit 5.

H. POST TEST YEAR PLANT

Arizona-American is requesting inclusion of certain capital improvements after the test year ending December 31, 2001. The post test year improvements are listed in Exhibit 5 of this report. These are the same improvements as shown in the Company's revised *Pro Forma* Plant Schedules B-2, page 9 supplied in data response JAC-13-5, provided by Mr. Tom Bourassa. Post test year improvements were inspected during the month of May of 2003 and represent calendar year 2002 additions. All major additions which were field auditable were inspected. There were some items that were not auditable or were not practical to audit (i.e., such as inter-office allocation of software costs, blanket repair accounts for mains, pumps, etc.). However, every item which was auditable was in place, exactly as described, and operating, with no exceptions.

The findings of the field audit support the use, without adjustment, of the total post test year plant shown in Exhibit 4 of $206,117. However, this "used and useful" determination does not imply a specific treatment for rate base or rate making purposes. The direct testimony of Mr. Darron Carlson will discuss the post test year rate base and rate making treatment in this case.

I. REPRODUCTION COST NEW (RCN) AND ORIGINAL COST (OC)

RCN

The Sun City West District submitted an RCN Asset Listing for the year ending December 31, 2001. This RCN reported an OC plant-in-service value of $39,775,541 and an RCN plant-in-service value of $59,511,483. Staff has evaluated Sun City West's RCN and recommends that its cost values not be accepted for purposes of setting rates in this proceeding. (See Direct Testimony for Discussion.)

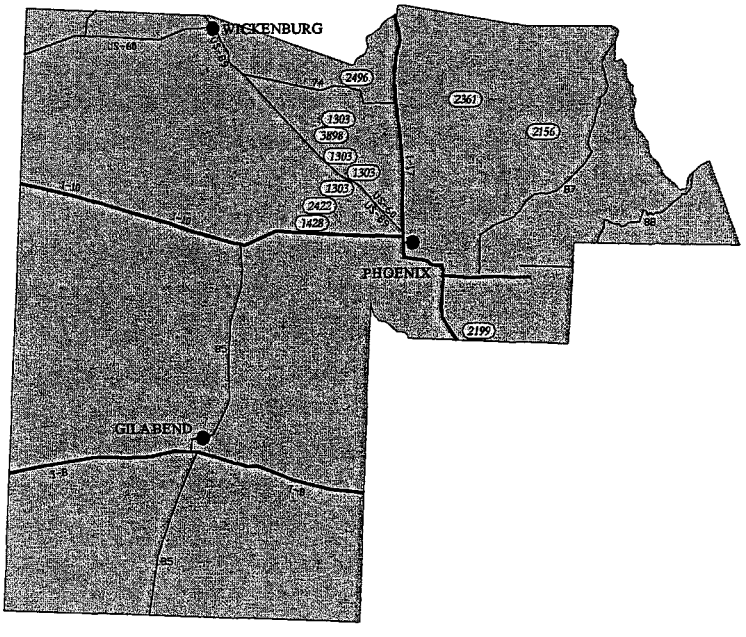
Original Cost

Based on a review of the RCN Asset listing, Engineering recommends the following reduction in original cost rate base. Unidentified asset items should be removed. Chlorine gas equipment at the wastewater plant is no longer in service and therefore should be removed.

Asset ID	Item	Quantity	Account	Date Installed	Orig. Cost
Disinfection Equip.					
1677221	DISINFECTION EQUIP	0	316	01-Jul-80	$207,182
1679440	CHLORINE MACHINE	1	316	15-Jan-94	$1,167
1679442	PIPING	6	316	15-Jan-94	$673
1679441	CHLORINE MACHINE	0	316	15-Dec-94	$740
1679890	CHLORINE MACHINE	3	316	15-Dec-95	$569
1680479	CHLORINE DETECTOR	1	316	15-Dec-97	$1,058
1680701	PIPING	1	316	15-Dec-98	$399
1680702	WEIGHING EQUIPMENT	1	316	15-Dec-98	$294
					$212,082
General Treatment Equip					
3118671	UNIDENTIFIED	1	322	31-Jul-01	$2,987
					$2,987
Collection System Lift Station					
3117979	UNIDENTIFIED	1	342	31-Jul-01	$56
3119014	UNIDENTIFIED	1	342	31-Jul-01	$324
					$380
				Total	**$215,448**

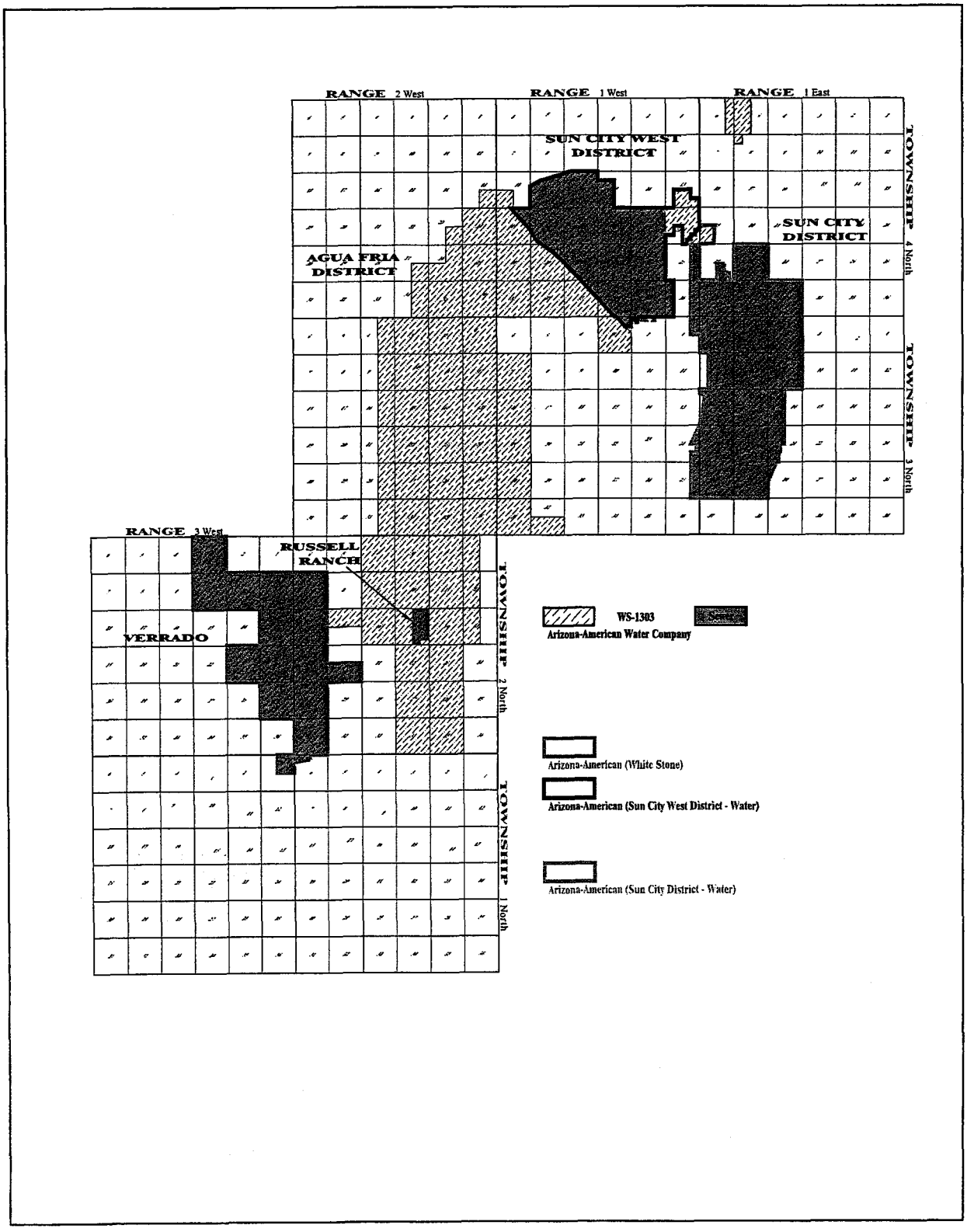
Exhibit 1

MARICOPA COUNTY (SEWER)



1303 ARIZONA-AMERICAN WATER COMPANY
2422 AMERICAN PUBLIC SERVICE COMPANY
2361 BLACK MOUNTAIN SEWER CORPORATION
2496 LAKE PLEASANT SEWER COMPANY
1428 LITCHFIELD PARK SERVICE COMPANY
2199 PIMA UTILITY COMPANY
3898 RANCHO CABRILLO SEWER COMPANY
2156 RIO VERDE UTILITIES, INC.

Exhibit 2


RANGE 2 West
RANGE 1 West
RANGE 1 East
SUN CITY WEST DISTRICT
SUN CITY DISTRICT
AGUA FRIA DISTRICT
TOWNSHIP 4 North
TOWNSHIP 3 North
RANGE 3 West
RUSSELL RANCH
VERRADO
TOWNSHIP 2 North
TOWNSHIP 1 North
WS-1303
Arizona-American Water Company
Arizona-American (White Stone)
Arizona-American (Sun City West District - Water)
Arizona-American (Sun City District - Water)

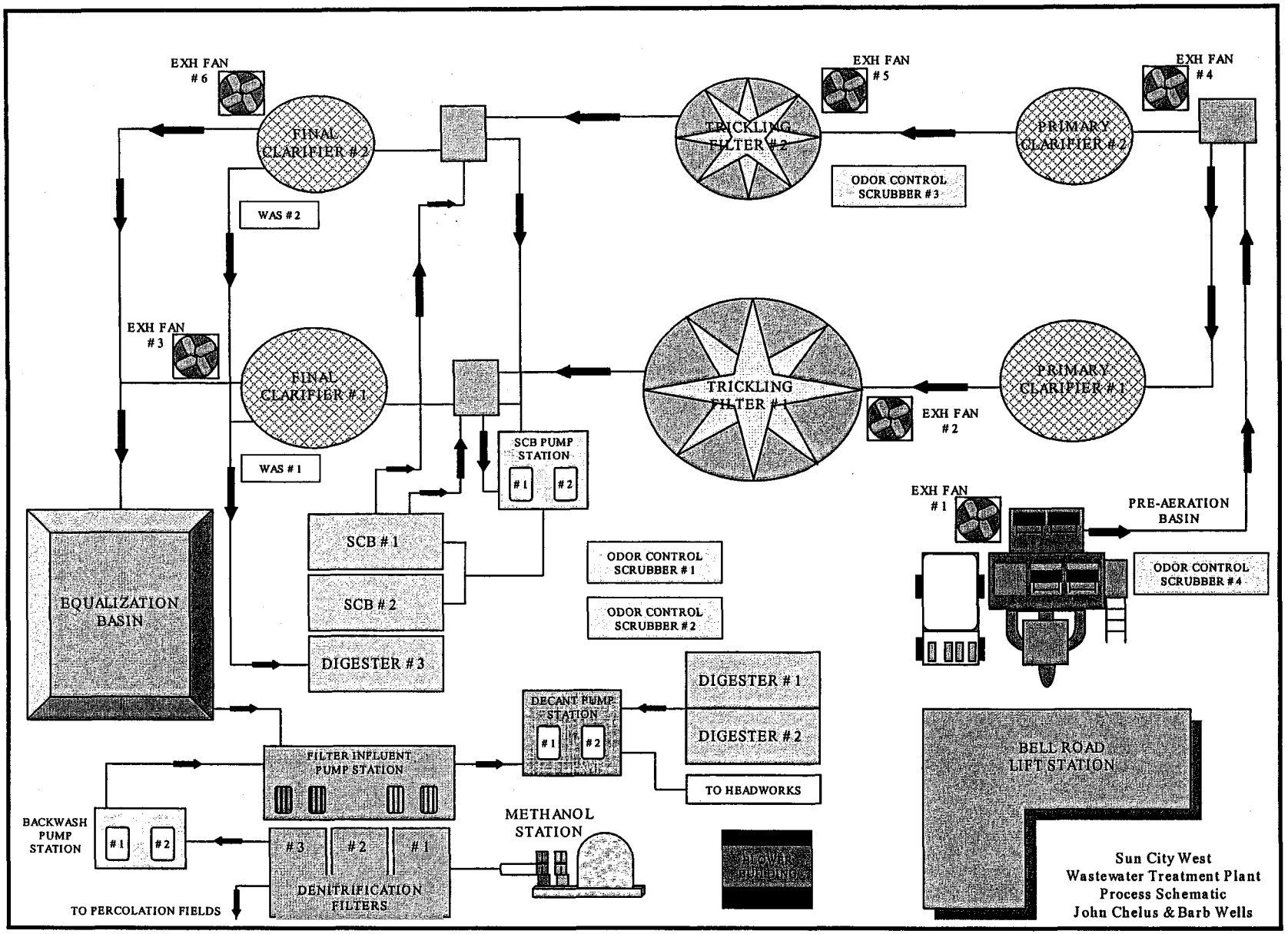

EXH FAN #6
FINAL CLARIFIER #2
WAS #2
EXH FAN #5
TRICKLING FILTER #2
ODOR CONTROL SCRUBBER #3
EXH FAN #4
PRIMARY CLARIFIER #2
EXH FAN #3
FINAL CLARIFIER #1
WAS #1
SCB PUMP STATION
#1
#2
TRICKLING FILTER #1
EXH FAN #2
PRIMARY CLARIFIER #1
EXH FAN #1
PRE-AERATION BASIN
ODOR CONTROL SCRUBBER #4
EQUALIZATION BASIN
SCB #1
SCB #2
DIGESTER #3
ODOR CONTROL SCRUBBER #1
ODOR CONTROL SCRUBBER #2
DIGESTER #1
DIGESTER #2
DECANT PUMP STATION
#1
#2
TO HEADWORKS
FILTER INFLUENT PUMP STATION
BELL ROAD LIFT STATION
BACKWASH PUMP STATION
#1
#2
METHANOL STATION
#3
#2
#1
DENITRIFICATION FILTERS
TO PERCOLATION FIELDS
BLOWER BUILDING
Sun City West
Wastewater Treatment Plant
Process Schematic
John Chelus & Barb Wells

Exhibit 3

Exhibit 4

ARIZONA AMERICAN – SUN CITY WEST WASTEWATER
2002 POST TEST YEAR PLANT
AT DECEMBER 31, 2002

Account	Description	Amount
354 Structures and Imp.	Corp Office/IT/SCADA software	$22,137
361 Collection Sewers	Blanket WW Main Rep.-6" SWSTWW	56
382 Outfall Sewer Lines	Repair Effluent Channel	18,461
390 Office Furniture	Corp Office/IT/SCADA software	104,170
393 Tools & Equipment	Plasma Cutter	1,620
396 Communication Equip	Corp Office/IT/SCADA software	47,960
396 Communication Equip	Router Cisco SCWWWTP	11,713
	TOTAL	$206,117

Exhibit 5 Depreciation Rates for Sun City West - Wastewater

Account No.	Depreciable Plant	Rate
	Intangible	
301	Organization	0.00%
302	Franchises	0.00%
303	Miscellaneous Intangibles	0.00%
	Treatment & Discharge	
310	Land and Land Rights	0.00%
311	Structures and Improvements	5.00%
312	Preliminary Treatment	5.00%
313	Primary Treatment Equipment	5.00%
314	Secondary Treatment Equipment	5.00%
315	Tertiary Equipment	5.00%
316	Disinfection Equipment	5.00%
317	Effluent Lift Station Equipment	8.40%
318	Outfall Line	5.00%
319	Sludge, Treatment & Distribution	5.00%
321	Influent Lift Station	8.40%
322	General Treatment Equipment	5.00%
	Collection and Influent	
340	Land and Land Rights	0.00%
341	Structures and Improvements	1.67%
342	Collection System Lift	8.40%
343	Collection Mains	2.04%
344	Force mains	2.07%
345	Discharge Services	2.04%
348	Manholes	2.03%
	General	
389	Land and Land Rights	0.00%
390	Structures and Improvements	1.68%
391	Office Furniture and Equipment	4.55%
391.10	Computer Equipment	4.55%
392	Transportation Equipment	25.00%
393	Stores Equipment	3.92%
394	Tools, Shop and garage	4.14%
395	Laboratory Equipment	3.71%
396	Power Operated Equipment	5.14%
397	Communication Equipment	10.28%
398	Miscellaneous Equipment	4.98%

HAMMON

BEFORE THE ARIZONA CORPORATION COMMISSION

MARC SPITZER
Chairman
JIM IRVIN
Commissioner
WILLIAM A. MUNDELL
Commissioner
JEFF HATCH-MILLER
Commissioner
MIKE GLEASON
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 UTILITY SERVICE BY ITS ANTHEM WATER, AGUA FRIA WATER, AND ANTHEM/AGUA FRIA WASTEWATER DISRICTS	DOCKET NO. W-01303A-02-0870

DIRECT

TESTIMONY

OF

LYNDON R. HAMMON

UTILITIES ENGINEER

UTILITIES DIVISION

SEPTEMBER 5, 2003

TABLE OF CONTENTS

EXECUTIVE SUMMARY
ARIZONA-AMERICAN WATER COMPANY
DOCKET NO. WS-01303A-02-0870

Conclusions

(1) The water and wastewater systems have adequate production, storage and treatment capacity. (For details please see §C of Exhibit LRH.)

(2) The Arizona Department of Environmental Quality ("DEQ") reported that the Anthem wastewater treatment plant, and the Anthem, Agua Fria, and Waddell Haciendas water systems are in **total** compliance with its rules and regulations. DEQ determined that the three drinking water systems are currently delivering water that meets State and Federal drinking water quality standards required by the Arizona Administrative Code, Title 18, Chapter 4. (For details please see §D of Exhibit LRH.)

(3) Anthem, Waddell Haciendas, and Agua Fria are located within the Phoenix Active Management Area and are in compliance with the reporting and conservation requirements of the Department of Water Resources. (For details please see §E of Exhibit LRH.)

(4) Arizona-American has no outstanding Arizona Corporation Commission compliance issues. (For details please see §F of Exhibit LRH.)

Recommendations

(1) Staff has evaluated Arizona-American's Reconstruction Cost New study (RCN) and recommends that those values for the Agua Fria water district, the Anthem water district, and the Anthem wastewater district, not be accepted for the purpose of setting rates in this proceeding.

The RCN analysis is presented in this direct testimony.

(2) Staff recommends the acceptance of the present Arizona-American depreciation rates. (For details please see §I and Figure D of Exhibit LRH.)

(3) Staff recommends the acceptance, without adjustment of the Company's revised *Pro Forma* Plant Schedules B-2, page 9 supplied in data response 13-5, provided by Mr. Tom Bourassa. (For details please see §J of Exhibit LRH.) However, this "used and useful" determination does not imply a specific treatment for rate base or rate making purposes.

(4) Staff recommends that the "test year adjusted results" for water testing expenses shown on schedules C-1, page 1 of Arizona-American's applications for Anthem and Agua Fria water districts, be accepted without adjustment. (For details please see §L of Exhibit LRH.)

(recommendations continued on next page)

(5) Staff recommends that the Company file a curtailment tariff for the Agua Fria and the Anthem water district, within 90 days after the effective date of any decision and order pursuant to this application. The tariff shall be submitted to the Director of Utilities Division for his review and certification. Staff also recommends that the tariff shall generally conform to the sample tariff found posted on the Commission's web site. (For details please see §N of Exhibit LRH.)

(6) Staff recommends the acceptance of the Company's proposed meter and service installation charges, except for the 2 inch meter size. For the 2 inch size, Staff recommends adopting a charge of "At Cost". (For details please see §O of Exhibit LRH.)

INTRODUCTION

Q. Please state your name and place of employment.

A. My name is Lyndon R. Hammon. My place of employment is the Arizona Corporation Commission ("Commission"), Utilities Division, 1200 West Washington Street, Phoenix, Arizona 85007.

Q. Please list your duties and responsibilities and provide your title.

A. I am employed as a Utilities Engineer, specializing in water and wastewater engineering. My responsibilities include: the inspection, investigation, and evaluation of water and wastewater systems; obtaining data and preparing original cost studies and investigative reports; providing technical recommendations and suggesting corrective action for water and wastewater systems; and providing written and oral testimony on rate applications and other cases before the Commission.

Q. Briefly describe your pertinent educational background and work experience.

A. I have a Bachelor of Science Degree in Chemical Engineering from the University of Missouri at Rolla. After graduation, I was employed by the Skelly Oil Company as a process and environmental engineer. In 1973, I joined the Arizona Department of Health Services, which later became the Arizona Department of Environmental Quality ("DEQ"). My responsibilities with DEQ included approval and inspection for the construction of water and wastewater facilities, and the issuance of discharge permits. I remained with DEQ until transferring to the Commission in January 1993.

Q. Do you maintain any professional registrations or memberships?

A. I am a licensed professional engineer in the State of Arizona. I am also a member of the Arizona Water and Pollution Control Federation.

INTRODUCTION

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Q. Do you maintain any professional registrations or memberships?

A. I am a licensed professional engineer in the State of Arizona. I am also a member of the Arizona Water and Pollution Control Federation.

Q. Were you assigned to provide an engineering analysis and recommendation for the Arizona–American Water Company, Agua Fria and Anthem Districts (herein "Arizona-American" or "Company")?

A. Yes. I reviewed the Company's application and responses to data requests, and I visited the water systems during April 2003. This testimony and its attachment will present the findings of my engineering evaluation.

ENGINEERING REPORT

Q. Please describe your attached Engineering Report, Exhibit LRH.

A. Exhibit LRH presents the details and analyses of my findings, and is attached to this direct testimony. Exhibit LRH contains the following major topics : (1) a description of the water and wastewater systems and the unit processes, (2) compliance with the rules of the Arizona Department of Water Resources, Arizona Department of Environmental Quality, and the Arizona Corporation Commission, (3) water use and growth, (4) depreciation rates, and (5) post test year improvements.

My conclusions and recommendations from the engineering report are contained in the **"EXECUTIVE SUMMARY"**, above.

RECONSTRUCTION CONSTRUCTION NEW ANALYSIS

Q. What is a Reconstruction Cost New ("RCN") study?

A. A Reproduction Cost New study, is a valuation study which estimates the cost of reproducing the utility's existing capital plant items. Trend factors (i.e., inflation/cost indexes), such as those published by Handy-Whitman, are applied to the original cost of the plant to estimate its value today. The trend factors used vary depending on the type of plant and the year the plant was installed.

Q. Did Arizona-American submit a RCN study?

A. Arizona-American submitted an RCN asset listing for the year ending December 31, 2001. This RCN reported the following original cost, plant in service values:

	Original Cost	RCN
Anthem (Water)	$35,239,286	$37,852,423
Anthem (Wastewater)	$17,709315	$18,482,357
Agua Fria	$53,321,381	$61 124,837

Q. What is Staff's position concerning the RCN study, which was submitted by Arizona-American in this proceeding?

A. Staff has evaluated the RCN for AGUA FRIA, ANTHEM WATER, and ANTHEM WASTEWATER and recommends that the RCN values not be accepted for the purpose of setting rates in this proceeding.

Q. Why has Staff taken that position?

A. Staff has many reasons, which include:

1. The Arizona-American RCN is no more than an "asset listing" that lists all the past and present assets of the utility, even if an asset item is retired, abandoned or no longer exists. If an RCN is to be considered, the RCN should be a "valuation study" to reproduce, replace or reconstruct existing physical properties (actual plant that is used and useful).
2. No contributed plant was identified or removed from the plant in service base.
3. The Handy-Whitman factors were not used properly. A composite index number was used for all plant accounts. The actual Handy-Whitman index numbers are arranged to follow the plant classification of the National Association of Regulatory Utility Commissioners ("NARUC") and differ by geographical regions.
4. All plant items were trended using the Handy-Whitman index. However, the Handy Whitman index should only be used for utility construction and should not be used for

plant items such as office furniture, computers, transportation equipment, stores, tools and communication equipment.

5. In some instances, organization, franchise, and land costs were trended. These accounts should not be trended in RCN studies.

6. Audited portions exhibited misclassifications of plant in service.

7. Staff was unable to reconstruct original cost values from randomly selected line items, using invoices.

Q. Why didn't Staff amend or revise the RCN submitted by Arizona-American?

A. A properly prepared Reproduction Cost New study begins with a complete inventory of the plant in service that is used and useful. The appropriate trend factors are then applied to reproduce each plant item at today's cost. The RCN is only valid if the person preparing the study knows precisely what the plant item is so that the appropriate trend factor is applied.

In order to conduct a RCN study, the following information needs to be provided:

(a) Complete descriptions of the plant in service for each independent system including the year the plant was installed. Such plant would include wells, booster pumps, hydrants, storage tanks, pressure tanks, mains, meters, treatment equipment, and structures.

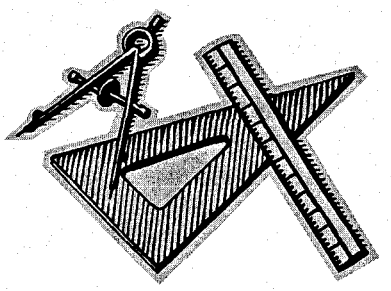
(b) Verification of plant item brand names, size and quantities.

As discussed above, Staff found the methodology and data for the Arizona-American RCN to be irreparably flawed. To prepare a RCN from a zero base starting place for a company as large and complex as this, would be beyond the resources of Staff. Moreover,

it is the sole responsibility of the Company, if it wishes the consideration of an RCN in a rate making proceeding, to prepare and present a valid and understandable study.

Q. Does this conclude your direct testimony?

A. Yes, it does.



Engineering Report
For
Arizona-American Water Co.
Anthem and Agua Fria Districts
Docket No. W-01303A-02-0870

A. LOCATION OF THE DISTRICTS

Anthem is a new planned, community, which was started in 1999 and is located adjacent to Interstate Highway 17, near New River. The Agua Fria District serves a large area, bounded by Litchfield and Perryville Roads on the east and west, and on the north, by Grand Avenue and then south to Bethany Home Road. The water districts are entirely within Maricopa County.

B. DESCRIPTION OF THE WATER & WASTEWATER SYSTEMS

Agua Fria

The water systems serving the Agua Fria District are consolidations of new and older wells, water storage tanks, and pumping sites, with the exception of the Waddell Haciendas system, which stands alone. The sources are entirely groundwater wells, followed by conventional storage, booster pumps, and pressure tanks. A simple schematic, showing the location of major equipment is presented in Figure A-1.

Anthem Drinking Water

The water infrastructure serving the Anthem Water District was recently constructed in 1999. and consists of a state of the art, membrane technology water treatment plant.

Central Arizona Project ("CAP") water is pumped from the CAP canal by four 450 Hp pumps through a 30 inch pipeline for 9 miles to the Anthem site. From the raw water ponds at Anthem, the untreated surface water is pumped through a pressure screen and into a micro-filter, semi-permeable membrane process unit. Pumps take the permeate (treated water) to finished water reservoirs. Sodium hypochlorite is generated on-site and injected into the finished water for disinfection. Finished water typically ranges between 0.05 and 0.10 NTU's (An NTU is a nephelometric turbidity unit and is a measure of surface water treatment quality. Arizona rules require the turbidity to be always less than 5 NTU's.) From the finished water storage, a series of pumping facilities and storage tanks pressurize and serve four different pressure distribution zones within Anthem.

The entire process is SCADA operated. (SCADA is an acronym for Supervisory Control And Data Acquisition. SCADA is the software which sits on top of the hardware and manages and controls the processes.) A simple schematic of the Anthem drinking water facility is presented in Exhibit A-2.

Anthem Wastewater

The wastewater system at Anthem was also constructed in 1999. The wastewater collection system relies on conventional technology and transports the raw sewage to the influent pumping station. A grinder and pista grit™ centrifuge provides initial primary treatment. The primary effluent is then stored in an aerated equalization basin. Influent pumps take the wastewater to an anoxic process zone and then to a re-aeration zone.

The anoxic zone is an interesting process phenomenon. The anaerobic conditions (no oxygen) force the bacteria to scavenger and reduce oxidized nitrogen (nitrates, a pollutant) for its oxygen. Since left-over nitrogen is then released as a gas by the anaerobic bacteria, the process achieves nutrient removal, or de-nitrification.

From the re-aeration zone, suction pumps take the secondary effluent through a series of vertical filters, through a chlorine contact basin and finally to an effluent holding pond. Turbidity of the tertiary effluent typically attains 0.5 NTU, or drinking water quality. Effluent disposal is accomplished by landscape and golf course irrigation. The waste activated sludge from the aeration zone is stabilized and dewatered. The head works and solids handling processes are totally enclosed with forced draft and odor absorbers. The entire wastewater treatment plant is also SCADA operated. A simple schematic of the Anthem wastewater facility is presented in Figure A-3. A tabulation and summary of major equipment is presented in Figure B.

C. PRODUCTION, STORAGE, AND TREATMENT CAPACITIES

All water and wastewater systems have adequate production, storage, and treatment capacity. However, it may be appropriate to expand on that finding for Anthem and Waddell Haciendas.

Waddell Haciendas

The Arizona Department of Environmental Quality ("DEQ") drinking water rules require one day's storage, based on the average daily demand during the peak month (Arizona Administrative Code R18-4-503.A). As an alternative, the storage rule may be met by adding other water production sources. Based on water use data and the test year service base, it initially appears that Waddell Haciendas would need additional storage. However, there is an emergency interconnection with the Agua Fria water system, which could easily meet all the needs of the small Waddell Haciendas system. Arizona-American is constructing a booster station and permanent inter-connection from the Agua Fria system to Waddell Haciendas. The booster station should be on-line by October 2003 and at that time the Maricopa Water District irrigation well, which serves Waddell Haciendas, will be disconnected.

Anthem

At anthem, the monthly demand peaks for drinking water have reached 2.7 MGD. The design capacity of the water treatment plant was, at the time of my inspection, 3.0 MGD. During the first week of August 2003, additional drinking water treatment capacity was put into service, which should more that double the plant capacity. There is also a 5 MGD inter-connection with the City of Phoenix, under construction, which will enhance the reliability of the Anthem water system. Regardless of the status of the Phoenix source, the Anthem drinking water treatment plant is now capable of meeting its present and future service needs.

D. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY COMPLIANCE (DEQ)

DEQ or its formally delegated agent, the Maricopa County Department of Environmental Services, reported that Anthem wastewater treatment plant, and the Anthem, Agua Fria, and Waddell Haciendas water systems are in **total** compliance with its rules and regulations. DEQ determined that the Anthem, Agua Fria, and Waddell Haciendas drinking water systems are currently delivering water that meets State and Federal drinking water quality standards required by the Arizona Administrative Code, Title 18, Chapter 4.

E. ARIZONA DEPARTMENT OF WATER RESOURCES COMPLIANCE

Anthem, Waddell Haciendas, and Agua Fria are located within the Phoenix Active Management Area and are in compliance with the reporting and conservation requirements of the Department of Water Resources.

F. ARIZONA CORPORATION COMMISSION COMPLIANCE

Arizona-American has no outstanding Arizona Corporation Commission compliance issues within the Anthem and the Agua Fria Districts.

G. WATER USE

Usage

Based on information provided by the Company, water use for 2002 is presented in Figure C, for all three water systems as gallons per day per service connection. The average annual use was respectively:

	Gal/Day-Service
Anthem	450
Waddell Haciendas	579
Agua Fria	446

Non-Account Water

Based on information provided by the Company, non-account water is tabulated below (results are for the period January 2002 through December 2002):

System	% non-account
Agua Fria	6.64 %
Waddell Haciendas	23.3 %
Anthem	7.5 %

The cost to obtain, treat, and pressurize is embedded in lost water. When water escapes before it reaches the consumer, the utility loses revenue and incurs unnecessary expense. Non-account water should be 10 percent or less and never more than 15 percent. Only the Waddell Haciendas system was outside the acceptable limit.

Waddell Haciendas is unique because the well and meter are owned and controlled by the Maricopa Water District, not Arizona-American and contains un-metered canal discharges. The water pumped data is not reliable and will become irrelevant when Waddell Haciendas is inter-connected with the Agua Fria system in October of 2003 and the Maricopa Water District well is disconnected from Arizona-American. Since the water use data will be monitored and reported within the Agua Fria system, Staff is not recommending any specific action at this time.

H. GROWTH

Growth in the Agua Fria and Anthem areas can only be termed as explosive. Based on records from the sale of assets in 1999 and the 13,004 service connections at the end the test year, the Agua Fria water district experienced an annual growth rate of about 25%. Anthem started with a zero customer base in 1999 and had 3,900 customers at the end of the test year. The ultimate, planned build out for Anthem is 10,600 equivalent residential units, including residential and commercial. The future growth rates will be driven by the local housing market, the general economy, mortgage rates, and overall expansion pressures in the Phoenix metropolitan area. However, barring radical changes in the economy, the present growth rates should continue into the near future.

I. DEPRECIATION RATES

The Company and Staff conducted depreciation studies for the Agua Fria water system in the prior rate proceeding in Docket No. E-1032-95-417 and its rendered Decision No. 60172, dated May 7, 1997. In that proceeding, neither the Company's nor Staff's recommended depreciation rates were accepted and the Company was ordered to continue using the existing depreciation rates. The rates for Anthem were set in the initial CC&N proceeding.

The present rates for Anthem, and Agua Fria are presented in Figures D-1 and D-2. The company has not proposed different depreciation rates, and it appears that the existing rates either match the last orders or are similar to Staff's experience. Staff recommends

acceptance of the present Arizona-America depreciation rates as delineated in Figures D-1 and D-2.

J. POST TEST YEAR IMPROVEMENTS & PLANT IN SERVICE

Post test Year Improvements

Arizona-American is requesting the inclusion of certain capital improvements after the test year ending December 31, 2001. The post test year improvements are listed in Figure E of this engineering report. Post test year improvements were inspected during April of 2003 and represent calendar year 2002 additions. All major additions which were field auditable were inspected. There were some items which either were not auditable or were not practical to audit (i.e., such as inter-office allocation of software costs, blanket repair accounts, individual meter repairs, submersible well motor replacement, etc.). However, every item which was auditable was in place, exactly as described, and operating, with no exceptions.

The post test year improvements in Figure E were in service at the time of my visit and appear to be used and useful. In addition, the findings of the field audit would support the use, without adjustment, of the Company's revised *Pro Forma* Plant Schedules B-2, page 9 supplied in data response JAC-13-5, provided by Mr. Tom Bourassa. However, this "used and useful" determination does not imply a specific treatment for rate base or rate making purposes. The direct testimony of Mr. Darron Carlson will discuss the post test year rate base and rate making treatment in this case.

Plant In Service

The water production system at the Minnesota Title service area was drained and not in use at the time of the inspection. Staff recommends an adjustment to the plant in service in the amount of $ 76,503, downward, to reflect the retirement of the assets at the Minnesota Title system. This adjustment represents the original cost value of the storage tank, booster pump, controls and connecting piping. The Minnesota Title distribution system was being supplied from the Clearwater Farms area (Agua Fria Plant #5).

K. *PRO FORMA* EXPENSES – WATER TESTING

The water testing expenses have been reviewed and the "test year adjusted results" shown on schedules C-1, page 1 of the Company's applications for Anthem and Agua Fria water districts should be accepted without adjustment. The wastewater testing is primarily performed in house and the cost is embedded in the Company's other ledger expenses.

L. ARSENIC

The U.S. Environmental Protection Agency ("EPA") has reduced the arsenic maximum contaminant level ("MCL") in drinking water from 50 micrograms per liter (µg/l) to 10 µg/l. The date for compliance with the new MCL is January 23rd, 2006.

Anthem is served by CAP water and the arsenic concentration prior to treatment varies between 3 to 5 µg/l, which is well within the new standard

Arsenic concentrations are tabulated in Figure B for the Agua Fria District.

Some wells within Agua Fria exceed the new arsenic standard. Arizona-American plans on meeting the new standard by blending, retiring high arsenic wells, or treatment. The Company is currently performing a arsenic pilot study in its Sun City West District for the purpose of evaluating treatment process and media selection. Final decisions should be made by the end of 2003. The Company is not asking for arsenic removal cost recovery in this proceeding.

M. CURTAILMENT PLAN TARIFF

A curtailment tariff is an effective tool to allow a water company to manage its resources during periods of shortages due to pump breakdowns, droughts, or other unforeseeable events. Since Arizona-American does not have a curtailment tariff, this rate application provides an opportune time to prepare and file such a tariff. Staff recommends that the Company file a curtailment tariff within 90 days after the effective date of any decision and order pursuant to this application. The tariff shall be submitted to the Director of Utilities Division for his review and certification. Staff also recommends that the tariff shall generally conform to the sample tariff found posted on the Commission's web site (www.cc.state.az.us/utility) or available upon request from Commission Staff.

The sample tariff is offered only as a guideline and Staff recognizes that the Company may need to make modifications according to their specific management, operational, and design requirements as necessary and appropriate.

N. METER AND SERVICE LINE INSTALLATION FEES

The Company has requested to change its meter and service line charges. These charges are refundable advances and the Company's proposed charges are within Staff's experience of reasonable and customary charges, with the exception of the 2 inch meter. Therefore, Staff accepts the Company's proposed meter and service line installation charges, with the exception of the two inch meter. For two inch meters, the typical charges vary according to the meter type (turbine or compound). Therefore, Staff recommends adopting a meter and service line charge of "At Cost" for the 2 inch size.

FIGURES

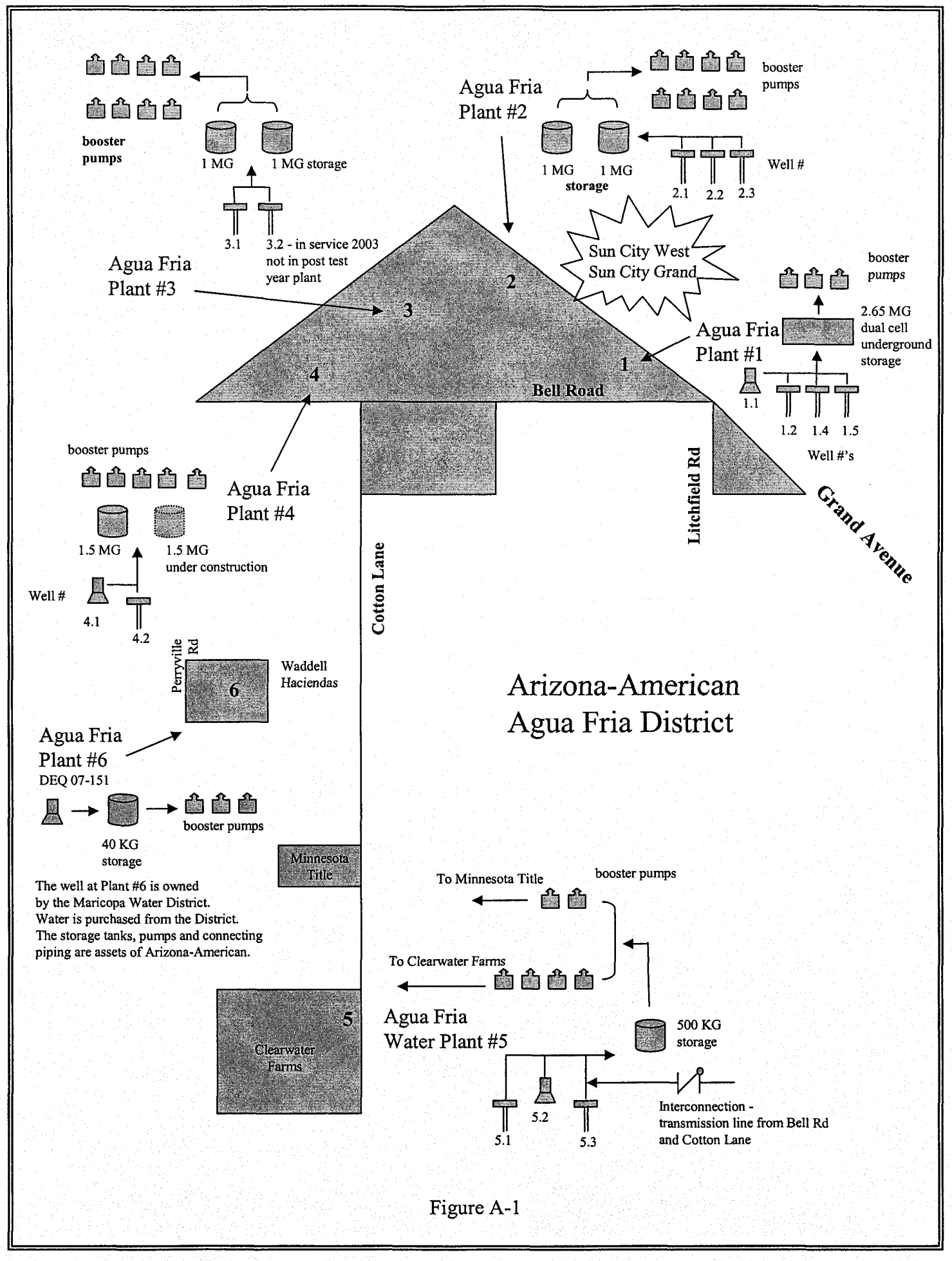

booster pumps
1 MG
1 MG storage
3.1
3.2 - in service 2003 not in post test year plant
Agua Fria Plant #3
Agua Fria Plant #2
booster pumps
1 MG
1 MG storage
Well #
2.1
2.2
2.3
Sun City West
Sun City Grand
booster pumps
2.65 MG dual cell underground storage
Agua Fria Plant #1
1.1
1.2
1.4
1.5
Well #'s
2
3
4
1
Bell Road
booster pumps
1.5 MG
1.5 MG under construction
Agua Fria Plant #4
Well #
4.1
4.2
Litchfield Rd
Grand Avenue
Cotton Lane
Perryville Rd
6
Waddell Haciendas
Arizona-American
Agua Fria District
Agua Fria Plant #6
DEQ 07-151
40 KG storage
booster pumps
Minnesota Title
The well at Plant #6 is owned by the Maricopa Water District. Water is purchased from the District. The storage tanks, pumps and connecting piping are assets of Arizona-American.
To Minnesota Title
booster pumps
To Clearwater Farms
5
Clearwater Farms
Agua Fria Water Plant #5
500 KG storage
5.1
5.2
5.3
Interconnection - transmission line from Bell Rd and Cotton Lane

Figure A-1

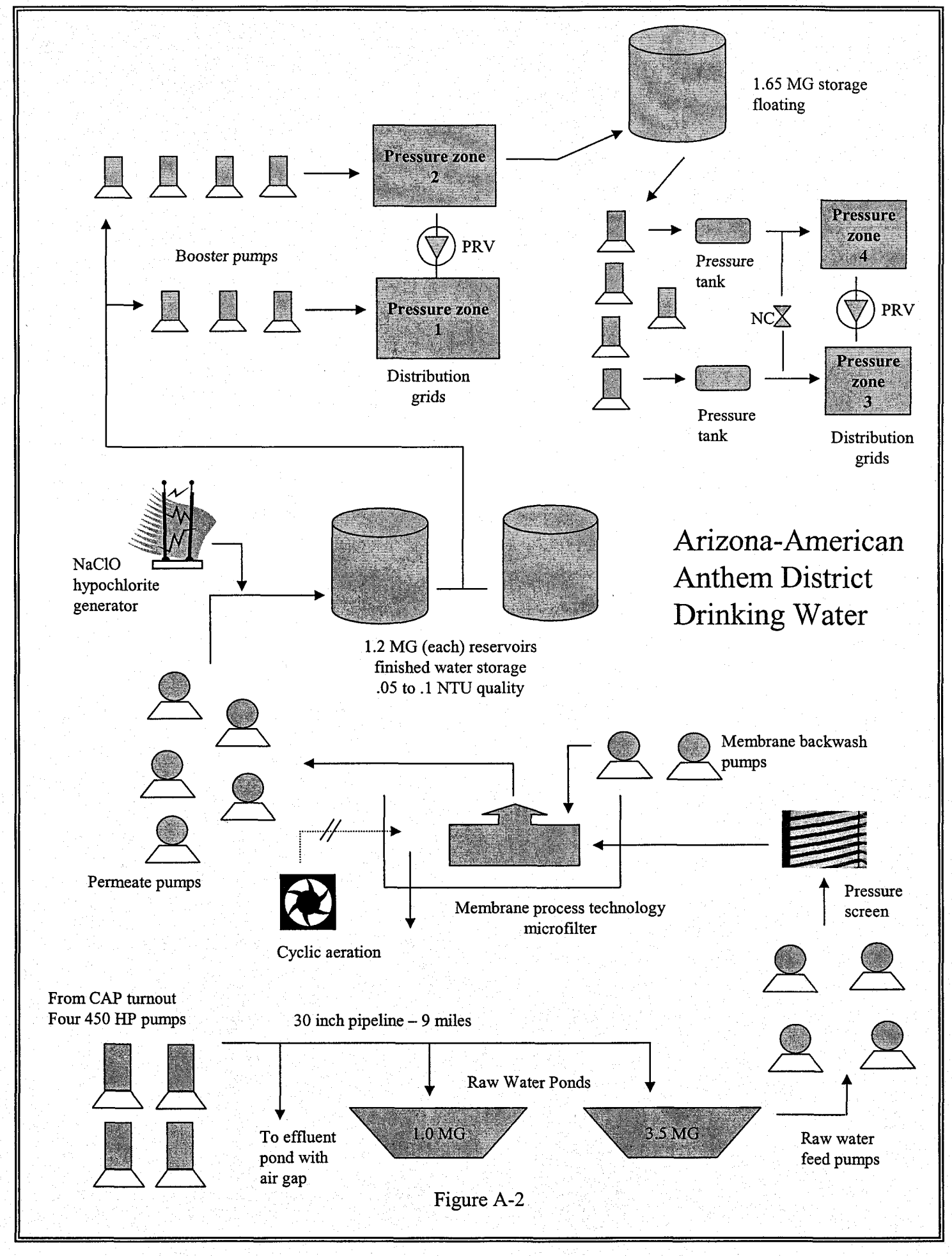

1.65 MG storage floating
Pressure zone 2
PRV
Booster pumps
Pressure zone 1
Distribution grids
Pressure tank
Pressure zone 4
NC
PRV
Pressure zone 3
Pressure tank
Distribution grids
NaClO hypochlorite generator
Arizona-American Anthem District Drinking Water
1.2 MG (each) reservoirs finished water storage .05 to .1 NTU quality
Membrane backwash pumps
Permeate pumps
Membrane process technology microfilter
Pressure screen
Cyclic aeration
From CAP turnout Four 450 HP pumps
30 inch pipeline – 9 miles
Raw Water Ponds
To effluent pond with air gap
1.0 MG
3.5 MG
Raw water feed pumps

Figure A-2

Headworks, solids handling, anoxic zone
are totally enclosed.
Foul air goes to scrubbers / absorbers.

2 megawatt standby generators
can provide full backup power.

Arizona-American Anthem District Wastewater Treatment

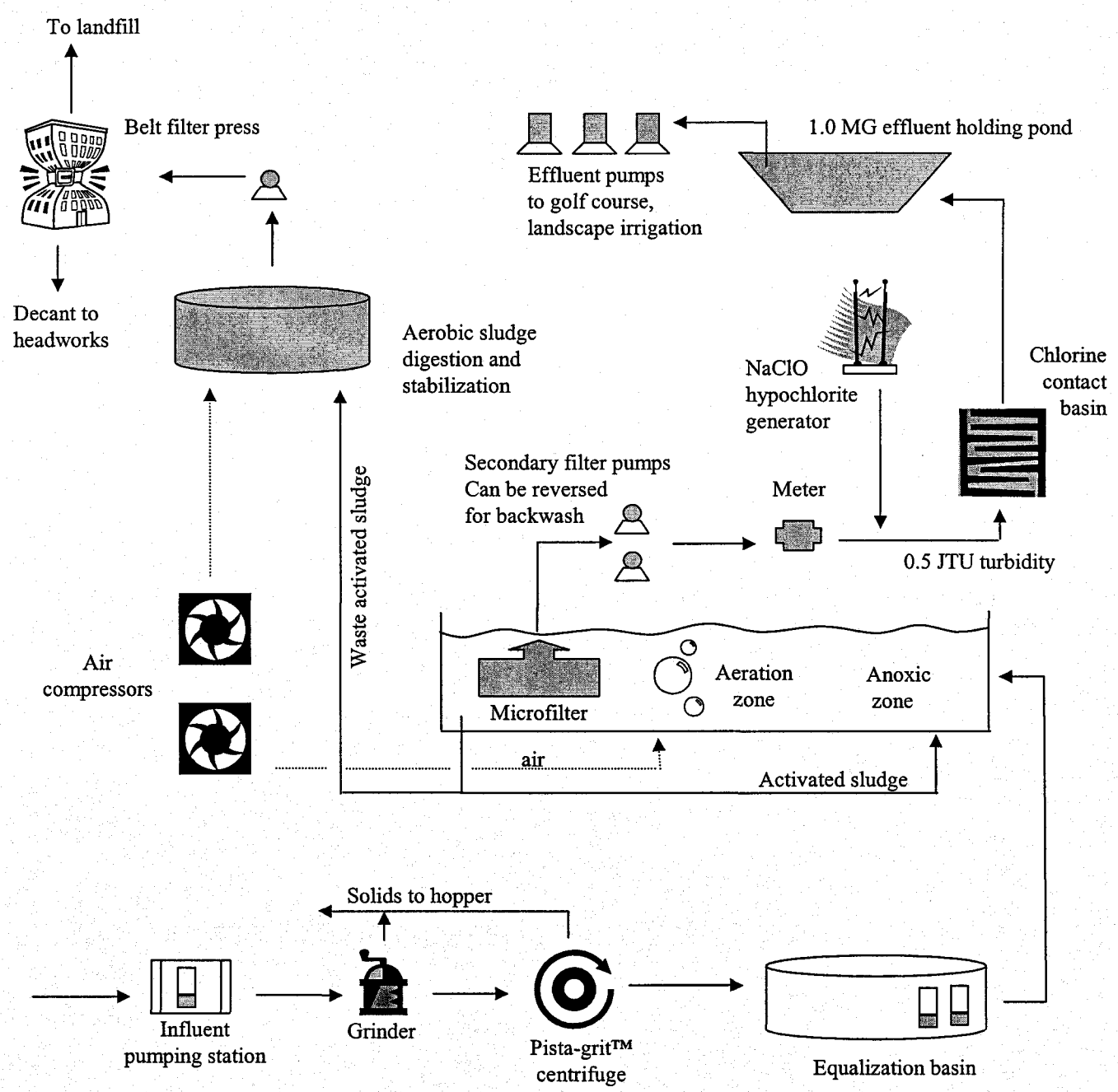


Figure A-3

FIGURE B – SUMMARY OF MAJOR EQUIPMENT AT AGUA FRIA DIVISION

Well #	DWR No.	Formerly	Capacity gal/min	Arsenic µg/l
Agua Fria Plant Number One				
1.1	55-623682	Sun Village #1	1200	13
1.2	55-575445	Sun Village #2	1000	18
1.4	55-605761	Sun Village #4	1000	29
1.5	55-587293	Sun Village #5	1000	14
2.65 MGD dual cell underground storage				
Agua Fria Plant Number Two				
2.1	55-553671	Sun City Grand #1	1200	7
2.2	55-554002	Sun City Grand #2	1200	5
2.3	55-573654	Sun City Grand #3	1200	16
Two 1 MGD storage tanks.				
Agua Fria Plant Number Three				
3.1	55-565447	Sun City Grand #5	1200	5
3.2	55-565446	Sun City Grand #6	1000	4
Two 1 MGD storage tanks. Well 3.2 in service 2003				
Agua Fria Plant Number Four				
4.1	55-604498	AZ Traditions #2	1250	5
4.2	55-555779	Happy Trails	850	8
One 1.5 MGD storage tank. Additional 1.5 MGD storage tank under consruction.				
Agua Fria Plant Number Five				
5.1	55-514145	Clearwater Farms 2B	800	12
5.2	55-624692	Olive Ave 26A	..600	76
5.3	55-604500	Cotton/Bell	900	4
500,000 gallons storage.				
Waddell Haciendas				
Waddell	55-612988	Maricopa 6-10C	800	4
40,000 gallons storage				

Figure B

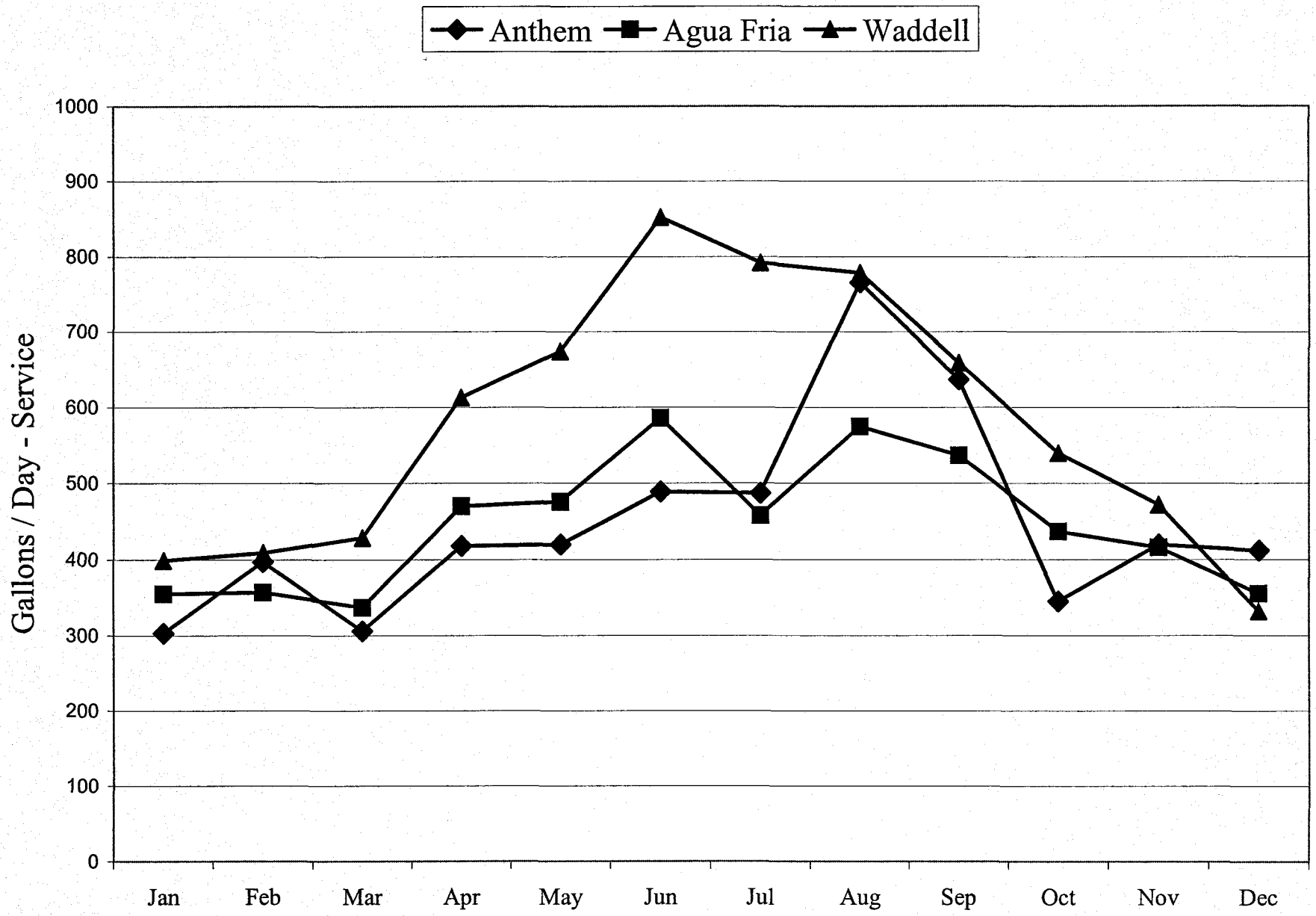


Figure C

Arizona-American Water Use

DEPRECIATION RATES - WATER

		Anthem	Agua Fria
Source			
311	Structures & Improvements	2.50 %	2.50 %
312	Collecting & Impounding	2.50 %	
314	Wells & Springs	2.52 %	2.52 %
Pumping			
321	Structures & Improvements	1.67 %	1.67 %
323	Other Power Production	4.42 %	
325	Electric Pumping Equipment	4.42 %	4.42 %
326	Diesel Pumping Equipment	5.00 %	4.42 %
328.1	Gasoline Engine Pumps	5.01 %	4.42 %
Water Treatment			
331	Structures & Improvements	1.67 %	1.67 %
332	Water Treatment Equipment	4.00 %	4.00 %
Transmission & Distribution			
341	Structures & Improvement	2.00 %	
342	Reservoirs & Storage Tanks	1.67 %	1.67 %
343	Transmission & Distribution	1.53 %	1.53 %
345	Services	2.48 %	2.48 %
346	Meters	2.51 %	2.51 %
348	Hydrants	2.00 %	2.00 %
349	Other Distribution	2.00 %	
General			
390	Structures & Improvements	1.67 %	1.68 %
391	Office Furniture/Equipment	4.59 %	4.55 %
391.1	Computers	4.59 %	4.55 %
392	Transportation Equipment	25.00 %	25.00 %
393	Stores Equipment	3.91 %	3.92 %
394	Tools	4.02 %	4.14 %
395	Lab Equipment	3.71 %	3.71 %
396	Power Operated Equipment	5.20 %	5.14 %
397	Communication Equipment	10.30 %	10.28 %
398	Miscellaneous Equipment	4.93 %	4.98 %

Figure D-1

DEPRECIATION RATES – ANTHEM WASTEWATER

		Anthem Wastewater
Treatment and Discharge		
311	Structures & Improvements	5.00 %
312	Preliminary Treatment	5.00 %
313	Primary Treatment Equipment	5.00 %
314	Secondary Treatment Equipment	5.00 %
315	Tertiary Equipment	5.00 %
316	Disinfection Equipment	5.00 %
317	Effluent Lift Station E	8.40 %
318	Outfall Line	5.00 %
319	Sludge, Treatment & Distribution	5.00 %
321	Influent Lift Station	8.40 %
322	General Treatment Equipment	5.00 %
Collection and Influent		
341	Structures & Improvements	1.67 %
342	Collection System Lift Stations	8.40 %
343	Collection Mains	2.04 %
344	Force Mains	2.07 %
345	Discharge Services	2.04 %
348	Manholes	2.03 %
General		
390	Structures & Improvements	1.68 %
391	Office Furniture/Equipment	4.55 %
391.1	Computers	4.55 %
392	Transportation Equipment	25.00 %
393	Stores Equipment	3.92 %
394	Tools	4.14 %
395	Lab Equipment	3.71 %
396	Power Operated Equipment	5.14 %
397	Communication Equipment	10.28 %
398	Miscellaneous Equipment	4.98 %

Figure D-2

Figure E
Post Test Year Improvements

Agua Fria	Estimated Capital Cost
100 feet column, Arizona Trad well #2	$ 10,414
Replace motor Agua Fria WP #6	$ 1,133
Replace CL2 unit at Agua Fria WP #6	$ 2,276
Replace compressor at Agua Fria WP #6	$ 1,680
Replace column pipe Agua Fria Well # 4.2	$ 28,484
Replace pump at Agua Fria Well # 1.1	$ 29,139
Replace 150 HP motor Agua Fria WP#1	$ 2,976
Replace mechanical seal booster pump #4 Sun Village Plant	$ 2,837
Replace mechanical seal booster pump #3 Sun Village Plant	$ 4,099
SCG well #2, repair 10 inch check valve Pump Eq	$ 2,561
Blanket hydro repair	$ 5,229
CC-MWD Waddell Plant Asst Dist Reservoir	$ 44,897
Security - Site Fencing	$ 43,696
Security – Tank Overflow Valves	$ 95,275
Security – Tank Vents	$ 123,261
AZ Trad/CWF Emergency Interconnection	$ 67,549

Figure E
Post Test Year Improvements

Anthem – Water	Estimated Capital Cost
Row Boat – Water Campus	$ 1,242
New Vehicle PA -07	$ 8,051
New Vehicle PA-06	$ 17,878
Jar Tester for Lab	$ 2,050
2 Way Radios	$ 1,738
Install Fence WTP – APS substation	$ 4,756
Security – Site Fencing	$ 54,488
Security – Anthem	$ 57,889
Security – Tank Vents	$ 43,740
Security – Tank Overflow Valves	$ 60,623
Replace Soft Start on Blower B	$ 3,481
Repair 700 Pump	$ 1,746
Replace Mechanical Seal 750 Pump	$ 2,256
Repair Blower B	$ 4,463
Anthem – Wastewater	
Repair – mixer 2.5 Hp Flygt	$ 1,796
Repair flow meter at recharge	$ 4,940
Repair 15 Hp pump	$ 6,208
Repair Auma Actuator	$ 2,914
Repair Valve Position Transmitter	$ 1,513
Purchase Self Dumping Hopper	$ 1,240

HAINS

BEFORE THE ARIZONA CORPORATION COMMISSION

MARC SPITZER
Chairman
JIM IRVIN
Commissioner
WILLIAM A. MUNDELL
Commissioner
JEFF HATCH-MILLER
Commissioner
MIKE GLEASON
Commissioner

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WEST WATER AND WASTEWATER DISTRICTS	)	DOCKET NO. WS-01303A-02-0867
IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WATER AND WASTEWATER DISTRICTS	)	DOCKET NO. WS-01303A-02-0868
IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS MOHAVE WATER DISTRICT AND ITS HAVASU WATER DISTRICT	)	DOCKET NO. W-01303A-02-0869

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS ANTHEM WATER DISTRICT, ITS AGUA FRIA WATER DISTRICT, AND ITS ANTHEM/AGUA FRIA WASTEWATER DISTRICT	)	DOCKET NO. WS-01303A-02-0870

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS TUBAC WATER DISTRICT	)	DOCKET NO. W-01303A-02-0908

DIRECT TESTIMONY

OF

DOROTHY HAINS

UTILITIES ENGINEER

UTILITIES DIVISION

SEPTEMBER 5, 2003

TABLE OF CONTENTS

ATTACHMENTS

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") 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. Among other responsibilities, I inspect, investigate and evaluate water and wastewater systems; obtain data, prepare original cost studies, cost of service studies and investigative reports; interpret rules and regulations; suggest corrective action and provide technical recommendations on water and wastewater system deficiencies; and provide written and oral testimony on rate applications and other cases before the Commission.

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

A. I have analyzed approximately 76 companies covering these various responsibilities for the Utilities Division.

Q. Have you previously testified before this Commission?

A. Yes, I have testified before this Commission.

Q. What is your educational background?

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

Q. Briefly describe your pertinent work experience.

A. Prior to my employment with the Commission, I was an Environmental Engineer for the Arizona Department of Environmental Quality, for ten years. Prior to that, 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 member of the American Society of Civil Engineering ("ASCE"). I am a registered Civil Engineer in Arizona.

PURPOSE OF TESTIMONY

Q. What was your assignment in this rate proceeding?

A. My assignment was to provide Staff's engineering evaluations of water and wastewater systems of the Arizona-American Water Company, Sun City District ("Sun City").

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

A. To present the findings of Staff's engineering evaluations of Sun City's water and wastewater operations. Those findings are contained in the Engineering Reports that I have prepared for this proceeding. These reports are included as Exhibits DMH-1 (water) and DMH-2 (wastewater), in this pre-filed testimony.

ENGINEERING REPORT

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

A. After reviewing Sun City's rate application, I physically inspected the water and wastewater systems to evaluate its operations and to determine which plant items were or were not used and useful. I contacted the Maricopa County Environmental Services Department ("MCESD") and Arizona Department of Water Resources ("ADWR") to determine if the systems were in compliance with the Arizona Department of Environmental Quality ("ADEQ") and ADWR requirements. I also contacted ADEQ to determine whether the Tolleson Wastewater Treatment Plant was in compliance with the Clean Water Act water quality requirements. I obtained information from Sun City regarding water testing and water usage, Reproduction Cost New ("RCN") and post-test year plant and analyzed that information. Based on this data, I made my evaluations and prepared Staff's Engineering Reports.

Q. Please describe the information contained in Exhibits DMH-1 and DMH-2.

A. Exhibit DMH-1 is the Engineering Report for Sun City's water operation, this Report is divided into three general sections: 1) *Purpose of Report*; 2) *Discussions*, and 3) *Conclusions and Recommendations* The *Discussions* section is further divided into eleven subsections: A) Location of System; B) Description of System; C) Arsenic; D) MCESD Compliance; E) Arizona Corporation Commission ("ACC") Compliance; F) ADWR Compliance; G) Water Testing Expanses; H) Water Use; I) Growth; J) Depreciation Rates and K) Others.

Exhibit DMH-2 is the Engineering Report for Sun City's wastewater operation, this Report can be divided into three general sections: 1) *Purpose of Report*; 2) *Discussions*, and 3) *Conclusions and Recommendations* The *Discussions* section can be further divided into eight subsections: A) Location of System; B) Description of System; C) ADEQ

Compliance; D) ACC Compliance; E) Wastewater Flow Rate; F) Growth; G) Depreciation Rates and H) Others.

CONCLUSIONS AND RECOMMENDATIONS

Q. What are Staff's conclusions and recommendations regarding Sun City's operations?

A. Based upon Staff's engineering evaluation of Sun City's operations, Staff has concluded the following:

Recommendations

For water system:

1) Staff recommends that Sun City's water depreciation rates delineated in Figure 6 Exhibit DMH-1 be used for this proceeding.

2) Staff has evaluated Sun City Water's Reproduction Cost New ("RCN") and recommends that its value not be accepted for purposes of setting rates in this proceeding.

3) Staff recommends that Sun City's water original cost plant in service value be adjusted by $1,386,148 to reflect the removal of certain plant items that were determined to be not used and useful during the test year.

4) Staff recommends that Sun City file a curtailment tariff within 90 days after a decision is issued in this proceeding.

5) Staff recommends the adoption of Sun City Water proposed Service Line and Meter Installation Charges except for the 2 inch meter size. For the 2 inch meter size, Staff recommends adopting a charge of "At Cost".

6) Staff recommends the acceptance without adjustment of Sun City Water's revised Pro Forma Plant Schedule B-2, page 9 supplied in data response JAC-13-5, provided by Mr. Tom Bourassa. However, this "used and useful" determination does not imply a specific treatment for rate base or rate making purposes.

For wastewater system:

1) Staff has evaluated Sun City Wastewater's RCN and recommends that its value not be accepted for purposes of setting rates in this proceeding.

2) Staff recommends that the Sun City's wastewater depreciation rates delineated in Figure 6 Exhibit DMH-2 be used for this proceeding.

3) Staff recommends that Sun City Wastewater's original cost plant in service value be adjusted by $15,547 to reflect the removal of certain plant items that were determined to be not used and useful during the test year.

4) Staff recommends the acceptance without adjustment of Sun City Water's revised Pro Forma Plant Schedule B-2, page 9 supplied in data response JAC-13-5, provided by Mr. Tom Bourassa. However, this "used and useful" determination does not imply a specific treatment for rate base or rate making purposes.

Conclusions:

For water system:

1) MCESD has determined that Sun City's system is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4;

2) At the present time, Sun City Water meets the new arsenic maximum contaminant level ("MCL") requirement;

3) Sun City is within the Phoenix Active Management Area and is in compliance with the ADWR monitoring and reporting rules;

4) Sun City has 9.65 percent water loss which is within acceptable limits.

5) Staff considers the reported water testing expenses for the Sun City District reasonable.

For wastewater system:

1) Staff concludes that the Tolleson WWTP filter media replacement project is necessary and reasonable and that the method used to allocate a share of the cost to Sun City Wastewater is reasonable.

2) Sun City does not own or operate a wastewater treatment plant. The Company collects the wastewater in its CC&N's area, and then transports the wastewater to the Town of Tolleson Wastewater Treatment Plant ("Tolleson WWTP") for treatment and disposal. ADEQ has determined that the Tolleson WWTP is currently in substantial compliance with Clean Water Act;

3) The Sun City Wastewater District has no outstanding ACC compliance issues.

REPRODUCTION COST NEW ANALYSIS

Q. What is a Reproduction Cost New ("RCN") study?

A. A Reproduction Cost New study is a valuation study which estimates the cost of reproducing the utility's existing capital plant items. Trend factors (i.e., inflation/cost indexes), such as those published by Handy-Whitman, are applied to the original cost of the plant to estimate its value today. The trend factors used vary depending on the type of plant and the year the plant was installed.

Q. Did Arizona-American Water Company ("Az-Am") submit a RCN study?

A. Az-Am submitted an RCN asset listing for the year ending December 31, 2001. This RCN reported the following original cost, plant in service values:

	Original Cost	RCN
Sun City Water	$39,364,286	$88,619,890
Sun City Wastewater	$17,887,373	$49,324,865

Q. What is Staff's position concerning the RCN study, which was submitted by Az-Am in this proceeding?

A. Staff has evaluated the RCN for Sun City Water and Sun City Wastewater and recommends that the RCN values not be accepted for the purpose of setting rates in this proceeding.

Q. Why has Staff taken that position?

A. Staff has many reasons, which include:

1) The Az-Am RCN is no more than "asset listings" that list all the assets of the utility even if an asset item is retired, abandoned or no longer exists. If an RCN is to be considered, the RCN should be a "valuation study" to reproduce, replace or reconstruct existing physical properties (actual plant that is used and useful).

   For example: Sun City Water included six wells (Well #4B, old 4C, 17A, 18C-1, 19C and 33B) in the RCN even though these wells are no longer in service.

2) The Az-Am RCNs have incomplete Plant Descriptions and Quantities.

For example: Sun City Wastewater had five asset listing items shown as "Unidentified" (three of them were in "Organization" and "Franchises".) Az-Am's RCN Asset Listing did not provide the "Quantities" for a majority of plant items. (See the Table below.) In fact, some of these plant items show quantities of zero which could mean no plant items exist for the asset listing item. This is just another factor that makes the RCN questionable with regard to its accuracy.

Asset #	Description	Qty	Acquisition Date	Original Cost ($)
1673415	Unidentified	1	19740701	34
1673399	Organization	0	19950715	122,339
1673416	Unidentified	1	19740701	477
1673429	Unidentified	1	19760701	3,310
1673668	Franchise and Co	0	19951215	1,209
1673753	Franchise and Co	0	19971115	1,136
1673417	Unidentified	1	19740701	868
1673718	Miscellaneous Intangibles	1	19961215	9,626
1673400	Land & Land Rights	0	19960115	5,656
3118536		1	20010731	908

3) The Handy-Whitman Factors were not used properly. Az-Am used a composite index number for all plant accounts. The actual Handy-Whitman Index numbers are arranged to follow the classification of the National Association of Regulatory Utility Commissioners ("NARUC") Account numbers and differ by geographical regions.

4) All plant items were trended using the Handy-Whitman index. Handy-Whitman should only be used for utility construction and should not be used for plant items such as office furniture, computer, transportation equipment, stores, tools, & garage, and communication equipments.

5) In some instances, organization, franchises, and land costs & land rights were trended. These Accounts should not be trended in RCN studies.

6) Az-Am added corporate overhead to the asset items in a haphazard fashion without identification which makes it impossible to perform an accurate RCN.

For example, responses to data request JAC-13-4, the Company lists the following plant costs and corporate overhead for Sun City Water and Wastewater District:

For Sun City Water

Asset #.	Asset Class	Description	Parts	Labor/ Engineering	Corporate Overhead
1676920	W32800	Diesel Engine	$49,373	$1,245	$4,876
3059197	W32500 (Elec pumping equip)	250HP motor (Well #4C)	$10,220	$34,860	$11,887
3127723	W32500 (Elec pumping equip)	Software	$53,846	$23,848	$8,392

For Sun City Wastewater:

Asset No.	Asset Class	Description	Parts/ Labor/ Engineering	Corporate Overhead	Unaccountable for invoices
3052574	T34400 (Force Mains)	12" PVC force main	$869,687	$100,114	$1,323
3140419	T34200 (Collection System Lift)	Submersible Pump	$14,873	$36,420	
3051337	T34300 (Collection Mains)	8" PVC sewer line	$119,865	$161,075	
3091369	T34300 (Collection Mains)	8" SDR 35 PVC sewer line	$103,395	$27,006	

7) No contributed plant was identified or removed from the plant in service base.

8) Audited portions exhibited misclassifications of plant in service.

Q. Why didn't Staff amend or revise the RCN submitted by Az-Am?

A. A properly prepared RCN study begins with a complete inventory of the plant-in-service that is used and useful. The appropriate trend factors are then applied to reproduce each plant item at today's cost. The RCN is only valid if the person preparing the study knows precisely what the plant item is so that the appropriate trend factor is applied. In order to conduct a RCN study, the following information needs to be provided:

a. Complete plant descriptions for the plant-in-service for each independent system including the year the plant was installed. Such plant would include wells, booster pumps, hydrants, storage tanks, pressure tanks, mains, meters, treatment equipment, structures, etc.

b. Verification of plant item brand names, size and quantities.

As discussed above, Staff found the methodology and data for the Az-Am RCN to be irreparably flawed. To prepare a RCN from a zero base starting place for a company as large and complex as this, would be beyond the resources of Staff. Moreover, it is the sole responsibility of Az-Am, if it wishes the consideration of an RCN in a rate making proceeding, to prepare and present a valid and understandable study.

Q. Does this conclude your pre-filed testimony?

A. Yes, it does.

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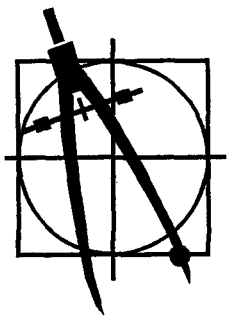
EXHIBIT DMH-1

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

BY DOROTHY HAINS

AUGUST, 2003



Engineering Report
For Arizona-American Water Company's
Sun City Water Division
Docket No. WS-01303A-02-0868
(Rate Increase Application)

By Dorothy Hains

August 2003

EXECUTIVE SUMMARY

Recommendations:

I. Staff recommends that the Arizona-American Water Company Sun City Water Division ("Sun City Water") depreciation rates delineated in Figure 6 be used for this proceeding. (See §J of report for discussion and details.).

II. Staff recommends that Sun City Water's original cost plant in service value be adjusted by $1,386,148 to reflect the removal of certain plant items that were determined not to be used and useful during the test year. (See §K of report for discussion and details.).

III. Staff recommends that Sun City Water file a curtailment tariff within 90 days after a decision is issued in this proceeding. (See §K for further discussion of this recommendation.)

IV. Staff recommends the adoption of Sun City Water proposed Service Line and Meter Installation Charges except for the 2 inch meter size. For the 2 inch meter size, Staff recommends adopting a charge of "At Cost". (See §K of report for discussion and details.)

V. Staff has evaluated Sun City Water's RCN and recommends that its cost values not be accepted for purposes of setting rates in this proceeding. (See §K of report for discussion and details.).

VI. Staff recommends the acceptance without adjustment of the Sun City Water's revised *Pro Forma* Plant Schedule B-2, page 9 supplied in data response JAC-13-5, provided by Mr. Bourassa. (See §K of report for discussion and details.). However, this "used and useful" determination does not imply a specific treatment for rate base or rate making purposes.

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. At the present time Sun City Water meets the new arsenic maximum contaminant level ("MCL") requirement. (See §C of report for discussion and details.)

III. 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.)

IV. Sun City Water has 9.65 percent water loss which is within acceptable limits. (See §H of report for discussion and details.)

V. Sun City Water is proposing that $2,096,100 of post test year plant additions be included for rate setting purposes in this rate proceeding. Staff has confirmed that these plant items were in service before December 31, 2002, and finds these plant items to be used and useful from an engineering perspective. (See §K of report for discussion and details.)

VI. Staff considers the reported water testing expenses and the estimated water testing costs for the Sun City District reasonable. (See §G of report for discussion and details.)

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FIGURES

A. LOCATION OF COMPANY

Arizona-American Water Company Sun City Division ("Sun City Water" or "Company" or "Arizona-American") serves water to approximately 21,743 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 February 24, 2003 by Dorothy Hains, Utilities Engineer, accompanied by Tom DeYoung, Operation Superintendent of the Company's water system.

System Analysis

The system contains seven water plants which consist of eighteen drinking water wells that are capable of producing a total flow of 25,290 gallons per minute ("GPM"), an irrigation well and 8.47 million gallons of storage capacity. The water system has adequate storage and well production. Figures 3A and 3B provide a process schematic showing both the active and inactive water systems of Sun City Water.

Well Data

Active Drinking Water Wells

New Well #	Old 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	18B	606529	51	20	900	10	250	1575
1.2	18C-2	608176	58	20	1090	8	200	1250
2.1	30A	606532	54	20	1000	12	250	1025
2.2	19B	606530	48	20	750	12	200	875
2.3	29A	606531	53	16	600	10	125	500
3.1	17E	606528	75	16	1200	14	400	2000
4.1	7C	606524	69	16	1206	10	325	1250
5.1	8D	606525	48	20	760	12	350	1340
5.2	7B	606523	54	20	1000	12	400	1420
5.3	5D	606522	73	16	1206	12	400	1910
5.4	5A	606521	52	20	1176	12	350	1320
5.5	32C	606534	74	16	1215	8	400	1765
6.1	4C	574914	99	16	1200	12	250	1200
6.2	4D	606520	73	16	1317	12	450	1820
6.3	9A	606526	56	20	1006	12	350	1340
8.1	32D	536983	93	16	1020	12	250	1250
8.2	32B	606535	46/52	20	1000	12	350	1600
8.3	31D	606536	75	16	1214	12	500	1850

Active Irrigation Well

Well #	ADWR No. 55-XXXXXX	Year Drilled (19xx)	Casing Size (inches)	Well Depth (ft)	Well Meter Size (inches)	Pump (HP)	Pump Yield (GPM)
30A-N	807594	98	16	N/A	8	125	650

Inactive or Capped Drinking Wells

Old Well #	ADWR No. 55-XXXXXX	Casing Size (inches)	Well Depth (ft)	Well Meter Size (inches)	Pump (HP)	Pump Yield (GPM)	Year Drilled	Year disconnected	Original Cost (per DR 7-1)
4B	606518	20	910	12	None	None	1950	2000	84,449
4C	606519	16	1200	12	250	1200	1973	1999	290,901
17A	606527	20	N/A	12	None	None	1953	2000	13,810
18C-1	608175	14	1050	10	75	600	1947	2002	10,995
19C	608177	20	1090	10	200	1200	1960	2002	17,565
33B	606533*	20	1000	8	200	1100	1946	2000	103,963

Note: 1. Well 33B was disconnected due to high nitrate contamination.
2. Well 4B which has a poor production rate, has been disconnected and converted to a ground water level monitoring well.
3. Wells 19C and 4C have been capped.

Active Storage, Pumping

Location	Structure or equipment	Capacity
Plant #1 Site (also Well #1.1 Site)	Booster Pumps	Three 75-HP
	Pressure Tank	One 10,000 gal
	Storage Tank	Two 300,000 gal
Plant #2 (also Well #2.1 Site)	Booster Pumps	Two 75-HP Two 100-HP
	Pressure Tank	One 10,000 gal
	Storage Tank	Three 300,000 gal
Plant #3 (also Well #3.1 Site)	Booster Pumps	One 75-HP Three 100-HP
	Pressure Tank	One 10,000 gal
	Storage Tank	Two 460,000 gal
Plant #4 (also Well #4.1 Site)	Booster Pumps	One 75-HP
	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

Plant #6 (also Well #6.1 Site)	Booster Pumps	One 75-HP Two 150-HP
	Pressure Tank	Two 10,000 gal
	Storage Tank	Two 1,250,000 gal
Plant #8 (also Well #8.1 Site)	Booster Pumps	One 75-HP Three 100-HP
	Pressure Tank	One 10,000 gal
	Storage Tank	Two 675,000 gal

Inactive Storage, Pumping

Location	Structure or equipment	Capacity
Well #19C Site	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 #18C-2 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	21,723
12	Various	206,562
10	Various	119,225
8	Various	207,323
6	Various	802,000
4	Various	150,201
undetermined	Various	20,623

Meters

Size (inches)	Quantity
5/8 x 3/4	20,964
1	247
2	607
3 (comp)	20
4 (comp)	5
6 (comp)	11

C. ARSENIC

The U.S. Environmental Protection Agency ("EPA") has reduced the arsenic maximum contaminant level ("MCL") in drinking water from 50 micrograms per liter ("µg/l") to 10 µg/l. The date for compliance with the new MCL is January 23rd, 2006. The most recent lab analysis by the Sun City Water indicated that the arsenic levels in its source supply vary from 5 µg/l to 9 µg/l. Based on this arsenic concentration, Sun City Water is in compliance with the new arsenic MCL standard (the arsenic level in the existing irrigation well is 10 µg/l, which exceeds the new arsenic MCL, because water produced by this well will not be utilized for drinking, the arsenic level in this well should not be a concern).

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

Based on a memorandum dated April 2, 2003, from Maricopa County Environmental Services Department ("MCESD"), MCESD has determined that Sun City Water is currently delivering water that does not exceed any MCL and meets the Safe Drinking Water Act quality requirements.

E. ARIZONA CORPORATION COMMISSION ("ACC") COMPLIANCE

A check with the Utilities Division Compliance Unit 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 $6,878 on Schedule C-1 for the test year ending December 31, 2001. Staff considers the reported expense reasonable.

H. WATER USE

1. Water Sold

Based on information provided by the Sun City Water, water use for the year 2002 is presented in Figure 4. The high monthly water use was 819 gallons per day ("gpd") per connection in September, and the low monthly water use was 458 gpd per connection in March. The average annual use was 644 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 9.59 percent which is within acceptable limits.

I. GROWTH

Figure 5 shows customer growth based on Sun City Water's estimates. Staff has reviewed the Company's growth estimates and finds them to be reasonable. Because of the recent changes in Company ownership reliable data which could be used by Staff to estimate growth based on a linear regression analysis is not available. Sun City Water estimates that 22,093 customers will be served by the Company within next three years. Using this estimate, Staff calculated a growth rate of 121 customers per year in Sun City Water's CC&N area.

J. DEPRECIATION RATES

The Company and staff conducted depreciation studies for Sun City Water in its prior rate proceeding. The Commission's Decision in that proceeding (Decision 60172, dated May 7, 1997) ordered the Company to continue using the existing depreciation rates. These rates are presented in Figure 6. The Company used these rates in this proceeding. It is recommended that the Company continue to use the depreciation rates delineated in Figure 6.

K. OTHERS

1. Post-Test Year Plant

The Company is requesting inclusion of certain capital improvements after the test year ending December 31, 2001. These are the same improvements as shown in the Company's revised *Pro Forma* Plant Schedules B-2, page 9 supplied in data response JAC-13-5, provided by Mr. Tom Bourassa. Post test year improvements were inspected during the month of February of 2003 and represent calendar year 2002 additions. All major additions which were field auditable were inspected. There were some items that were not auditable or were not practical to audit (i.e., such as inter-office allocation of software costs, blanket repair accounts for mains, meters, pumps, etc.). However, every item which was auditable was in place, exactly as described, and operating, with no exceptions.

The findings of the field audit support the use, without adjustment, of the total post test year plant shown in Table 2 of $2,096,100. However, this "used and useful" determination does not imply a specific treatment for rate base or rate making purposes. The direct testimony of Mr. Darron Carlson will discuss the post test year rate base and rate making treatment in this case.

Table 2 Arizona-American Water Company Sun City Water Division
2002 Post Test Year Plant Additions

Acct No.	Description	Amount ($)	Total ($)
304	**Structures & Improvements**		213,448
	1. Corporate Office/IT allocation	32,999.91	
	2. Replace 757' of cinder block wall & two gates @WP #1 (approximately $29.91/ft)	22,638.81	
	3. Security Site Fencing	50,707.35	
	(1) Repair & raise the existing block wall & install a new gate (12'x6') and a 3-ft gate @ Well 8.2.		
	(2) Install 1,500' of iron bars on the top of the existing walls @ WP #6.		
	(3) Replace existing 297' of s-ft chain link fence by 297' of 6-ft block wall & two 10-ft wide gates & a 3-ft wide gate @ Well 1.2.		
	4. CC-YT Well Fill-Pit Structure @ Youngtown Well #18C-2 (Well #1.2)	107,102.17	
311	**Pumping Equipment**		265,462
	1. Repair pump bowls @ Well 2.1	28,796.72	
	2. Replace 400-HP pump motor @ Well 5.5	8,457.51	
	3. Replace pump bowls @ Well 5.1	32,221.31	
	4. Repair 4" air relief valve @ Well 19B (Well 2.2)	1,247.30	
	5. Replace 250-HP pump @ Well 8.1	5,925.22	
	6. Replace 350-HP pump motor @ Well 6.3	7,450.28	
	7. Replace Cl_2 Unit @ Well 2.3	2,195.78	
	8. Replace Cl_2 Unit @ Well 2.2	2,195.78	
	9. Replace pump bowls @ Well 3.1	28,215.42	
	10. Repair 400-HP pump motor @ Well 4D (Well 6.2)	15,934.37	
	11. Repair 4" air relief valve @ Well 5D (Well 5.4)	1,783.29	
	12. Repair 400-HP pump thrust @ Well 17E (Well 3.1)	8,487.80	
	13. Repair 400-HP pump bowls @ Well 32 C (Well 5.5)	44,220.99	
	14. Repair transmission switch @ Well 7C (Well 4.1)	3,212.92	
	15. Repair 150-HP booster pump #5 motor @ WP #6	5,434.44	
	16. Replace 250-HP pump motor @ Well 4C (Well 6.1)	34,826.70	
	17. Repair pump bowls @ Well 2.3	24,767.98	
	18. CC-valve replace program @ WP #5	6,207.31	
	19.Repair 200-HP motor, CC-YT well fill lns-pit 1-pump @ Youngtown Well #18C-2 (Well 1.2)	3,880.61	
320	**Water Treatment Equipment**		5,357
	1. Youngtown Well 18C-2 (Well1.2) Cl_2 Unit	5,357.28	

330	**Distribution Reservoir and Steel Tank**		457,578
	1. Install total 13 security tank overflow valves @WP #1, 2, 3, 5, 6 & 8.	227,845.54	
	2. Install total 13 security tank valves @WP #1, 2, 3, 5, 6 & 8 & 11 tank security ladders @ WP #1, 2, 3, 5, 6 & 8.	229,732.01	
331	**Transmission and Distribution**		681,787
	1. Blk Main Rep 12"	2,924.08	
	2. Blk Main Rep 10"	4,265.02	
	3. Blk Main Rep 6"	25,544.36	
	4. Blk Main Rep 4"	29,845.72	
	5. Blk Main Rep 8"	23,577.76	
	6. CC-YTWell Fill Ln-Pit 1-Mains	455,933.93	
	7. CC-Oakmont Dr. Mn Repl Mains	139,696.47	
335	**Hydrants**		16,772
	1. Blk Hyd Rep	13,031.16	
	2. CC-Oakmont Dr. Mn Repl Mains	3,740.77	
340	**Office Furniture and Equipment**		264,603
	1. Corporate Office/IT allocation	145,449.68	
	2. Auto CAD upgrade	2,285.92	
	3. HP designjet 5500ps plotter	16,770.14	
	4. License Windows 2000 ADV SVR	1,418.03	
	5. IBM laptop Director Of Finance	2,493.63	
	6. IBM Netvista P4 2.0 gig & monitor	1,780.09	
	7. OPS System software & equipment	42,696.75	
	8. Neptune 9800 meter reading equipment	51,709.08	
341	**Transportation Equipment**		150,937
	1. SC 72 w/SC11	17,843.57	
	2. New Vehicle SC #4	18,008.99	
	3. New Vehicle SC #12	23,777.43	
	4. New Vehicle SC #14	18,960.02	
	5. New Vehicle SC #109	22,125.1	
	5. New Vehicle SC #110	50,221.64	
346	**Communication Equipment**		40,156
	1. Corporate Office/IT allocation	35,254.21	
	2. Router Cisco Surprise	4,902.1	
	Total	2,096,100	2,096,100

2. Reproduction Cost New ("RCN")

Sun City Water submitted an RCN Asset Listing for the year ending December 31, 2001. This RCN reported an Original Cost plant-in-service value of $39,364,286 and an RCN plant-in-service value of $88,619,890. Staff has evaluated Sun City Water's RCN and recommends that its value not be accepted for purposes of setting rates in this proceeding. (For further discussion, see my direct testimony.)

3. Original Cost ("OC") Deduction

During the site inspection, Staff discovered that Wells (Well #4B, old 4C, 17A, 18C-1, 19C and 33B) and its associated plants are permanently disconnected from the systems. Staff has determined those items are not used and useful during the test year. Staff also determined that computer accounts for "BANNER CONVERSION" are not used and useful during the test year. Therefore, Staff recommends that the total OC of these plant items of **$1,386,198** be removed from plant-in-service. Retired and/or abandoned items and their associated OC values are listed in the table below.

Asset ID	Description	Company Acct	NAURC Acct	Qty	Installed date	Original Cost
	Wells					
1673884	Well #17A	W31400	307	1	01-Jul -71	1,3,810.22
1673898	Well 4B	W31400	307	1	01-Jul-72	21,200.73
1673908	Old Well #4C	W31400	307	1	01-Jul-73	290,901.36
1674662	ACQU WELL 19C	W31400	307	0	15-Jul-95	17,565.46
1674663	ACQU WELL 18C-1	W31400	307	0	15-Jul-95	10,994.78
1674256	Well #33B (per czn2002a_1_2)	W31400	307	1	01-Jul-78	5,356.92
1674257	Well #33B (per czn2002a_1_2)	W31400	307	1	01-Jul-78	21,258.72
1674885	Well #33B (per czn2002a_1_2)	W31400	307	0	01-Jul-88	25,936.89
			Sub Total			**$407,025**
	Pumps					
1674266	Booster pump (Youngtown)	W32500	311	0	15-Jul-95	4,014.41
1674782	Valve (Youngtown)	W32500	311	0	15-Jul-95	1,642.76
1674783	200HP Motor (Youngtown)	W32500	311	0	15-Jul-95	2,235.67
1674899	Starter Motor (Youngtown)	W32500	311	0	15-Jul-95	394.94
1674911	Booster pump (Youngtown)	W32500	311	0	15-Jul-95	2,919.57
1674912	Booster pump (Youngtown)	W32500	311	0	15-Jul-95	2,499.63
1674913	Booster pump (Youngtown)	W32500	311	0	15-Jul-95	3,167.54
1675023	Booster pump (Youngtown)	W32500	311	0	15-Jul-95	1,025.85
167502	Booster pump	W32500	311	0	15-Jul-95	1,903.72

4	(Youngtown)					
1675025	Valve (Youngtown)	W32500	311	0	15-Jul-95	4,573.33
1675026	Valve (Youngtown)	W32500	311	0	15-Jul-95	1,374.80
1675205	Valve (Youngtown)	W32500	311	0	15-Jul-95	1,247.82
1675713	Booster pump (Youngtown)	W32500	311	0	15-Jul-95	1,670.76
1675714	Booster pump (Youngtown)	W32500	311	0	15-Jul-95	2,594.62
1674896	Booster pump (Youngtown)	W32500	311	3	01-Jan-88	448.23
			Sub Total			**$31,714**
	Water Treatment Equipment					
1675214	Desander (Youngtown)	W33200	320	0	15-Jul-95	2,450
1675215	Desander (Youngtown)	W33200	320	0	15-Jul-95	11,662
1676937	Weight Equipment (Well #18C-1 (per czn2002a_1_2)	W33200	320	1	15-Oct-98	2,165.64
1676939	Weight Equipment (Well #19C (per czn2002a_1_2)	W33200	320	1	15-Oct-98	1,741.78
1676940	Weight Equipment (Well #4B (per czn2002a_1_2)	W33200	320	1	15-Oct-98	1,574.2
			Sub Total			**$19,594**
	Storage Tanks & Pressure Tanks					
1674459	500,000 gal steel tank (Youngtown)	W34200	330	0	15-Jul-95	152,316.00
1674785	2,000 gal pressure tank (Youngtown)	W34200	330	0	15-Jul-95	15,045.00
1674932	Overflow pipe (Youngtown)	W34200	330	0	15-Jul-95	5,475.00
1675220	Tank (Youngtown)	W34200	330	0	15-Jul-95	145,645.00

1675222	2,000 gal pressure tank (Youngtown)	W34200	330	0	15-Jul-95	734.00
			Sub Total			**$319,215**
	Computer Equipment					
3046186	BANNER CONVERSION	W39110	340	1	31-Oct-99	72,579.52
3046187	BANNER CONVERSION	W39110	340	1	31-Oct-99	4,380.82
3046188	BANNER CONVERSION	W39110	340	1	31-Oct-99	12,076.86
3046189	BANNER CONVERSION	W39110	340	2	31-Oct-99	14,148.86
3046190	BANNER CONVERSION	W39110	340	1	31-Oct-99	130,654.98
3046191	BANNER CONVERSION	W39110	340	1	31-Oct-99	32,027.34
3046192	BANNER CONVERSION	W39110	340	1	31-Oct-99	326,134.26
3057430	LAN/WAN Wiring for Anthem Az. IS-07	W39110	340	1	31-Dec-99	1,322.21*
3057431	LAN/WAN Wiring for Anthem Az. IS-07	W39110	340	1	31-Dec-99	726.81*
3057433	LAN/WAN Wiring for Anthem Az. IS-07	W39110	340	1	31-Dec-99	178.42*
3139716	IT-Repl Laptop at Surprise	W39110	340	1	31-Dec-99	2,440.41*
3058309	IS-07AZ-1 2 laptops for M Clark	W39110	340	1	31-Dec-99	6,352*
3058310	IS-07AZ-1 2 laptops for J Giesen	W39110	340	1	31-Dec-99	4,909.05
			Sub Total			**$607,932**
	Power Operated Equipment					
1675121	TRASH PUMP (Youngtown)	W39600	311	0	15-Jul-95	669
			Sub Total			**$669**
			Total			**$1,386,148**

Note: An "*" means that an item is not located in the Sun City Water service area. According to the Company, these items are actually located in another District of the Arizona-American Water Company ($2,237.44 of computer equipment should have been included in the Anthem District, $2,440.41 of computer equipment should have been included in the Aqua Fria District, $6,352 of computer equipment should have been included in the Mohave District. It is unclear to Staff in which district the computer equipment worth $4,909.05 should have been located). Staff recommends that these plant amounts be transferred to the appropriate district.

4. Curtailment Tariff

A Curtailment Plan Tariff is an effective tool to allow a water company to manage its resources during periods of shortages due to pump breakdowns, droughts, or other unforeseeable events. Since Sun City Water does not have a curtailment tariff, this application provides an opportune time to prepare and file such a tariff. Staff recommends that Sun City Water file a curtailment tariff within 90 days after any decision and order becomes effective. The tariff shall be submitted to the Director of Utilities Division for his review and certification. Staff further recommends that the tariff shall generally conform to the sample tariff found posted on the Commission's web site (*www.cc.state.az.us/utility*) or available upon request from Commission Staff.

5. Service Line and Meter Installation Charges

The Company has requested to change its meter and service line charges. These charges are refundable advances and the Company's proposed charges are within Staff's experience of reasonable and customary charges, with the exception of the 2 inch meter. Therefore, Staff accepts the Company's proposed meter and service line installation charges, with the exception of the 2 inch meter. For the 2 inch meters, the typical charges vary according to the meter type (turbine or compound). Therefore, Staff recommends adopting a meter and service line charge of "At Cost" for the 2 inch meter size.

Service Line and Meter Installation Charges

Meter Size	Current Charges	Proposed Charges	Staff Recommendation
5/8 x3/4-inch	$320	$500	$500
3/4-inch	$360	$575	$575
1-inch	$420	$660	$660
1-½-inch	$635	$900	$900
2-inch	$1,090	$2,220	At cost
3-inch	At actual cost	At cost	At cost
4-inch	At actual cost	At cost	At cost
6-inch	At actual cost	At cost	At cost
8-inch	At actual cost	At cost	At cost

FIGURES

FIGURE 1

SUN CITY WATER DIVISION CERTIFICATED AREA

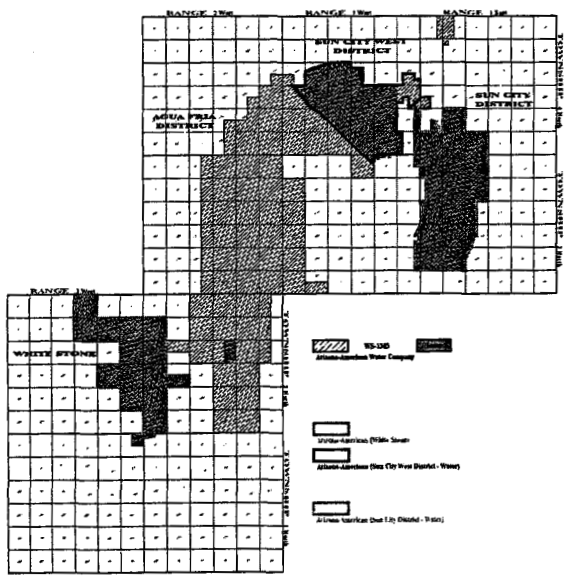


FIGURE 2

LOCATION OF SUN CITY WATER DIVISION

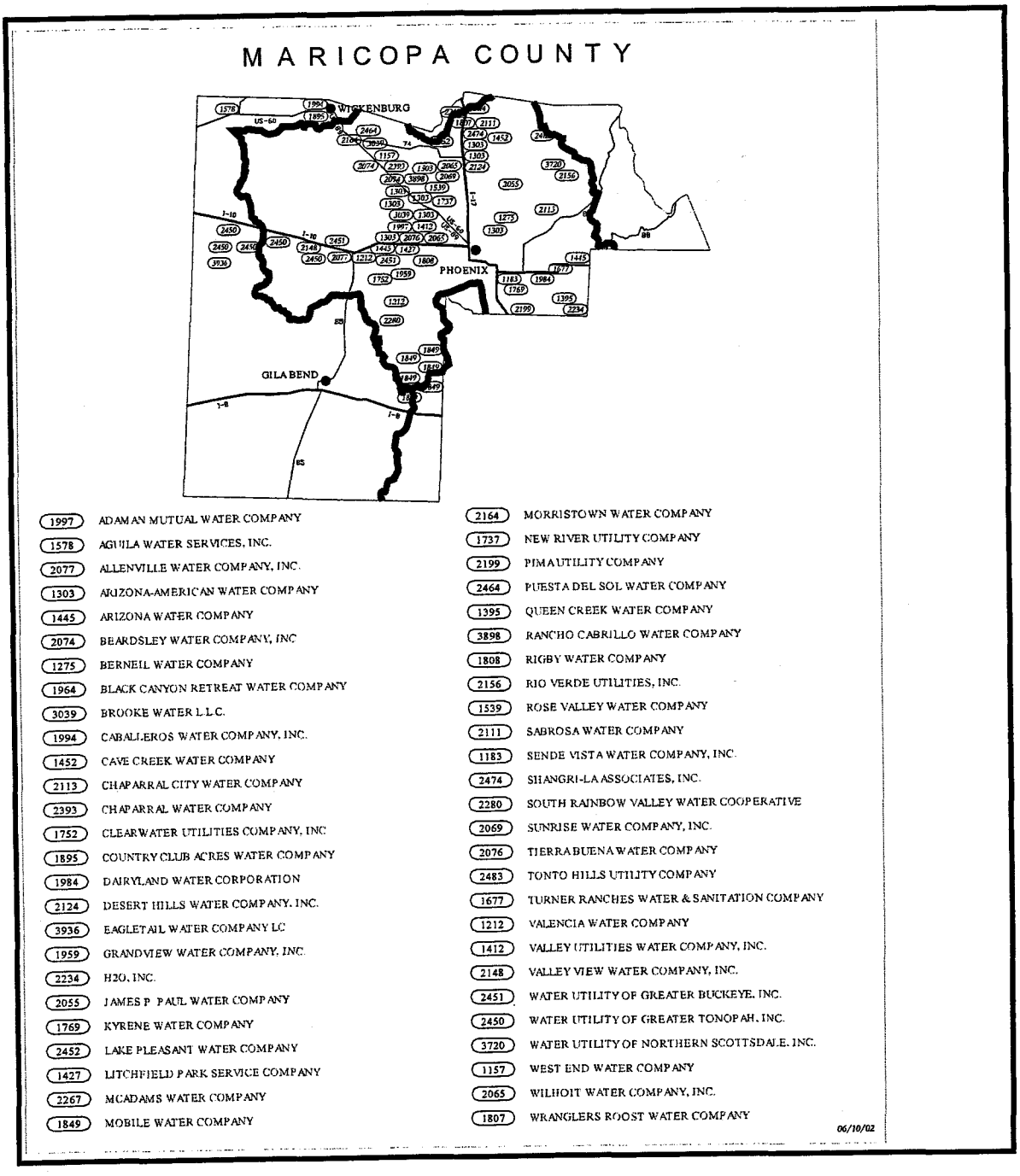


FIGURE 3A

SUN CITY WATER DIVISION SYSTEMATIC DIAGRAM FOR EXISTING SYSTEMS

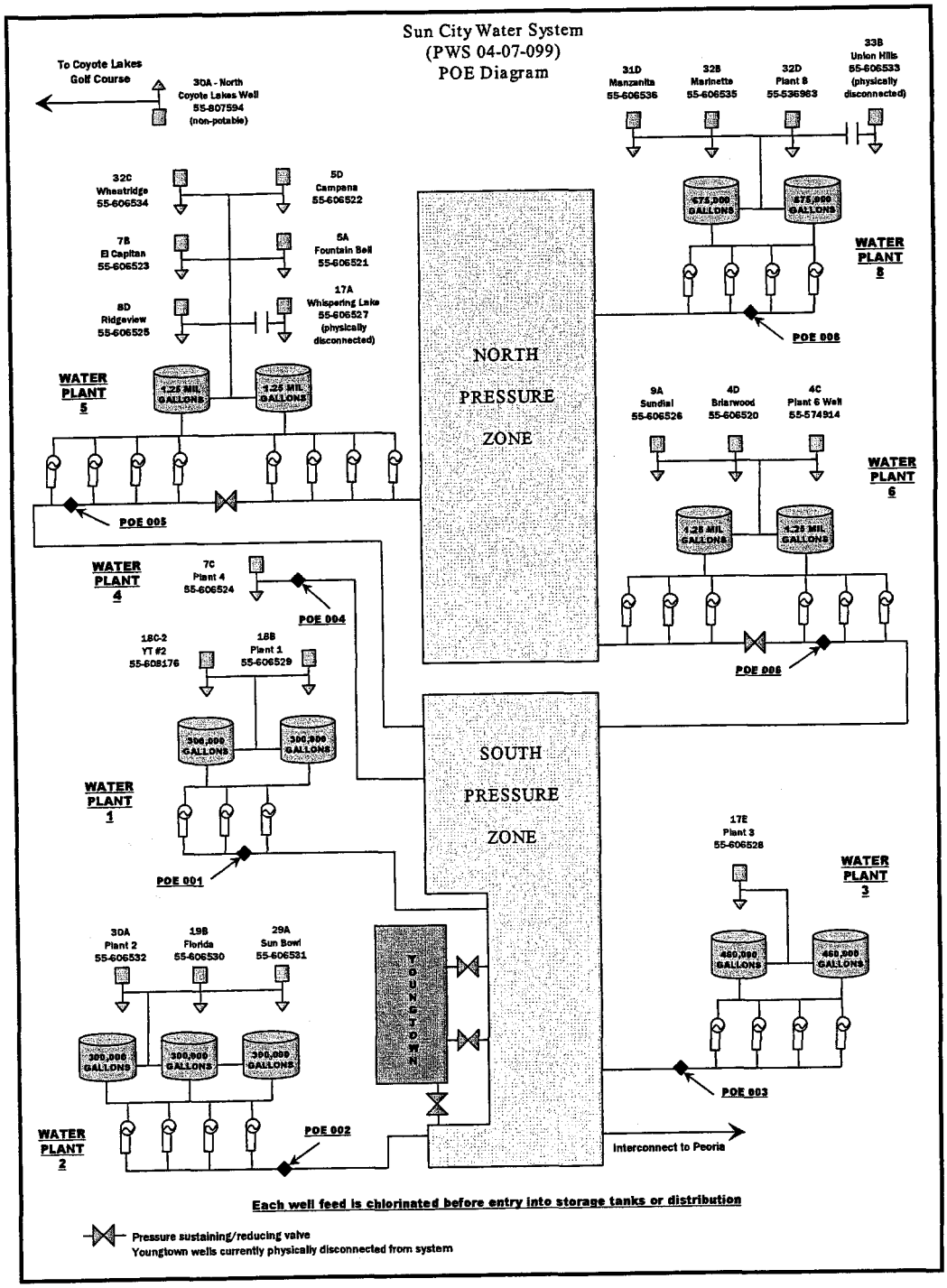


FIGURE 3B

SUN CITY WATER DIVISION SYSTEMATIC DIAGRAM FOR INACTIVE SYSTEMS

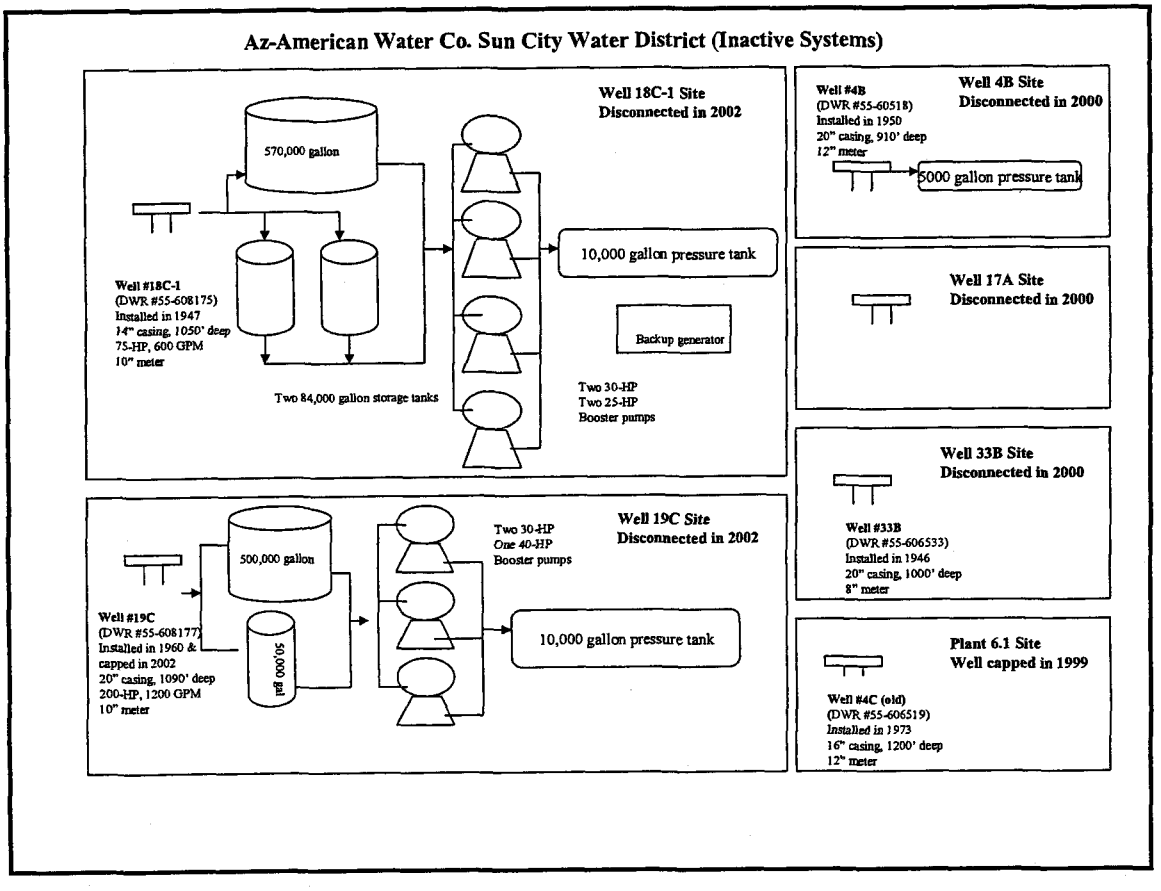


FIGURE 4

SUN CITY WATER DIVISION WATER USAGE

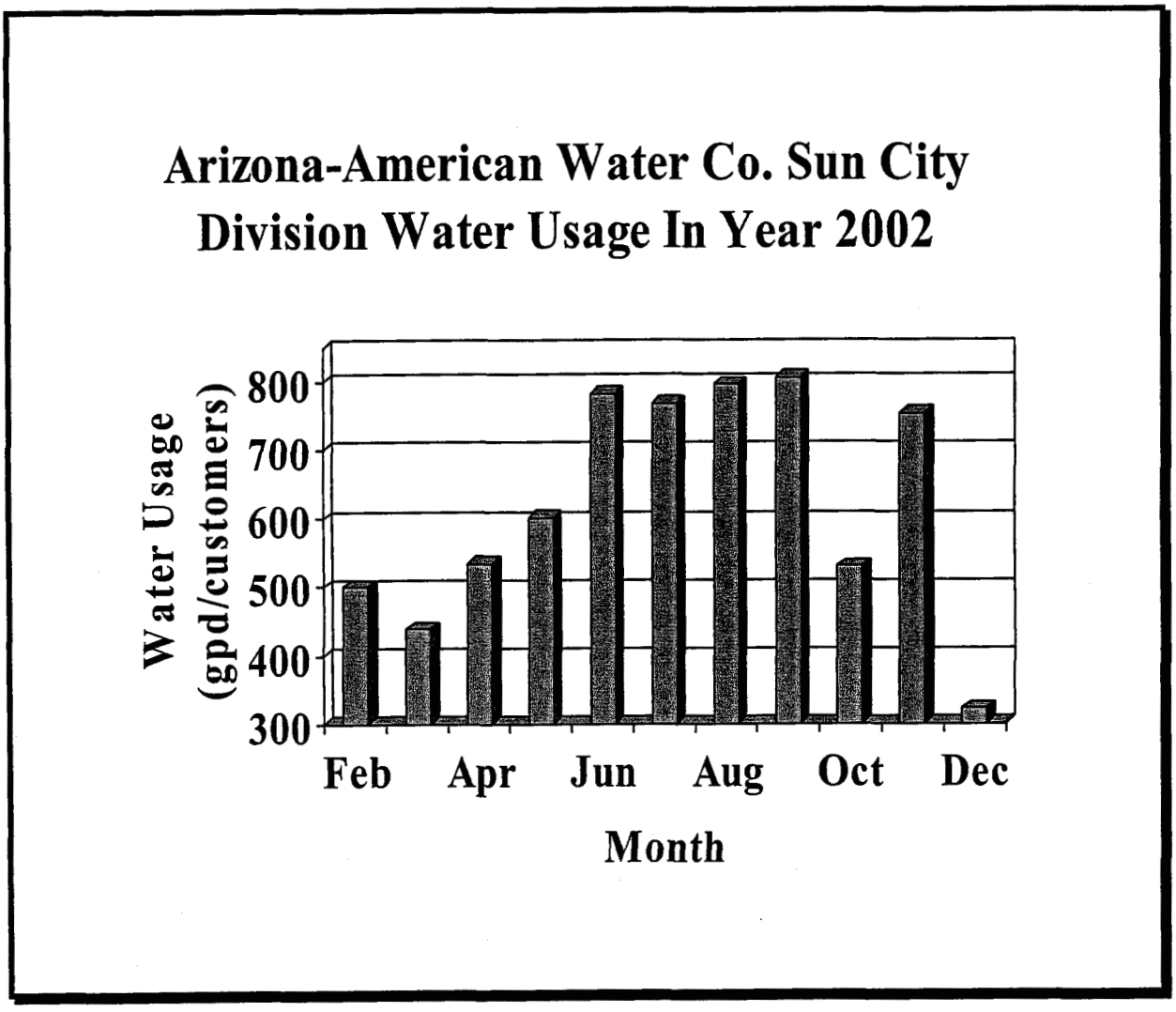
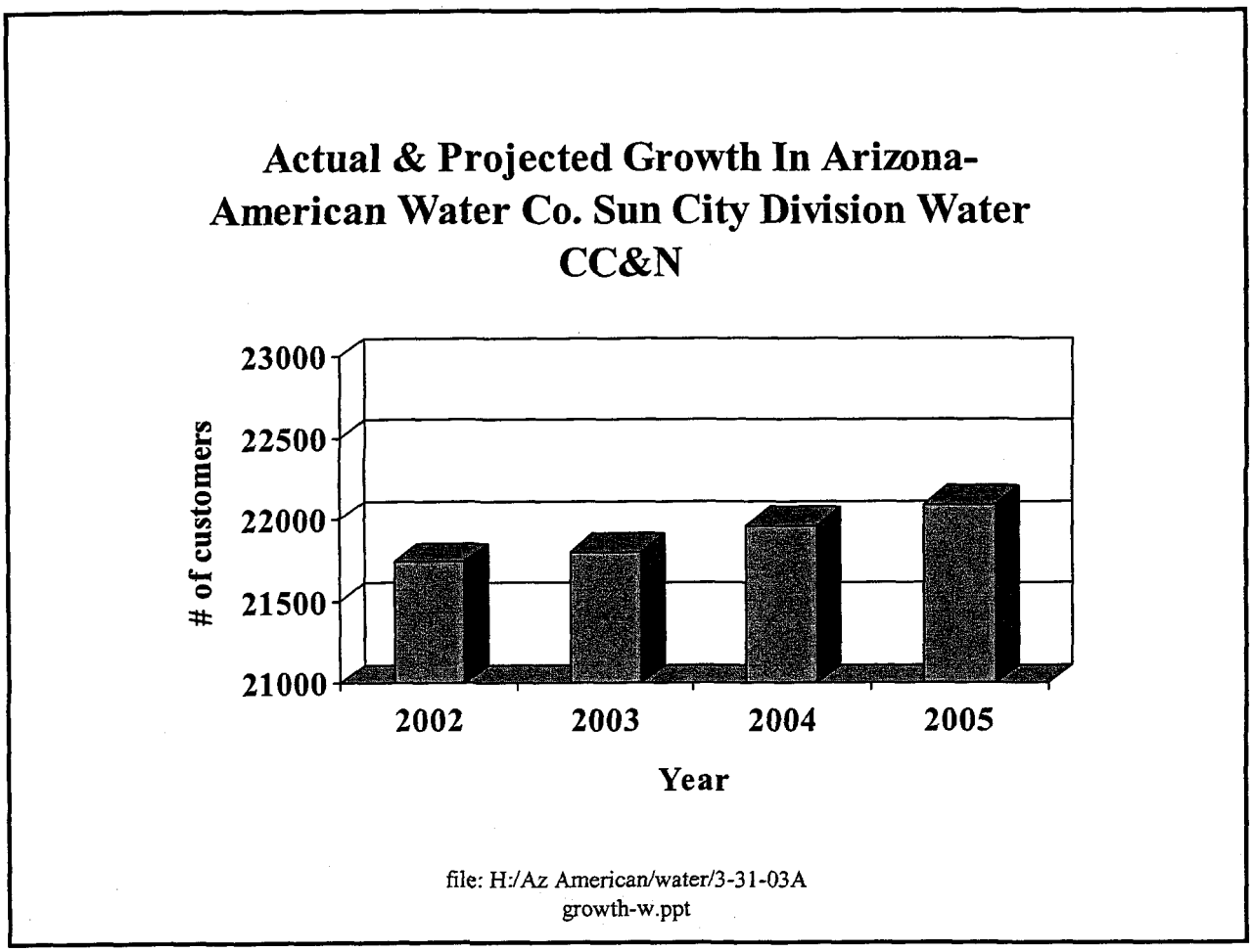


FIGURE 5

GROWTH IN SUN CITY WATER DIVISION



file: H:/Az American/water/3-31-03A growth-w.ppt

FIGURE 6
DEPRECIATION RATES FOR WATER SYSTEMS

Account No.	Depreciable Plant	Rate (%)
	Intangible	
301.00	Organization	0
302.00	Franchises	0
303.00	Miscellaneous Intangible	0
	Source of Supply	
310.00	Land and Land Rights	0
311.00	Structures and Improvements	2.5
312.00	Collecting and Impounding Res.	2.5
313.00	Lakes, Rivers, Other Intakes	0
314.00	Wells and Springs	2.52
	Pumping	
320.00	Land and Land Rights	0
321.00	Structures and Improvements	1.67
323.00	Other Power Production	4.42
325.00	Electric Pumping Equipment	4.42
326.00	Diesel Pumping Equipment	5
328.10	Gas Engine Pumping Equipment	5.01
	Water Treatment	
330.00	Land and Land Rights	0
331.00	Structures and Improvements	1.67
332.00	Water Treatment Equipment	4
	Transmission and Distribution	
340.00	Land and Land Rights	0
341.00	Structures and Improvements	2
342.00	Distribution, Reservoirs, & ST	1.67
343.00	Transmission and Distribution	1.53
344.00	Fire Mains	0
345.00	Services	2.48
346.00	Meters	2.51
348.00	Hydrants	2
349.00	Other Transmission & Distribution	2
	General	
389.00	Land and Land Rights	0
390.00	Structures and Improvements	1.67
391.00	Office Furniture and Equipment	4.59
391.10	Computer Equipment	4.59
392.00	Transportation Equipment	25
393.00	Stores Equipment	3.91
394.00	Tools, shop and Garage	4.02
395.00	Laboratory Equipment	3.71
396.00	Power Operated Equipment	5.2
397.00	Communication Equipment	10.3
398.00	Miscellaneous Equipment	4.93

EXHIBIT DMH-2

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

BY DOROTHY HAINS

AUGUST, 2003

Engineering Report
For Arizona-American Water Company's
Sun City Wastewater Division
Docket No. WS-01303A-02-0868
(Rate Increase Application)
By Dorothy Hains

AUGUST 2003

EXECUTIVE SUMMARY

Recommendations:

I. Staff recommends that the Sun City Wastewater depreciation rates delineated in Figure 6 be used for this proceeding. (See §G of report for discussion and details.).

II. Staff recommends that Sun City Wastewater's original cost plant in service value be adjusted by $15,547 to reflect the removal of certain plant items that were determined to be not used and useful during the test year. (See §H of report for discussion and details).

III. Staff has evaluated Sun City Wastewater's RCN and recommends that its cost values not be accepted for purposes of setting rates in this proceeding. (See §H of report for discussion and details).

IV. Staff recommends the acceptance without adjustment of Sun City Wastewater's revised *Pro Forma* Plant Schedule B-2, page 9 supplied in data response JAC-13-5, provided by Mr. Tom Bourassa. (See §H of report for discussion and details.) However, this "used and useful" determination does not imply a specific treatment for rate base or rate making purposes.

Conclusions:

I. Staff concludes that the Tolleson Wastewater Treatment Plant ("WWTP") filter media replacement project is necessary and reasonable and that the method used to allocate a share of the cost to Sun City Wastewater is reasonable. (See §H of report for discussion and details).

II. The Company does not own or operate a wastewater treatment plant. The Company collects the wastewater in its CC&N's area, and then transports the wastewater to the Town of Tolleson WWTP for treatment and disposal. ADEQ has determined that the Tolleson WWTP is currently in substantial compliance with Clean Water Act. (See §C of report for discussion and details.)

III. The Sun City Wastewater District has no outstanding Arizona Corporation Commission *compliance issues.* (See §D of report for discussion and details.)

TABLE OF CONTENTS

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FIGURES

A. LOCATION OF COMPANY

Arizona-American Water Company Sun City Wastewater Division ("Sun City Wastewater" or "Company" or "Arizona-American") serves approximately 21,150 customers, and is located in Town of Sun City which is west of the City of Phoenix in Maricopa County. Figure 1 describes the location of the Company within Maricopa County, and Figure 2 describes the CC&N area of Sun City Wastewater.

B DESCRIPTION OF THE WASTEWATER SYSTEM

The plant facilities were visited on February 25, 2003 by Dorothy Hains, in the accompaniment of Mark Cardoza, the Company's Wastewater Plant Superintendent.

This system consists only of a collection system that includes lift stations, force mains and collection lines.

Figure 3 provides a process schematic for the wastewater system.

Lift Station Facilities

Location	No. Pumps	Pump HP	Capacity (gpm per pump)	Wet Well Capacity (gallons)
111th Ave. Lift Station (@111th Ave & 200 N Olive Ave.)	2	3	100	1,000
Paradise Resort Lift Station (@10950 W Union Hills)	2	7½	175	1,700
Youngtown Lift Station (@111th Ave. & Peoria Ave., installed in 1998)	2	23	700	4228
Baptist Village Lift Station (@11527 W Peoria Ave.)	2	7½	160	1,761
Coyote Lakes Lift Station (@17280 N 115th Ave.)	2	40	500	7,000
Paradise Resort Lift Station (@10950 W Union Hills Rd)	2	7½	175	7,900
Citrus Point Lift Station (@ 16401 N 115th Ave., installed in 1999)	2	20	500	5,500

Abandoned Lift Station Facilities

Location	No. Pumps	Pump HP	Capacity (gpm per pump)	Wet Well Capacity (gallons)	Year abandoned
Rose Garden Lift Station (@16207 Summer Sunshine, retired in 2000)	2	20	160	1,000	2000

Other Plant

Location	No. Pumps	Flow metering device
99th Ave. Metering Station (@9802 W Olive Ave.)	0	yes

Force Mains

Size (in inches)	Material	Length (feet)
4	Various	2,983
6	Various	2,037
10	Various	14,121
12	Various	10,410

Collection Mains

Size (in inches)	Material	Length (in feet)
4	Various	122
6	Various	9.795
8	Various	1,165,936
10	Various	64,606
12	Various	31,497
15	Various	16,282
18	Various	10,442
21	Various	8,053
27	Various	1,310
30	Various	3,247
33	Various	839
36	Various	865
Undetermined	Various	84,488

Manholes & Cleanouts

Type	Quantity
Standard Manhole	4,388
Drop Manhole	0
Cleanouts	733

C. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY ("ADEQ") COMPLIANCE

The Company does not own or operate a wastewater treatment plant. The Company collects the wastewater in its CC&N's area, and then transports the wastewater to the Town of Tolleson Wastewater Treatment Plant ("Tolleson WWTP") for treatment and disposal. Therefore, neither

ADEQ nor the Maricopa County Environmental Services Department ("MCESD") regulates the Company. However, ADEQ does regulate the Tolleson WWTP. ADEQ has determined that the Tolleson WWTP is currently in substantial compliance with Clean Water Act.

D. ACC COMPLIANCE

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

E. WASTEWATER FLOW RATE

Table 1 below summarizes the Sun City Wastewater flow data during 2002 and Figure 4 is a graphic illustration of the same flow data. During this period, Sun City Wastewater experienced a daily average wastewater flow of 180 gallons per day ("gpd") per connection, a high wastewater flow of 221 gpd per connection in March, and a low wastewater flow of 151 gpd per connection in May. A total of 145,174,000 gallons of wastewater was collected in March from 21,144 connections and a total of 98,875,000 gallons of wastewater was collected from 21,144 customers in May.

Table 1 Wastewater Flow

Month	Number of Connections	Total Volumes of Treated Wastewater (gallons)	Daily Flow (gallons/day)	Daily Average Flow (gal/day/customers)
Jan	21,144*	143,349,000*	4,985,000*	219*
Feb	21,144	128,837,000	5,285,000	218
Mar	21,144	145,174,000	5,237,000	221
Apr	21,144	117,033,000	4,158,000	185
May	21,144	98,875,000	3,969,000	151
Jun	21,144	104,436,000	5,222,000	165
Jul	21,149	118,147,000	5,338,000	180
Aug	21,150	108,715,000	4,861,000	166
Sep	21,150	126,404,000	4,779,000	199
Oct	21,150	115,018,000	4,588,000	175
Nov	21,150	93,886,000	3,924,000	148
Dec	21,150	112,378,000	4,659,000	171
Average			4,729,091	180

Note: "*" means that data do not represent full month.

F. GROWTH

Figure 5 shows customer growth based on Sun City Wastewater's estimates. Staff has reviewed the Company's growth estimates and finds them to be reasonable. Because of the recent changes in Company ownership reliable data which could be used by Staff to estimate growth based on a linear regression analysis is not available. Sun City Wastewater estimates that 21,498 customers will be served by the Company within next three years. Using this estimate, Staff calculated a growth rate of 116 customers per year in Sun City Wastewater's CC&N area.

G. DEPRECIATION RATES

The Company and staff conducted depreciation studies for Sun City Wastewater in its prior rate proceeding. The Commission's Decision in that proceeding (Decision 60172, dated May 7, 1997) ordered the Company to continue using the existing depreciation rates. These rates are presented in Figure 6. The Company used these rates in this proceeding. It is recommended that the Company continue to use the depreciation rates delineated in Figure 6.

H. OTHERS

1. Tolleson WWTP Trickling Filter Media Replacement Project

The Tolleson WWTP was installed in 1968 and has a maximum flow capacity of 17.5 million gallons per day ("MGD"). In 1999 the U.S. Environmental Protection Agency ("EPA") issued a National Pollutant Discharge Elimination System ("NPDES") permit for the Tolleson WWTP. EPA requires the Tolleson WWTP to meet secondary treatment effluent standards before the plant's wastewater is discharged. In order to meet the NPDES discharging limits, Tolleson WWTP must reduce 5-day biochemical oxygen demand ("BOD_5") and total suspended solids ("TSS") levels in the effluent to 30 mg/l each, before the effluent is discharged into the Gila River and/or is delivered to the Palo Verde Nuclear Generation Station for use in the cooling towers.

A Trickling Filter Media is used in the wastewater treatment process to remove suspended solids in the final stages of the process. The Tolleson WWTP has two trickling filters, an east filter and a west filter (named according to their respective locations within the plant). The west trickling filter, which is the filter being replaced in the subject project, is contained in a circular concrete structure that is 26 feet deep and 132 feet in diameter. The biomass filter media in the trickling filter has been in service for over 20 years. According to the manufacture recommendations this filter media should be replaced every 20 years. The estimated cost of this project is $1,694,000 or, $4.76 per cubic foot of capacity, which Staff finds reasonable.

The Tolleson WWTP has requested that the major users of the plant help pay for the filter media replacement project. Each user's contribution amount was calculated based on what their wastewater flow represented as a percentage of the total flow capacity of the plant multiplied times the total project cost. Because Sun City Wastewater's flow of 4.7 MGD is about twenty seven percent (27%) of the overall Tolleson plant capacity, Sun City Wastewater was asked to contribute $500,000 which represents approximately 27 percent of the total project cost.

After reviewing this proposal and conducting a site inspection, Staff concludes that the filter media replacement project is necessary and reasonable and that the method used to allocate a share of the cost to Sun City Wastewater is reasonable.

2. Post-Test Year Plant

The Company is requesting inclusion of certain capital improvements after the test year ending December 31, 2001. These are the same improvements as shown in the Company's revised *Pro Forma* Plant Schedules B-2, page 9 supplied in data response JAC-13-5, provided by Mr. Tom

Bourassa. Post test year improvements were inspected during the month of February of 2003 and represent calendar year 2002 additions. All major additions which were field auditable were inspected. There were some items that were not auditable or were not practical to audit (i.e., such as inter-office allocation of software costs, blanket repair accounts for sewer mains, etc.). However, every item which was auditable was in place, exactly as described, and operating, with no exceptions.

The findings of the field audit support the use, without adjustment, of the total post test year plant shown in Table 2 of $203,874. However, this "used and useful" determination does not imply a specific treatment for rate base or rate making purposes. The direct testimony of Mr. Darron Carlson will discuss the post test year rate base and rate making treatment in this case.

Table 2 Arizona-American Water Company –Sun City Wastewater Division
2002 Post Test Year Plant

Acct No.	Description	Amount ($)	Total ($)
354	**Structures & Improvement** 1. Corporate Office It allocation	31,437.27	31,437
361	**Collection Sewers – Gravity** 1. Blkt WW Mn Rep 8"	289.57	290
390	**Office Furniture & Improvement** 1. Corporate Office It allocation	138,562.20	138,562
396	**Communication Equipment** 1. Corporate Office It allocation	33,584.82	33,585
	Total		**203,874**

3. Reproduction Cost New ("RCN")

Sun City Wastewater submitted an RCN Asset Listing for the year ending December 31, 2001. This RCN reported an OC plant-in-service value of $17,887,373 and an RCN plant-in-service value of $49,324,865. Staff has evaluated Sun City Wastewater's RCN and recommends that its value not be accepted for purposes of setting rates in this proceeding. (For further discussion, see my direct testimony.)

4. Chemical Testing Expenses

The Company does not own or operate a wastewater treatment plant. Therefore, Sun City Wastewater does not have to monitor any specified water qualities. However, at the request of the Tolleson WWTP, Sun City Wastewater does occasionally test the quality of its wastewater. Staff is in agreement with Sun City Wastewater's position not to seek recovery of any chemical testing expenses in this rate proceeding.

5. Original Cost ("OC") Deduction

During the review, Staff discovered that two plant items are listed as "unidentified". Because the Company is unable to identify the items, Staff recommends that total of $15,547 of OC should be removed from plant-in-service.

Asset ID	Item	Quantity	Account	Date Installed	Original Cost
Miscellaneous Intangibles	UNIDENTIFIED	1	T30300	01-Jul-74	868
Miscellaneous Equipment	UNIDENTIFIED	1	T39800	01-Jul-75	14,679
				Total	**15,547**

FIGURES

FIGURE 1

SUN CITY SEWER CERTIFICATED AREA

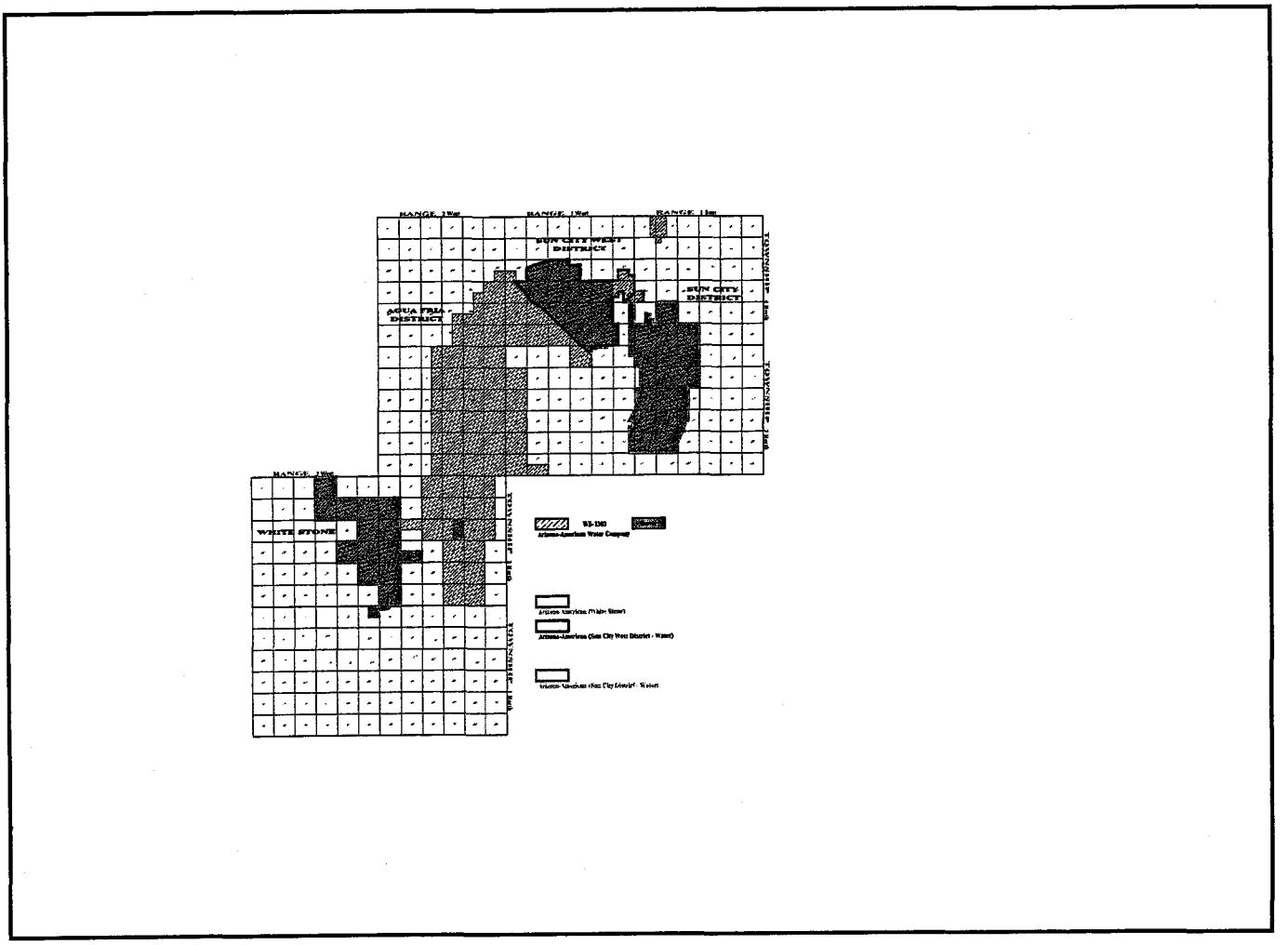


FIGURE 2

LOCATION OF SUN CITY WASTEWATER DIVISION

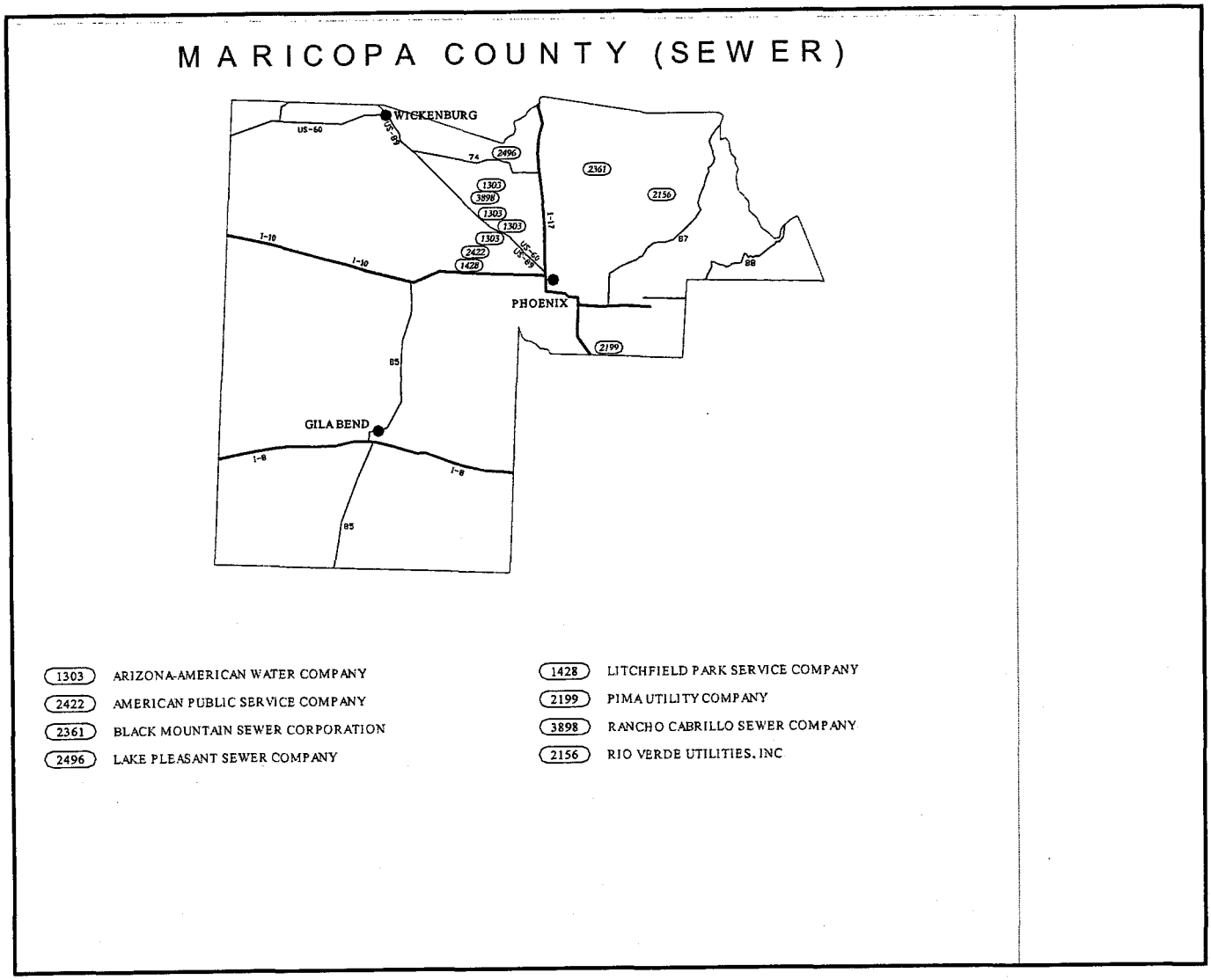


FIGURE 3

SUN CITY SEWER SYSTEMATIC FLOW DIAGRAM

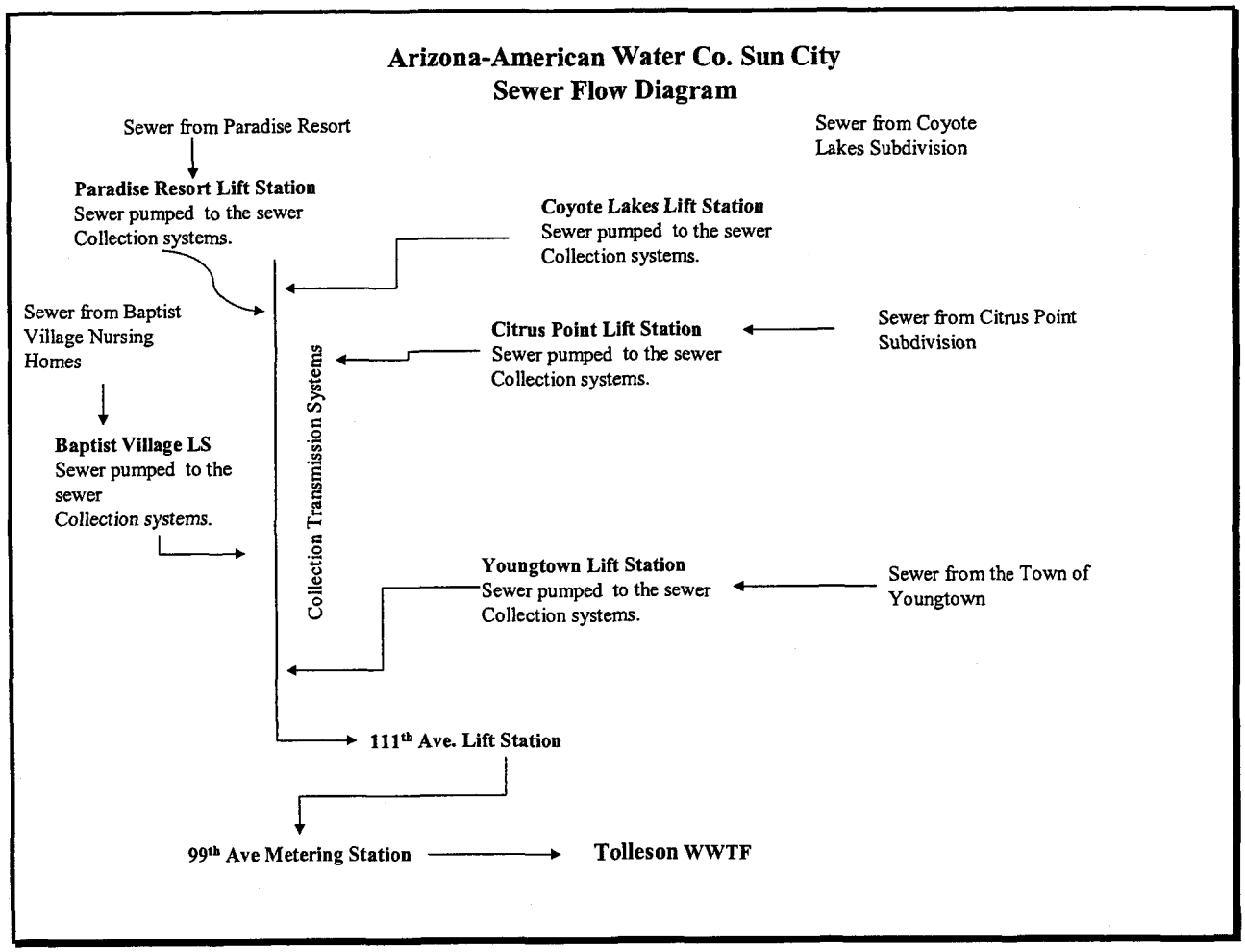


FIGURE 4

WASTEWATER FLOW IN SUN CITY WATER DIVISION

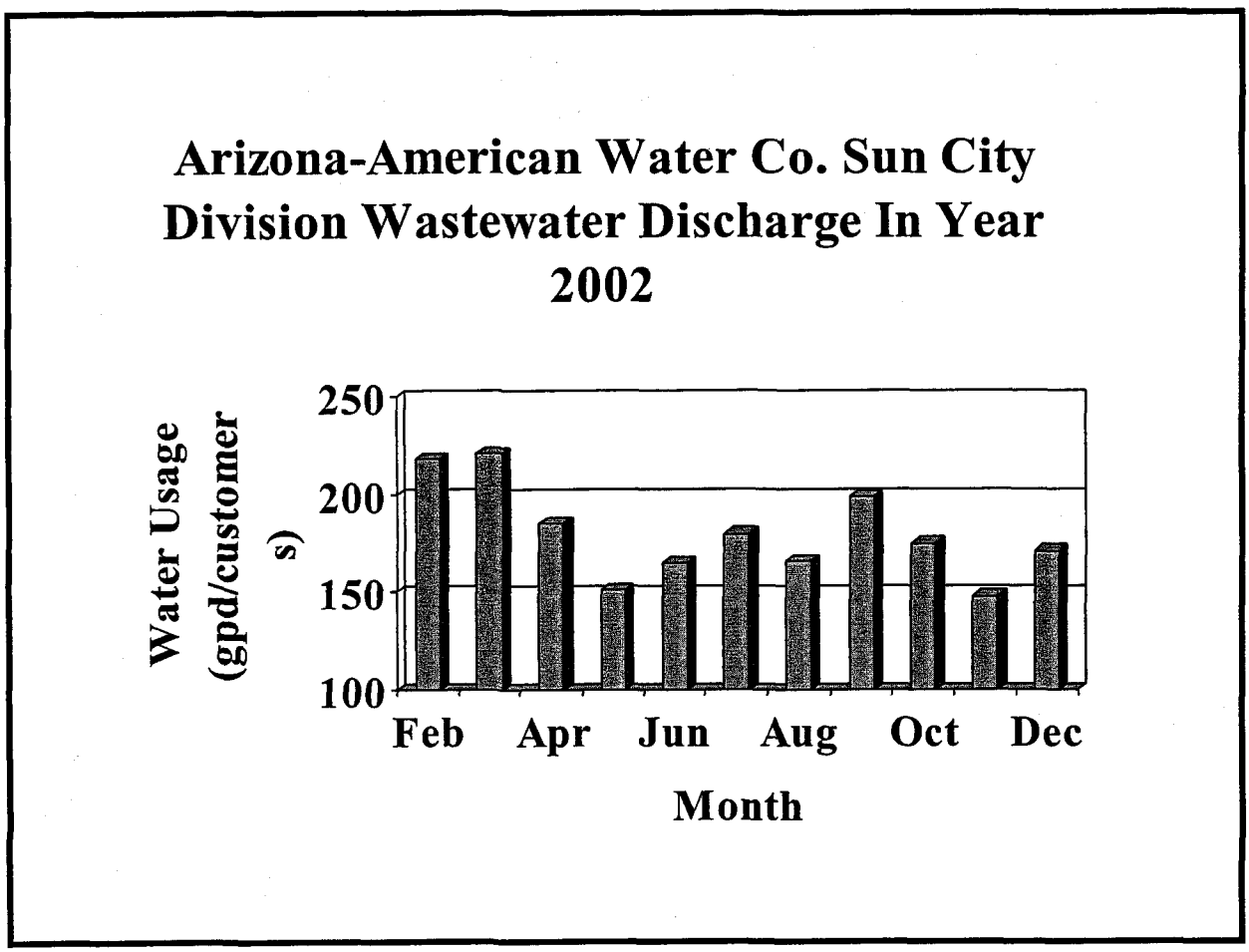


FIGURE 5

GROWTH IN SUN CITY WASTEWATER DIVISION

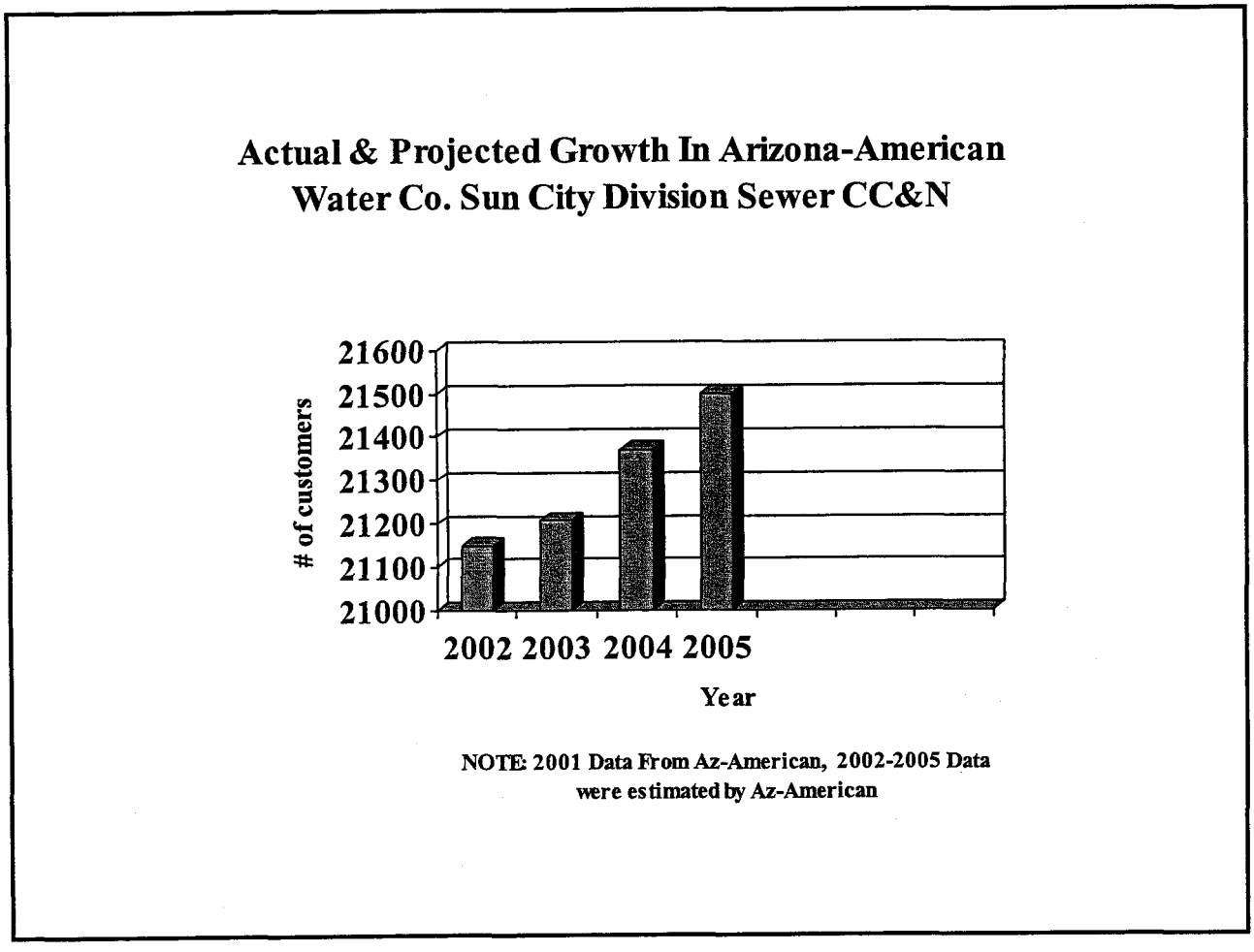
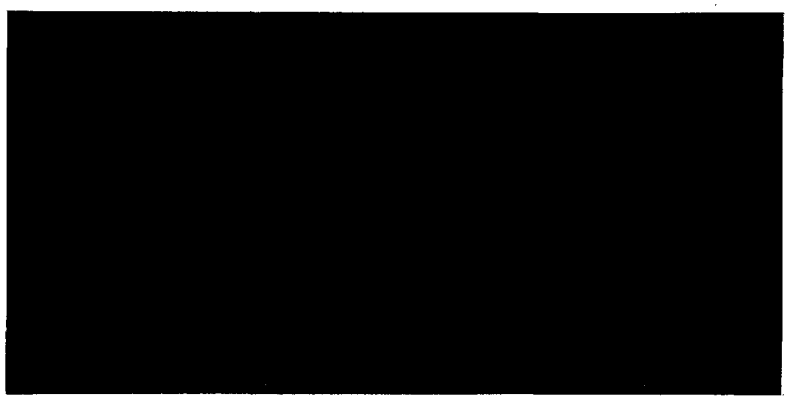


FIGURE 6

DEPRECIATION RATES FOR WASTEWATER SYSTEM

Account No.	Depreciable Plant	Rate (%)
	Intangible	
301.00	Organization	0
302.00	Franchises	0
303.00	Miscellaneous Intangible	0
	Treatment & Discharge	
310.00	Land and Land Rights	0
311.00	Structures and Improvements	2.5
312.00	Preliminary Treatment	0
313.00	Primary Treatment Equipment	0
314.00	Secondary Treatment Equipment	2.52
315.00	Tertiary Equipment	0
316.00	Disinfection Equipment	0
317.00	Effluent Lift Station E	2
318.00	Outfall Line	2
319.00	Sludge, Treatment & Distribution	2.5
321.00	Influent Lift Station	2
322.00	General Treatment Equipment	2
	Collection and Influent	
340.00	Land and Land Rights	0
341.00	Structures and Improvements	2
342.00	Collection System Lift	8.4
343.00	Collection Mains	2.04
344.00	Force Mains	2.07
345.00	Discharge Services	2.04
348.00	Manholes	2.03
	General	
389.00	Land and Land Rights	0
390.00	Structures and Improvements	1.68
391.00	Office Furniture and Equipment	4.55
391.10	Computer Equipment	4.55
392.00	Transportation Equipment	25
393.00	Stores Equipment	3.92
394.00	Tools, shop and Garage	4.14
395.00	Laboratory Equipment	3.71
396.00	Power Operated Equipment	5.14
397.00	Communication Equipment	10.28
398.00	Miscellaneous Equipment	4.98



ARIZONA CORPORATION COMMISSION
UTILITIES DIVISION

SCHEDULES

(VOLUME 3 OF 3)

DOCKET NOS. WS-01303A-02-0867
WS-01303A-02-0868
W-01303A-02-0869
WS-01303A-02-0870
W-01303A-02-0908

IN THE MATTER OF THE APPLICATIONS OF ARIZONA-AMERICAN WATER COMPANY, INC., AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS SUN CITY WEST WATER AND WASTEWATER DISTRICTS, SUN CITY WATER AND WASTEWATER DISTRICTS, MOHAVE AND HAVASU WATER DISTRICTS, ANTHEM AND AGUA FRIA WATER AND WASTEWATER DISTRICTS, AND TUBAC WATER DISTRICT

SEPTEMBER 5, 2003

SUN CITY WEST

WATER

ARIZONA-AMERICAN WATER COMPANY, INC. - **SUN CITY WEST WATER** Schedule DWC-1
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY FAIR VALUE	[B] STAFF ORIGINAL COST	[C] STAFF FAIR VALUE
1	Adjusted Rate Base	$ 16,407,510	$ 12,063,516	$ 12,063,516
2	Adjusted Operating Income/(Loss)	$ 361,288	$ 555,034	$ 555,034
3	Current Rate of Return (L2 / L1)	2.20%	4.60%	4.60%
4	Required Rate of Return	7.75%	6.6%	6.6%
5	Required Operating Income (L4 x L1)	$ 1,271,582	$ 793,779	$ 793,779
6	Operating Income Deficiency/(Excess) (L5 - L2)	$ 910,294	$ 238,746	$ 238,746
7	Gross Revenue Conversion Factor	1.62860	1.62863	1.62863
8	Required Revenue Increase/(Decrease) (L7 x L6)	$ 1,482,505	**$ 388,829**	**$ 388,829**
9	Adjusted Test Year Revenue	$ 3,380,774	$ 3,380,774	$ 3,380,774
10	Proposed Annual Revenue (L8 + L9)	$ 4,863,279	$ 3,769,603	$ 3,769,603
11	Required Increase/Decrease in Revenue (%)	43.85%	11.50%	11.50%
12	Rate of Return on Common Equity (%)	11.50%	9.7%	9.7%

References:
Column [A]: Company Schedules A-1, A-2, & D-1
Columns [B] & [C]: Staff Schedules AII-1, DWC-2, DWC-3, & JMR-9

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

Schedule DWC-2

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	[A]	[B]	[C]	[D]
	Calculation of Gross Revenue Conversion Factor:				
1	Billings	100.0000%			
2	Uncollecible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Tax Rate (Line 17)	38.5989%			
5	Subtotal (L3 - L4)	61.4011%			
6	Revenue Conversion Factor (L1 / L5)	1.628635			
	Calculation of Uncollecttible Factor:				
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	38.5989%			
9	One Minus Combined Income Tax Rate (L7 - L8)	61.4011%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 x L10)	0.0000%			
	Calculation of Effective Tax Rate:				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L12 - L13)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 40)	34.0000%			
16	Effective Federal Income Tax Rate (L14 x L15)	31.6309%			
17	Combined Federal and State Income Tax Rate (L13 + L16)	38.5989%			
18	Required Operating Income (Schedule DWC-1, Col. [B], Line 5)	$ 793,779			
19	Adjusted Test Year Operating Income (Loss) (Sch. AII-1, Col. [C], Line 28)	$ 555,034			
20	Required Increase in Operating Income (L18 - L19)		$ 238,746		
21	Income Taxes on Recommended Revenue (Col. [D], L39)	$ 285,141			
22	Income Taxes on Test Year Revenue (Col. [B], L39)	$ 135,058			
23	Required Increase in Revenue to Provide for Income Taxes (L21 - L22)		$ 150,084		
24	Recommended Revenue Requirement (Schedule DWC-1, Col. [B], Line 10)	$ 3,769,603			
25	Uncollectible Rate (Line 10)	0.0000%			
26	Uncollectible Expense on Recommended Revenue (L24 x L25)	$ -			
27	Adjusted Test Year Uncollectible Expense	$ -			
28	Required Increase in Revenue to Provide for Uncollectible Exp. (L26 - L27)		$ -		
29	Total Required Increase in Revenue (L20 + L23 + L28)		$ 388,829		

	Calculation of Income Tax:	Test Year		STAFF Recommended	
30	Revenue (Schedule AII-1, Col. [C], Line 5 & Sch. DWC-1, Col. [B], Line 10)	$ 3,380,774		$ 3,769,603	
31	Operating Expenses Excluding Income Taxes	$ 2,690,682		$ 2,690,682	
32	Synchronized Interest (L43)	$ 340,191		$ 340,191	
33	Arizona Taxable Income (L30 - L31 - L32)	$ 349,901		$ 738,730	
34	Arizona State Income Tax Rate	6.9680%		6.9680%	
35	Arizona Income Tax (L33 x L34)		$ 24,381		$ 51,475
36	Federal Taxable Income (L33 - L35)	$ 325,520		$ 687,255	
37	Federal Income Tax Rate	34.0000%		34.0000%	
38	Federal Income Tax (L36 x L37)		$ 110,677		$ 233,667
39	Combined Federal and State Income Tax (L35 + L38)		$ 135,058		$ 285,141
40	Applicable Federal Income Tax Rate (Col. [D], L38 - Col. [B], L38) / (Col. [C], L36 - Col. [A], L36)				34.0000%
	Calculation of Interest Synchronization:				
41	Rate Base (Schedule DWC-3, Col. [C], Line 17)	$ 12,063,516			
42	Weighted Average Cost of Debt	2.82%			
43	Synchronized Interest (L41 x L42)	$ 340,191			

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Schedule DWC-3

RATE BASE - ORIGINAL COST

LINE NO.		[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	ADJ	[C] STAFF AS ADJUSTED
1	Plant in Service	$ 31,153,379	$ 336,055	A	$ 31,489,434
2	Less: Accumulated Depreciation	6,211,024	90,931	B	6,301,955
3	Net Plant in Service	$ 24,942,355	$ 245,124		$ 25,187,479
	LESS:				
4	Contributions in Aid of Construction (CIAC)	$ -	$ -		$ -
5	Less: Accumulated Amortization	-	-		-
6	Net CIAC	971,578	-		971,578
7	Advances in Aid of Construction (AIAC)	12,151,160	-		12,151,160
8	Customer Deposits	-	-		-
9	Meter Advances	1,225	-		1,225
10	Deferred Income Tax Credits	-	-		-
	ADD:				
11	Cash Working Capital	-	-		-
12	Prepayments	-	-		-
13	Supplies Inventory	-	-		-
14	Projected Capital Expenditures	-	-		-
15	Deferred Debits	-	-		-
16	Citizens Acquisition Adjustment	8,164,652	(8,164,652)	C	-
17	Original Cost Rate Base	$ 19,983,044	$ (7,919,528)		$ 12,063,516

Adjustments:
A. Per plant adjustments on Schedule DWC-4
B. Per accumulated depreciation adjustments on Schedule DWC-4
C. Per acquisition adjustment on Schedule DWC-4

References:
Column [A]: Company Schedule B-1
Column [B]: Staff Schedule DWC-4
Column [C]: Column [A] + Column [B]

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Schedule DWC-4

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] Plant-not used ADJ #1	[C] Plant-unidentified ADJ #2	[D] Plant Mis-Posted ADJ #3	[E] Plant Prev. Dec. ADJ #4	[F] Post-TY Pl. ADJ #5	[G] AFUDC Adj. ADJ #6	[H] Acquisition Adj ADJ #7	[I] STAFF ADJUSTED
		PLANT IN SERVICE:		Leave Blank		Leave Blank	Leave Blank				
1		Intangible									
2	301.00	Organization	$ 20,086	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,086
3	302.00	Franchises	1,588	-	-	-	-	-	-	-	1,588
4	303.00	Miscellaneous Intangibles	-	-	-	-	-	-	-	-	-
5		Subtotal Intangible	21,674	-	-	-	-	-	-	-	21,674
6											
7		Source of Supply									
8	310.00	Land & Land Rights	11,651	-	-	-	-	-	-	-	11,651
9	311.00	Structures & Improvements	357,725	-	-	-	-	8,366	-	-	366,091
10	312.00	Collecting & Impounding Reservoirs	-	-	-	-	-	-	-	-	-
11	313.00	Lakes, Rivers, Other Intakes	-	-	-	-	-	-	-	-	-
12	314.00	Wells and Springs	1,370,011	-	-	-	-	(62,960)	-	-	1,307,051
13		Subtotal Source of Supply	1,739,387	-	-	-	-	(54,594)	-	-	1,684,793
14											
15		Pumping									
16	320.00	Land & Land Rights	44,957	-	-	-	-	-	-	-	44,957
17	321.00	Structures & Improvements	231,439	-	-	-	-	-	-	-	231,439
18	323.00	Other Power Production	-	-	-	-	-	-	-	-	-
19	325.00	Electric Pumping Equipment	5,030,298	-	(11,175)	-	-	(2,335)	-	-	5,016,788
20	326.00	Diesel Pumping Equipment	4,505	-	-	-	-	-	-	-	4,505
21	328.10	Gas Engine Pumping Equipment	1,764	-	-	-	-	-	-	-	1,764
22		Subtotal Pumping	5,312,963	-	(11,175)	-	-	(2,335)	-	-	5,299,453
23											
24		Water Treatment									
25	330.00	Land & Land Rights	-	-	-	-	-	-	-	-	-
26	331.00	Structures & Improvements	38,357	-	-	-	-	-	-	-	38,357
27	332.00	Water Treatment Equipment	149,687	-	-	-	-	463	-	-	150,150
28		Subtotal Water Treatment	188,044	-	-	-	-	463	-	-	188,507
29											
30		Transmission & Distribution									
31	340.00	Land & Land Rights	-	-	-	-	-	-	-	-	-
32	341.00	Structures & Improvements	-	-	-	-	-	-	-	-	-
33	342.00	Distribution Reservoirs & Standpipes	798,143	-	-	-	-	(28,209)	-	-	769,934
34	343.00	Transmission & Distribution	11,777,852	-	(6,343)	-	-	(20,621)	-	-	11,750,888
35	344.00	Fire Mains	169	-	-	-	-	-	-	-	169
36	345.00	Services	6,622,166	-	(1,767)	-	-	-	-	-	6,620,399
37	346.00	Meters	1,678,135	-	-	-	-	-	-	-	1,678,135
38	348.00	Hydrants	1,682,898	-	-	-	-	3,530	-	-	1,686,428
39	349.00	Other Transmission & Distribution	-	-	-	-	-	-	-	-	-
40		Subtotal Transmission & Distribu.	22,559,363	-	(8,110)	-	-	(45,300)	-	-	22,505,953
41											
42		General									
43	389.00	Land & Land Rights	817	-	-	-	-	-	-	-	817
44	390.00	Structures & Improvements	560,392	-	-	-	-	-	-	-	560,392
45	391.00	Office Furniture and Equipment	286,228	-	-	-	-	(17,194)	-	-	269,034
46	391.10	Computer Equipment	317,767	-	-	-	-	-	-	-	317,767
47	392.00	Transportation Equipment	318,346	-	-	-	-	39,911	-	-	358,257
48	393.00	Stores Equipment	4,807	-	-	-	-	-	-	-	4,807
49	394.00	Tools, Shop, & Garage Equipment	68,778	-	-	-	-	-	-	-	68,778
50	395.00	Laboratory Equipment	21,787	-	-	-	-	-	-	-	21,787
51	396.00	Power Operated Equipment	20,133	-	-	-	-	-	-	-	20,133
52	397.00	Communication Equipment	118,526	-	-	-	-	2,849	-	-	121,375
53	398.00	Miscellaneous Equipment	46,365	-	(458)	-	-	-	-	-	45,907
54		Subtotal General	1,763,946	-	(458)	-	-	25,566	-	-	1,789,054
55											
56		Add:									
57											
58		Less:									
59		Youngtown Plant*	-	-	-	-	-	-	-	-	-
60		AFUDC Adjustment 3/95**	(431,998)	-	-	-	-	-	431,998	-	-
61		Total Plant in Service	$ 31,153,379	$ -	$ (19,743)	$ -	$ -	$ (76,200)	$ 431,998	$ -	$ 31,489,434
62		Less: Accumulated Depreciation	6,211,024	-	1,750	-	-	-	92,681	-	6,301,955
63		*Net Plant in Service* (L59 - L 60)	$ 24,942,355	$ -	$ (17,993)	$ -	$ -	$ (76,200)	$ 339,317	$ -	$ 25,187,479
64											
65		*LESS:*									
66		Contributions in Aid of Construction (CIAC)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67		Less: Accumulated Amortization	-	-	-	-	-	-	-	-	-
68		Net CIAC (L25 - L26)	971,578	-	-	-	-	-	-	-	971,578
69		Advances in Aid of Construction (AIAC)	12,151,160	-	-	-	-	-	-	-	12,151,160
70		Customer Deposits	-	-	-	-	-	-	-	-	-
71		Meter Advances	1,225	-	-	-	-	-	-	-	1,225
72		Deferred Income Tax Credits	-	-	-	-	-	-	-	-	-
73											
74		*ADD:*									
75		Cash Working Capital Allowance	-	-	-	-	-	-	-	-	-
76		Prepayments	-	-	-	-	-	-	-	-	-
77		Supplies Inventory	-	-	-	-	-	-	-	-	-
78		Projected Capital Expenditures	-	-	-	-	-	-	-	-	-
79		Deferred Debits	-	-	-	-	-	-	-	-	-
80		Citizens Acquisition Adjustment	8,164,652	-	-	-	-	-	-	(8,164,652)	-
81		Original Cost Rate Base	$ 19,983,044	$ -	$ (17,993)	$ -	$ -	$ (76,200)	$ 339,317	$ (8,164,652)	$ 12,063,516

ADJ #		References:
1	Plant - not used & useful	Per Staff Engineering Reports
2	Plant - unidentified	Per Staff Engineering Reports
3	Plant - mis-posted	Per Company Response to Staff Data Request BKB 26-3
4	Plant - removed by previous decision	Per Decision No. 60172
5	Post-Test Year Plant	Per Company Response to Staff Data Request DWC 12-2
6	Remove AFUDC Adj. 3/95	Per Company Response to Staff Data Request DWC 6-10 Amended
7	Remove Acquisition Adjustment	Per Carlson Direct Testimony

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SCHEDULE AII-1

OPERATING INCOME STATEMENT - TEST YEAR AND STAFF PROPOSED

LINE NO. 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
1	*REVENUES:*					
2	Metered Water Sales	$ 3,343,134	$ -	$ 3,343,134	$ 388,829	$ 3,731,963
3	Su Water Sales - Unmetered	-	-	-	-	-
4	Other Operating Revenue	37,640	-	37,640	-	37,640
5	Total Operating Revenues	$ 3,380,774	$ -	$ 3,380,774	$ 388,829	$ 3,769,603
6						
7	*OPERATING EXPENSES:*					
8	Salaries & Wages	$ 455,889	$ (63,865)	$ 392,024	$ -	$ 392,024
9	Purchased Water	-	-	-	-	-
10	Purchased Pumping Power	585,941	327	586,268	-	586,268
11	Chemicals	20,407	500	20,907	-	20,907
12	Repairs & Maintenance	170,058	(21)	170,037	-	170,037
13	Office Supplies & Expense	190,041	(156,942)	33,099	-	33,099
14	Outside Services	32,432	41,482	73,914	-	73,914
15	Service Company Charges	515,886	(515,886)	-	-	-
16	Water Testing	6,069	-	6,069	-	6,069
17	Rents	14,134	-	14,134	-	14,134
18	Transportation Expense	-	-	-	-	-
19	Insurance - General Liability	28,990	11,113	40,103	-	40,103
20	Insurance - Health and Life	-	-	-	-	-
21	Regulatory Comm. Exp. - Rate Case	22,313	-	22,313	-	22,313
22	Miscellaneous Operating Expense	148,620	277,480	426,100	-	426,100
23	Depreciation Expense	750,150	8,619	758,769	-	758,769
24	Taxes Other Than Income	28,072	(23,308)	4,764	-	4,764
25	Property Taxes	148,220	(6,039)	142,181	-	142,181
26	Income Tax	(97,736)	232,794	135,058	150,083	285,141
27						
28	Total Operating Expenses	$ 3,019,486	$ (193,746)	$ 2,825,740	$ 150,083	$ 2,975,824
29	Operating Income (Loss)	$ 361,288	$ 193,746	$ 555,034	$ 238,746	$ 793,779

References:
Column [A]: Company Schedule C-1
Column [B]: Schedule AII-2
Column [C]: Column [A] + Column [B]
Column [D]: Schedules DWC-1 and DWC-2
Column [E]: Column [C] + Column [D]

SCHEDULE AII-2

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SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR

LINE 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] ADJ #7	[I] ADJ #8	[J] STAFF ADJUSTED
1	*REVENUES:*										
2	Metered Water Sales	$ 3,343,134	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,343,134
3	Water Sales - Unmetered	-	-	-	-	-	-	-	-	-	-
4	Other Operating Revenue	37,640	-	-	-	-	-	-	-	-	37,640.0
5	Total Operating Revenues	$ 3,380,774	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,380,774
6											
7	*OPERATING EXPENSES:*										
8	Salaries & Wages	$ 455,889	$ -	$ -	$ (108,156)	$ 392,024	$ (347,733)	$ -	$ -	$ -	$ 392,024
9	Purchased Water	-	-	-	-	-	-	-	-	-	$ -
10	Purchased Pumping Power	585,941	327	-	-	-	-	-	-	-	$ 586,268
11	Chemicals	20,407	500	-	-	-	-	-	-	-	$ 20,907
12	Repairs & Maintenance	170,058	(21)	-	-	-	-	-	-	-	$ 170,037
13	Office Supplies & Expense	190,041	5,921	-	(162,863)	-	-	-	-	-	$ 33,099
14	Outside Services	32,432	41,482	-	-	-	-	-	-	-	$ 73,914
15	Service Company Charges	515,886	-	(515,886)	-	-	-	-	-	-	$ -
16	Water Testing	6,069	-	-	-	-	-	-	-	-	$ 6,069
17	Rents	14,134	-	-	-	-	-	-	-	-	$ 14,134
18	Transportation Expense	-	-	-	-	-	-	-	-	-	$ -
19	Insurance - General Liability	28,990	39,463	-	(28,350)	-	-	-	-	-	$ 40,103
20	Insurance -Health and Life	-	-	-	-	-	-	-	-	-	$ -
21	Regulatory Comm. Exp. - Rate Case	22,313	-	-	-	-	-	-	-	-	$ 22,313
22	Miscellaneous Operating Expense	148,620	278,579	-	(1,099)	-	-	-	-	-	$ 426,100
23	Depreciation Expense	750,150	-	-	-	-	-	8,619	-	-	$ 758,769
24	Taxes Other Than Income	28,072	-		-	4,764	(28,072)	-	-	-	$ 4,764
25	Property Taxes	148,220	-	-	-	-	-	-	(6,039)	-	$ 142,181
26	Income Tax	(97,736)	-	-	-	-	-	-	-	232,794	$ 135,058
27											
28	Total Operating Expenses	$ 3,019,486	$ 366,251	$ (515,886)	$ (300,468)	$ 396,788	$ (375,805)	$ 8,619	$ (6,039)	$ 232,794	$ 2,825,740
29	Operating Income (Loss)	$ 361,288	$ (366,251)	$ 515,886	$ 300,468	$ (396,788)	$ 375,805	$ (8,619)	$ 6,039	$ (232,794)	$ 555,034

ADJ #		References:
1	Citizens, Corporate Costs Allocation	*Schedule AII-3*
2	Service Company Charges	Schedule AII-4
3	Projected additional expenses	Schedule AII-5
4	Test Year Salaries, Wages & Related Expenses	Schedule AII-6
5	Projected Salaries, Wages & Related Expenses	Schedule AII-7
6	Depreciation Expense	Schedule AII-8
7	Property Taxes	Schedule AII-9
8	Income Taxes	Schedule AII-10

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SCHEDULE AII-3

OPERATING INCOME ADJUSTMENT #1 - CITIZEN'S CORPORATE COST

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENTS
1	Taxes Other Than Income	$ -	1a	$ -
2	Purchased Power	$ (327)	1b	$ 327
3	Chemicals	$ (500)	1c	$ 500
4	Subtotal (Line 4 + Line 5)	$ 21	1d	$ (21)
5	Office Supplies & Expense	$ (5,921)	1e	$ 5,921
6	Outside Services	$ (41,482)	1f	$ 41,482
7	Rents	$ -	1g	$ -
8	Insurance Expense - General Liability	$ (39,463)	1h	$ 39,463
9	Miscellaneous Expense	$ (278,579)	1i	$ 278,579
10	Total	$ (366,251)		$ 366,251

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 2
Bourassa, Direct, page 11
Stephenson, Direct, pages 14, 15, and 16

Column [B]: Testimony, AII

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SCHEDULE AII-4

OPERATING INCOME ADJUSTMENT #2 - SERVICE COMPANY CHARGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS
	Service Company Charges	$ 515,886	$ (515,886)
2	Total	$ 515,886	$ (515,886)

REFERENCES:

Column [A]:	Company, Schedule C-2, page 1
Subtotal (Line 4 + Line 5)	Company, Schedule C-2, page 4 Bourassa, Direct, pages 11 and 12 Stephenson, Direct, pages 15 and 16
Column [B]:	Testimony, All

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SCHEDULE AII-5

OPERATING ADJUSTMENT #3 - PROJECTED ADDITIONAL EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 108,156	3a	$ (108,156)
2	Office Expense	$ 162,863	3b	$ (162,863)
3	Subtotal (Line 4 + Line 5)	$ 28,350	3c	$ (28,350)
4	Miscellaneous	$ 1,099	3d	$ (1,099)
5	Total	$ 300,468		$ (300,468)

REFERENCES:

Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 10
Bourassa, Direct, pages 14 and 15
Stephenson, Direct, pages 18 and 19

Column [B]: Testimony, AII

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SCHEDULE AII-6

OPERATING INCOME ADJUSTMENT #4 - TEST YEAR SALARIES AND WAGES, AND RELATED EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ (392,024)	4a	$ 392,024
2	Payroll Taxes	$ (4,764)	4b	$ 4,764
3	Total	$ (396,788)		$ 396,788

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 3
Bourassa, Direct, page 12

Column [B]: Testimony, AII

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OPERATING INCOME ADJUSTMENT #5 - PROJECTED SALARIES AND WAGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 347,733	5a	$ (347,733)
2	Payroll Taxes	$ 28,072	5b	$ (28,072)
3	Total	$ 375,805		$ (375,805)

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 5
Bourassa, Direct, pages 14 and 15
Stephenson, Direct, pages 16 and 17

Column [B]: Testimony, All

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SCHEDULE AII-8

OPERATING ADJUSTMENT #6 - DEPRECIATION EXPENSE

LINE NO.	DESCRIPTION	ORIGINAL COST	RATE	EXPENSE
1	Intangibles			
2	Organization	$ 20,086	0.00%	$ -
3	Franchises	$ 1,588	0.00%	$ -
4	Miscellaneous Intangibles	$ -	0.00%	$ -
5	Subtotal (Line 4 + Line 5)	$ 21,674		$ -
6				
7	Source of Supply			
8	Land and Land Rights	$ 11,651	0.00%	$ -
9	Structures and Improvements	$ 366,091	2.50%	$ 9,152
10	Collecting and Impounding Res.	$ -	0.00%	$ -
11	Lakes, Rivers, Other Intakes	$ -	0.00%	$ -
12	Wells and Springs	$ 1,307,051	2.52%	$ 32,938
13	Subtotal Source of Supply	$ 1,684,793		$ 42,090
14				
15	Pumping			
16	Land and Land Rights	$ 44,957	0.00%	$ -
17	Structures and Improvements	$ 231,439	1.67%	$ 3,865
18	Other Power Production	$ -	0.00%	$ -
19	Electric Pumping Equipment	$ 5,016,788	4.42%	$ 221,742
20	Diesel Pumping Equipment	$ 4,505	4.42%	$ 199
21	Gas Engine Pumping Equipment	$ 1,764	4.42%	$ 78
22	Subtotal Pumping	$ 5,299,453		$ 225,884
23				
24	Water Treatment			
25	Land and Land Rights	$ -	0.00%	$ -
26	Structures and Improvements	$ 38,357	1.67%	$ 641
27	Water Treatment Equipment	$ 150,150	4.00%	$ 6,006
28	Subtotal Water Treatment	$ 188,507		$ 6,647
29				
30	Transmission and Distribution			
31	Land and Land Rights	$ -	0.00%	$ -
32	Structures and Improvements	$ -	0.00%	$ -
33	Distribution, Reservoirs, & ST	$ 769,934	1.67%	$ 10,423
34	Transmission and Distribution	$ 11,750,888	1.53%	$ 179,742
35	Fire Mains	$ 169	0.00%	$ -
36	Services	$ 6,620,399	2.48%	$ 164,230
37	Meters	$ 1,678,135	2.51%	$ 42,121
38	Hydrants	$ 1,686,428	2.00%	$ 33,658
39	Other Transmission & Distribution	$ -	0.00%	$ -
40	Subtotal Transmission and Distribution	$ 22,505,953		$ 430,174
41				
42	General			
43	Land and Land Rights	$ 817	0.00%	$ -
44	Structures and Improvements	$ 560,392	1.68%	$ 9,419
45	Office Funiture and Equipment	$ 269,034	4.55%	$ 12,228
46	Computer Equipment	$ 317,767	4.55%	$ 14,443
47	Transportation Equipment	$ 358,257	25.00%	$ 89,564
48	Stores Equipment	$ 4,807	3.92%	$ 188
49	Tools, Shop and Garage	$ 68,778	4.14%	$ 2,844
50	Laboratory Equipment	$ 21,787	3.71%	$ 808
51	Power Operated Equipment	$ 20,133	5.14%	$ 1,036
52	Communication Equipment	$ 121,375	10.28%	$ 12,474
53	Miscellaneous Equipment	$ 45,907	4.98%	$ 2,286
54	Subtotal General	$ 1,789,054		$ 145,291
55				
56	ADFUC adjustment 3/95	$ -	2.68%	$ -
57		$ 31,489,434		$ 850,086
58	Amortization of Deferred Regulatory Assets	$ 217,667	2.68%	$ 5,841
59	Less: Amotization of Contributions	$ 971,578	10.00%	$ 97,158
60	Staff recommended Depreciation Expense			$ 758,769
61	Company Proposed Depreciation Expense			$ 750,150
62	*Staff Adjustment*			$ 8,619

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WATER
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SCHEDULE AII-9

OPERATING ADJUSTMENT #7 - PROPERTY TAX EXPENSE

LINE NO.	DESCRIPTION	AMOUNT
1	Staff Adjusted Test Year Revenues - 2001	$ 3,380,774
2	Weight Factor	2
3	Subtotal (Line 1 x Line 2)	$ 6,761,548
4	Staff Recommended Revenue	$ 3,769,603
5	Subtotal (Line 4 + Line 5)	$ 10,531,151
6	Number of Years	3
7	Three Year Average (Line 5 / Line 6)	$ 3,510,384
8	Department of Revenue Multiplier	2
9	Revenue Base Value (Line 7 x Line 8)	$ 7,020,767
10	Plus: 10% of CWIP - 2001	$ -
11	Less: Net Book Value of Licensed Vehicles	$ 300,746
12	Less: Net Book Value of Licensed Vehicles - Pro Forma	$ 17,600
13	Full Cash Value (Line 9 + Line 10 - Line 11)	$ 6,702,421
14	Assessment Ratio	25%
15	Assessment Value (Line 12 x Line 13)	$ 1,675,605
16	Composite Property Tax Rate	8.4854%
17	Staff Recommended Property Tax Expense (Line 14 x Line 15)	$ 142,181
18	Company Proposed Property Tax Expense	$ 148,220
19	Staff Adjustment	$ (6,039)

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SCHEDULE AII-10

OPERATING ADJUSTMENT #8 - INCOME TAX EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT	[C] STAFF PROPOSED
1	Income Taxes	$ (97,736)	$ 232,794	$ 135,058
2	Total	$ (97,736)	$ 232,794	$ 135,058

REFERENCES:

Column [A]: Company, Schedule C-1, page 1
Company, Schedule C-2, page 1
Company, Schedule C-3, page 1

Column [B]: Testimony, AII
Schedule DWC-2

Column [C]: Column [A] + Column [B]

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WATER
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MINIMUM MONTHLY CHARGES

LINE NO.	CUSTOMER CLASS	PRESENT		COMPANY PROPOSED		STAFF RECOMMENDED	
		MINIMUM CHARGE	GALLONS INCLUDED	MINIMUM CHARGE (b)	GALLONS INCLUDED	MINIMUM CHARGE	GALLONS INCLUDED
1	Residential 5/8"	$ 5.00	-	$ 7.23	-	$ 5.60	-
2	Residential 3/4"	$ 5.00	-	$ 7.23	-	$ 5.60	-
3	Residential 1"	$ 13.00	-	$ 18.80	-	$ 14.55	-
4	Residential 1.5"	$ 28.00	-	$ 40.49	-	$ 31.33	-
5	Residential 2"	$ 41.00	-	$ 59.29	-	$ 45.86	-
6	Residential 3"	$ 70.00	-	$ 101.22	-	$ 78.32	-
7	Residential 4"	$ 103.00	-	$ 148.94		$ 115.24	-
8	Residential 6"	$ 141.00	-	$ 203.89		$ 157.75	-
9	Commerical 5/8"	$ 5.00	-	$ 7.23	-	$ 5.60	-
10	Commerical 3/4"	$ 5.00	-	$ 7.23	-	$ 5.59	-
11	Commerical 1"	$ 13.00	-	$ 18.80	-	$ 14.55	-
12	Commerical 1.5"	$ 28.00	-	$ 40.49	-	$ 31.33	-
13	Commerical 2"	$ 41.00	-	$ 59.29		$ 45.88	-
14	Commerical 3"	$ 70.00	-	$ 101.22	-	$ 78.32	-
15	Commerical 4"	$ 103.00	-	$ 148.94	-	$ 115.24	-
16	Commerical 6"	$ 141.00	-	$ 203.89	-	$ 157.76	-
17	PF 4"	$ 30.00	-	$ 43.38	-	$ 33.57	-
18	PF 6"	$ 45.00	-	$ 65.07	-	$ 50.35	-
19	PF 8"	$ 60.00	-	$ 86.76	-	$ 67.13	-
20	Construction	$ -	-	$ -	-	$ -	-
21	Effluent Sales, Per Acre Foot	$ -	-	$ -	-	$ -	-
22	Construction/Untreated CAP	$ -	-	$ -	-	$ -	-

LINE NO.	CUSTOMER CLASS	PRESENT RATES				COMPANY PROPOSED RATES				STAFF RECOMMENDED RATES					
		TIER ONE		TIER TWO		TIER ONE		TIER TWO		TIER ONE		TIER TWO		TIER THREE	
		COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT
23	Residential 5/8"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	4,000	$ 1.24	100,000	$ 1.52	Infinite
24	Residential 3/4"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	4,000	$ 1.24	100,000	$ 1.52	Infinite
25	Residential 1"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	4,000	$ 1.24	100,000	$ 1.52	Infinite
26	Residential 1.5"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	4,000	$ 1.24	100,000	$ 1.52	Infinite
27	Residential 2"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	4,000	$ 1.24	100,000	$ 1.52	Infinite
28	Residential 3"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	4,000	$ 1.24	100,000	$ 1.52	Infinite
29	Residential 4"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	4,000	$ 1.24	100,000	$ 1.52	Infinite
30	Residential 6"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	4,000	$ 1.24	100,000	$ 1.52	Infinite
31	Commerical 5/8"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	4,000	$ 1.24	100,000	$ 1.52	Infinite
32	Commerical 3/4"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	4,000	$ 1.24	100,000	$ 1.52	Infinite
33	Commerical 1"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	4,000	$ 1.24	100,000	$ 1.52	Infinite
34	Commerical 1.5"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	4,000	$ 1.24	100,000	$ 1.52	Infinite
35	Commerical 2"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	4,000	$ 1.24	100,000	$ 1.52	Infinite
36	Commerical 3"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	4,000	$ 1.24	100,000	$ 1.52	Infinite
37	Commerical 4"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	4,000	$ 1.24	100,000	$ 1.52	Infinite
38	Commerical 6"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	4,000	$ 1.24	100,000	$ 1.52	Infinite
39	PF 4"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	Infinite				
40	PF 6"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	Infinite				
41	PF 8"	$ 0.93	8,000	$ 1.12	Infinite	$ 1.34	8,000	$ 1.62	Infinite	$ 0.84	Infinite				
42	Construction	$ 0.60	Infinite			Cancelled				Cancelled					
43	Effluent Sales, Per Acre Foot	$ 150.00	Per Acre Foot			$ 216.90	Per Acre Foot			$ 167.82					
44	Construction/Untreated CAP	$ 0.50	Infinite			$ 0.72	Infinite			$ 0.56					

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN COST COMPARISONS

LINE NO.	CUSTOMER CLASS	CURRENT AVERAGE USAGE	CURRENT AVERAGE DOLLARS	CURRENT MEDIAN USAGE	CURRENT MEDIAN DOLLARS
1	Residential 5/8"	7,171	$ 11.67	6,000	$ 10.58
2	Residential 3/4"	27,333	$ 34.09	19,000	$ 24.76
3	Residential 1"	15,429	$ 28.76	9,000	$ 21.56
4	Residential 1.5"	59,042	$ 92.61	47,000	$ 79.12
5	Residential 2"	55,342	$ 101.46	49,000	$ 94.36
6	Residential 3"				
7	Residential 4"	8,617,167	$ 9,752.71	8,562,000	$ 9,690.92
8	Residential 6"				
9	Commerical 5/8"	5,736	$ 10.33	-	$ 5.00
10	Commerical 3/4"				
11	Commerical 1"	28,108	$ 42.96	15,000	$ 28.28
12	Commerical 1.5"	56,383	$ 89.63	21,000	$ 50.00
13	Commerical 2"	97,766	$ 148.98	33,000	$ 76.44
14	Commerical 3"	185,076	$ 275.76	11,000	$ 80.80
15	Commerical 4"	773,833	$ 968.17	738,000	$ 928.04
16	Commerical 6"	241,750	$ 410.24	239,000	$ 407.16
17	PF 4"	-	$ 30.00	-	$ 30.00
18	PF 6"	-	$ 45.00	-	$ 45.00
19	PF 8"	-	$ 60.00	-	$ 60.00
21	Construction				
22	Effluent Sales, Per Acre Foot				
23	Construction/Untreated CAP				

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED AVERAGE	INCREASE	PERCENT	MEDIAN	INCREASE	PERCENT
24	Residential 5/8"	$ 16.84	$ 5.17	44.31%	$ 15.27	$ 4.69	44.33%
25	Residential 3/4"	$ 49.27	$ 15.18	44.52%	$ 35.77	$ 11.01	44.47%
26	Residential 1"	$ 41.55	$ 12.79	44.49%	$ 31.14	$ 9.58	44.43%
27	Residential 1.5"	$ 133.90	$ 41.29	44.59%	$ 114.39	$ 35.27	44.58%
28	Residential 2"	$ 146.70	$ 45.24	44.59%	$ 136.43	$ 42.07	44.58%
29	Residential 3"						
30	Residential 4"	$ 14,106.51	$ 4,353.80	44.64%	$ 14,017.14	$ 4,326.22	44.64%
31	Residential 6"						
32	Commerical 5/8"	$ 14.92	$ 4.58	44.33%	$ 7.23	$ 2.23	44.60%
33	Commerical 3/4"						
34	Commerical 1"	$ 62.09	$ 19.13	44.54%	$ 40.86	$ 12.58	44.48%
35	Commerical 1.5"	$ 129.59	$ 39.96	44.59%	$ 72.27	$ 22.27	44.54%
36	Commerical 2"	$ 215.43	$ 66.45	44.61%	$ 110.51	$ 34.07	44.57%
37	Commerical 3"	$ 398.80	$ 123.04	44.62%	$ 116.80	$ 36.00	44.55%
38	Commerical 4"	$ 1,400.31	$ 432.14	44.63%	$ 1,342.26	$ 414.22	44.63%
39	Commerical 6"	$ 593.29	$ 183.05	44.62%	$ 588.83	$ 181.67	44.62%
40	PF 4"	$ 43.38	$ 13.38	44.60%	$ 43.38	$ 13.38	44.60%
41	PF 6"	$ 65.07	$ 20.07	44.60%	$ 65.07	$ 20.07	44.60%
42	PF 8"	$ 86.76	$ 26.76	44.60%	$ 86.76	$ 26.76	44.60%
43	Construction						
44	Effluent Sales, Per Acre Foot						
45	Construction/Untreated CAP						

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN COST COMPARISONS

LINE NO.	CUSTOMER CLASS	STAFF RECOMMENDED					
		AVERAGE	INCREASE	PERCENT	MEDIAN	INCREASE	PERCENT
46	Residential 5/8"	$ 13.42	$ 1.75	15.03%	$ 12.05	$ 1.47	13.94%
47	Residential 3/4"	$ 36.02	$ 1.93	5.66%	$ 26.27	$ 1.51	6.10%
48	Residential 1"	$ 31.04	$ 2.28	7.93%	$ 23.52	$ 1.96	9.09%
49	Residential 1.5"	$ 98.85	$ 6.24	6.74%	$ 84.76	$ 5.64	7.13%
50	Residential 2"	$ 109.05	$ 7.59	7.48%	$ 101.63	$ 7.27	7.71%
51	Residential 3"	NOT USED					
52	Residential 4"	$ 12,067.20	$ 2,314.49	23.73%	$ 11,992.86	$ 2,301.94	23.75%
53	Residential 6"	NOT USED					
54	Commerical 5/8"	$ 10.75	$ 0.42	4.08%	$ 5.60	$ 0.60	12.00%
55	Commerical 3/4"	NOT USED					
56	Commerical 1"	$ 45.88	$ 2.92	6.79%	$ 30.54	$ 2.26	7.99%
57	Commerical 1.5"	$ 95.74	$ 6.11	6.81%	$ 54.34	$ 4.34	8.68%
58	Commerical 2"	$ 158.71	$ 9.73	6.53%	$ 80.59	$ 4.15	5.43%
59	Commerical 3"	$ 312.02	$ 36.26	13.15%	$ 89.63	$ 8.83	10.93%
60	Commerical 4"	$ 1,164.97	$ 196.80	20.33%	$ 1,117.50	$ 189.46	20.42%
61	Commerical 6"	$ 470.23	$ 59.99	14.62%	$ 466.41	$ 59.25	14.55%
62	PF 4"	$ 33.57	$ 3.57	11.90%	$ 33.56	$ 3.56	11.88%
63	PF 6"	$ 50.35	$ 5.35	11.89%	$ 50.35	$ 5.35	11.88%
64	PF 8"	$ 67.13	$ 7.13	11.88%	$ 67.13	$ 7.13	11.88%
65	Construction	TO BE CANCELLED					
66	Effluent Sales, Per Acre Foot	$ -	$ -	0.00%	$ -	$ -	0.00%
67	Untreated CAP	$ -	$ -	0.00%	$ -	$ -	0.00%

SUN CITY WEST
WASTEWATER

ARIZONA-AMERICAN WATER COMPANY, INC. - **SUN CITY WEST WASTEWATER** Schedule DWC-1
Docket No. WS-01303A-02-0867 et al.
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REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY FAIR VALUE	[B] STAFF ORIGINAL COST	[C] STAFF FAIR VALUE
1	Adjusted Rate Base	$ 13,455,977	$ 9,004,156	$ 9,004,156
2	Adjusted Operating Income/(Loss)	$ (164,397)	$ (100,172)	$ (100,172)
3	Current Rate of Return (L2 / L1)	-1.22%	-1.11%	-1.11%
4	Required Rate of Return	7.75%	6.6%	6.6%
5	Required Operating Income (L4 x L1)	$ 1,042,838	$ 592,473	$ 592,473
6	Operating Income Deficiency/(Excess) (L5 - L2)	$ 1,207,235	$ 692,646	$ 692,646
7	Gross Revenue Conversion Factor	1.62860	1.62863	1.62863
8	Required Revenue Increase/(Decrease) (L7 x L6)	$ 1,966,103	**$ 1,128,067**	**$ 1,128,067**
9	Adjusted Test Year Revenue	$ 3,535,680	$ 3,535,680	$ 3,535,680
10	Proposed Annual Revenue (L8 + L9)	$ 5,501,783	$ 4,663,747	$ 4,663,747
11	Required Increase/Decrease in Revenue (%)	55.61%	31.91%	31.91%
12	Rate of Return on Common Equity (%)	11.50%	9.7%	9.7%

References:
Column [A]: Company Schedules A-1, A-2, & D-1
Columns [B] & [C]: Staff Schedules AII-1, DWC-2, DWC-3, & JMR-9

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WASTEWATER
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Schedule DWC-2

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	[A]	[B]	[C]	[D]
	Calculation of Gross Revenue Conversion Factor:				
1	Billings	100.0000%			
2	Uncollecible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Tax Rate (Line 17)	38.5989%			
5	Subtotal (L3 - L4)	61.4011%			
6	Revenue Conversion Factor (L1 / L5)	1.628635			
	Calculation of Uncollecttible Factor:				
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	38.5989%			
9	One Minus Combined Income Tax Rate (L7 - L8)	61.4011%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 x L10)	0.0000%			
	Calculation of Effective Tax Rate:				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L12 - L13)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 40)	34.0000%			
16	Effective Federal Income Tax Rate (L14 x L15)	31.6309%			
17	Combined Federal and State Income Tax Rate (L13 + L16)	38.5989%			
18	Required Operating Income (Schedule DWC-1, Col. [B], Line 5)	$ 592,473			
19	Adjusted Test Year Operating Income (Loss) (Sch. All-1, Col. [C], Line 28)	$ (100,172)			
20	Required Increase in Operating Income (L18 - L19)		$ 692,646		
21	Income Taxes on Recommended Revenue (Col. [D], L39)	$ 212,828			
22	Income Taxes on Test Year Revenue (Col. [B], L39)	$ (222,593)			
23	Required Increase in Revenue to Provide for Income Taxes (L21 - L22)		$ 435,421		
24	Recommended Revenue Requirement (Schedule DWC-1, Col. [B], Line 10)	$ 4,663,747			
25	Uncollectible Rate (Line 10)	0.0000%			
26	Uncollectible Expense on Recommended Revenue (L24 x L25)	$ -			
27	Adjusted Test Year Uncollectible Expense	$ -			
28	Required Increase in Revenue to Provide for Uncollectible Exp. (L26 - L27)		$ -		
29	Total Required Increase in Revenue (L20 + L23 + L28)		$ 1,128,067		

	Calculation of Income Tax:	Test Year		STAFF Recommended	
30	Revenue (Schedule All-1, Col. [C], Line 5 & Sch. DWC-1, Col. [B], Line 10)	$ 3,535,680		$ 4,663,747	
31	Operating Expenses Excluding Income Taxes	$ 3,858,445		$ 3,858,445	
32	Synchronized Interest (L43)	$ 253,917		$ 253,917	
33	Arizona Taxable Income (L30 - L31 - L32)	$ (576,682)		$ 551,385	
34	Arizona State Income Tax Rate	6.9680%		6.9680%	
35	Arizona Income Tax (L33 x L34)		$ (40,183)		$ 38,420
36	Federal Taxable Income (L33 - L35)	$ (536,499)		$ 512,964	
37	Federal Income Tax Rate	34.0000%		34.0000%	
38	Federal Income Tax (L36 x L37)		$ (182,410)		$ 174,408
39	Combined Federal and State Income Tax (L35 + L38)		$ (222,593)		$ 212,828
40	Applicable Federal Income Tax Rate (Col. [D], L38 - Col. [B], L38) / (Col. [C], L36 - Col. [A], L36)				34.0000%
	Calculation of Interest Synchronization:				
41	Rate Base (Schedule DWC-3, Col. [C], Line 17)	$ 9,004,156			
42	Weighted Average Cost of Debt	2.82%			
43	Synchronized Interest (L41 x L42)	$ 253,917			

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WASTEWATER
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Test Year Ended December 31, 2001

Schedule DWC-3

RATE BASE - ORIGINAL COST

LINE NO.		[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	ADJ	[C] STAFF AS ADJUSTED
1	Plant in Service	$ 39,101,814	$ 20,284	A	$ 39,122,098
2	Less: Accumulated Depreciation	14,290,245	(134,479)	B	14,155,766
3	Net Plant in Service	$ 24,811,569	$ 154,763		$ 24,966,332
	LESS:				
4	Contributions in Aid of Construction (CIAC)	$ -	$ -		$ -
5	Less: Accumulated Amortization	-	-		-
6	Net CIAC	1,458,672	-		1,458,672
7	Advances in Aid of Construction (AIAC)	14,502,979	-		14,502,979
8	Customer Deposits	525	-		525
9	Meter Advances	-	-		-
10	Deferred Income Tax Credits	-	-		-
	ADD:				
11	Cash Working Capital	-	-		-
12	Prepayments	-	-		-
13	Supplies Inventory	-	-		-
14	Projected Capital Expenditures	-	-		-
15	Deferred Debits	-	-		-
16	Tolleson Trickling Filter	-	-		
16	Citizens Acquisition Adjustment	10,401,376	(10,401,376)	C	-
17	Original Cost Rate Base	$ 19,250,769	$ (10,246,613)		$ 9,004,156

Adjustments:
A. Per plant adjustments on Schedule DWC-4
B. Per accumulated depreciation adjustments on Schedule DWC-4
C. Per acquisition adjustment on Schedule DWC-4

References:
Column [A]: Company Schedule B-1
Column [B]: Staff Schedule DWC-4
Column [C]: Column [A] + Column [B]

RIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WASTEWATER
ocket No. WS-01303A-02-0867 et al.
est Year Ended December 31, 2001

Schedule DWC-4

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] Plant-not used ADJ #1	[C] Plant-unidentified ADJ #2	[D] Plant Mis-Posted ADJ #3	[E] Plant Prev. Dec. ADJ #4	[F] Post-TY Pl. ADJ #5	[G] AFUDC Adj. ADJ #6	[H] Acquisition Adj ADJ #7	[I] STAFF ADJUSTED
		PLANT IN SERVICE:				Leave Blank	Leave Blank				
1		Intangible									
2	301.00	Organization	$ 4,078	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,078
3	302.00	Franchises	1,372	-	-	-	-	-	-	-	1,372
4	303.00	Miscellaneous Intangibles	5,184	-	-	-	-	-	-	-	5,184
5		Subtotal Intangible	10,634	-	-	-	-	-	-	-	10,634
6											
7		Treatment and Discharge									
8	310.00	Land & Land Rights	542,319	-	-	-	-	-	-	-	542,319
9	311.00	Structures & Improvements	2,739,560	-	-	-	-	(21,563)	-	-	2,717,997
10	312.00	Preliminary Treatment	1,068,943	-	-	-	-	-	-	-	1,068,943
11	313.00	Primary Treatment Equipment	1,090,472	-	-	-	-	(6,300)	-	-	1,084,172
12	314.00	Secondary Treatment Equipment	5,720,776	-	-	-	-	(6,300)	-	-	5,714,476
13	315.00	Tertiary Equipment	6,087,981	-	-	-	-	-	-	-	6,087,981
14	316.00	Disfection Equipment	245,070	(212,082)	-	-	-	-	-	-	32,988
15	317.00	Effluent Lift Station E	1,004,341	-	-	-	-	-	-	-	1,004,341
16	318.00	Outfall Line	94,680	-	-	-	-	18,461	-	-	113,141
17	319.00	Sludge, Treatment & Distribution	-	-	-	-	-	-	-	-	-
18	321.00	Influent Lift Station	91,546	-	-	-	-	-	-	-	91,546
20	322.00	General Treatment Equipment	902,060	-	(2,987)	-	-	-	-	-	899,073
13		Subtotal Treatment & Discharge	19,587,748	(212,082)	(2,987)	-	-	(15,702)	-	-	19,356,977
14											
15		Collection and Influent									
16	340.00	Land & Land Rights	20,747	-	-	-	-	-	-	-	20,747
17	341.00	Structures & Improvements	-	-	-	-	-	-	-	-	-
18	342.00	Collection System Lift	1,356,167	-	(380)	-	-	-	-	-	1,355,787
19	343.00	Collection Mains	12,982,219	-	-	-	-	(4,544)	-	-	12,977,675
20	344.00	Force Mains	752,939	-	-	-	-	-	-	-	752,939
	345.00	Discharge Services	2,645,161	-	-	-	-	-	-	-	2,645,161
21	348.00	Manholes	-	-	-	-	-	-	-	-	-
22		Subtotal Collection and Influent	17,757,233	-	(380)	-	-	(4,544)	-	-	17,752,309
23											
42		General - Allocated Common Plant									
43	389.00	Land & Land Rights	780	-	-	-	-	-	-	-	780
44	390.00	Structures & Improvements	948,864	-	-	-	-	(9,826)	-	-	939,038
45	391.00	*Office Furniture and Equipment*	193,582	-	-	-	-	-	-	-	193,582
46	391.10	Computer Equipment	273,086	-	-	-	-	-	-	-	273,086
47	392.00	Transportation Equipment	287,389	-	-	-	-	-	-	-	287,389
48	393.00	Stores Equipment	10,093	-	-	-	-	-	-	-	10,093
49	394.00	Tools, Shop, & Garage Equipment	71,223	-	-	-	-	(3,880)	-	-	67,343
50	395.00	Laboratory Equipment	20,819	-	-	-	-	(5,500)	-	-	15,319
51	396.00	Power Operated Equipment	46,439	-	-	-	-	-	-	-	46,439
52	397.00	Communication Equipment	92,335	-	-	-	-	32,468	-	-	124,803
53	398.00	Miscellaneous Equipment	44,306	-	-	-	-	-	-	-	44,306
54		Subtotal General	1,988,916	-	-	-	-	13,262	-	-	2,002,178
55											
56	Add:			-	-	-	-	-	-	-	-
57				-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-
58	Less:		-	-	-	-	-	-	-	-	-
59		Youngtown Plant*	-	-	-	-	-	-	-	-	-
60		AFUDC Adjustment 3/95**	(242,717)	-	-	-	-	-	242,717	-	-
61	Total Plant in Service		$ 39,101,814	$ (212,082)	$ (3,367)	$ -	$ -	$ (6,984)	$ 242,717	$ -	$ 39,122,098
62	Less: Accumulated Depreciation		14,290,245	208,448	-	-	-	-	73,969	-	14,155,766
63	Net Plant in Service (L59 - L 60)		$ 24,811,569	$ (3,634)	$ (3,367)	$ -	$ -	$ (6,984)	$ 168,748	$ -	$ 24,966,332
64											
65	*LESS:*										
66	Contributions in Aid of Construction (CIAC)		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67	Less: Accumulated Amortization		-	-	-	-	-	-	-	-	-
68	Net CIAC (L25 - L26)		1,458,672	-	-	-	-	-	-	-	1,458,672
69	Advances in Aid of Construction (AIAC)		14,502,979	-	-	-	-	-	-	-	14,502,979
70	*Customer Deposits*		525	-	-	-	-	-	-	-	525
71	Meter Advances		-	-	-	-	-	-	-	-	-
72	Deferred Income Tax Credits		-	-	-	-	-	-	-	-	-
73											
74	*ADD:*										
75	Cash Working Capital Allowance		-	-	-	-	-	-	-	-	-
76	Prepayments		-	-	-	-	-	-	-	-	-
77	Supplies Inventory		-	-	-	-	-	-	-	-	-
78	Projected Capital Expenditures		-	-	-	-	-	-	-	-	-
79	Deferred Debits		-	-	-	-	-	-	-	-	-
80	Tolleson Trickling Filter		-	-	-	-	-	-	-	-	-
81	Citizens Acquisition Adjustment		10,401,376	-	-	-	-	-	-	(10,401,376)	-
82	Original Cost Rate Base		$ 19,250,769	$ (3,634)	$ (3,367)	$ -	$ -	$ (6,984)	$ 168,748	$ (10,401,376)	$ 9,004,156

ADJ #		References:
1	Plant - not used & useful	Per Staff Engineering Reports
2	Plant - unidentified	Per Staff Engineering Reports
3	Plant - mis-posted	Per Company Response to Staff Data Request BKB 26-3
4	Plant - removed by previous decision	Per Decision No. 60172
5	Post-Test Year Plant	Per Company Response to Staff Data Request DWC 12-2
6	Remove AFUDC Adj. 3/95	Per Company Response to Staff Data Request DWC 6-10 Amended
7	Remove Acquisition Adjustment	Per Carlson Direct Testimony

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WASTEWATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

SCHEDULE AII-1

OPERATING INCOME STATEMENT - TEST YEAR AND STAFF PROPOSED

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
1	*REVENUES:*					
2	Flat Rate Revenues	$ 3,534,678	$ -	$ 3,534,678	$ 1,128,067	$ 4,662,745
3	Measured Revenues	-	-	-	-	-
4	Other Wastewater Revenues	1,002	-	1,002	-	1,002
5	Total Operating Revenues	$ 3,535,680	$ -	$ 3,535,680	$ 1,128,067	$ 4,663,747
6						
7	*OPERATING EXPENSES:*					
8	Salaries & Wages	$ 607,304	$ 65,733	$ 673,037	$ -	$ 673,037
9	Purchased Wastewater Treatment	-	-	-	-	-
10	Purchased Power	1,426	-	1,426	-	1,426
11	Fuel for Power Production	-	-	-	-	-
12	Chemicals	375,064	(19,388)	355,676	-	355,676
13	Materials & Supplies	392,206	2,882	395,088	-	395,088
14	Repairs & Maintenance	-	-	-		-
15	Office Supplies & Expense	136,282	(136,282)	-	-	-
16	Outside Services	(14,005)	11,712	(2,293)	-	(2,293)
17	Service Company Charges	552,478	(552,478)	-	-	-
18	Water Testing	-	-	-	-	-
19	Rents	91,410	-	91,410	-	91,410
20	Transportation Expense	-	-	-	-	-
21	Insurance - General Liability	24,187	44,325	68,512	-	68,512
22	Insurance -Health and Life	-	-	-	-	-
23	Regulatory Comm. Exp. - Rate Case	23,335	-	23,335	-	23,335
24	Miscellaneous Operating Expense	243,134	374,587	617,721	-	617,721
25	Depreciation Expense	1,432,265	(21,951)	1,410,314	-	1,410,314
26	Taxes Other Than Income	36,253	30,920	67,173	-	67,173
27	Property Taxes	168,501	(11,455)	157,046	-	157,046
28	Income Tax	(369,763)	147,170	(222,593)	435,421	212,828
29	Tolleson Wastewater User Fees	-	-	-	-	-
30						
31	Total Operating Expenses	$ 3,700,077	$ (64,225)	$ 3,635,852	$ 435,421	$ 4,071,273
32	Operating Income (Loss)	$ (164,397)	$ 64,225	$ (100,172)	$ 692,646	$ 592,474

References:
Column [A]: Company Schedule C-1
Column [B]: Schedule AII-2
Column [C]: Column [A] + Column [B]
Column [D]: Schedules DWC-1 and DWC-2
Column [E]: Column [C] + Column [D]

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WASTEWATER
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Test Year Ended December 31, 2001

SCHEDULE AII-2

SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR

LINE 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] ADJ #7	[I] ADJ #8	[J] STAFF ADJUSTED
1	*REVENUES:*										
2	Flat Rate Revenues	$ 3,534,678	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,534,678
3	Measured Revenues	-	-	-	-	-	-	-	-	-	-
4	Other Wastewater Revenues	1,002	-	-	-	-	-	-	-	-	1,002.0
5	Total Operating Revenues	$ 3,535,680	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,535,680
6											
7	*OPERATING EXPENSES:*										
8	Salaries & Wages	$ 607,304	$ -	$ -	$ (162,234)	$ 673,037	$ (445,070)	$ -	$ -	$ -	$ 673,037
9	Purchased Wastewater Treatment	-	-	-	-	-	-	-	-	-	-
10	Purchased Power	1,426	-	-	-	-	-	-	-	-	1,426
11	Fuel for Power Production	-	-	-	-	-	-	-	-	-	-
12	Chemicals	375,064	3,862	-	(23,250)	-	-	-	-	-	355,676
13	Materials & Supplies	392,206	2,882	-	-	-	-	-	-	-	*395,088*
14	Repairs & Maintenance	-	-	-	-	-	-	-	-	-	-
15	Office Supplies & Expense	136,282	9,821	-	(146,103)	-	-	-	-	-	-
16	Outside Services	(14,005)	11,712	-	-	-	-	-	-	-	(2,293)
17	Service Company Charges	552,478	-	(552,478)		-	-	-	-	-	-
18	Water Testing	-	-	-	-	-	-	-	-	-	-
19	Rents	91,410	-	-	-	-	-	-	-	-	91,410
20	Transportation Expense	-	-	-	-	-	-	-	-	-	-
21	Insurance - General Liability	24,187	44,325	-	-	-	-	-	-	-	68,512
22	Insurance -Health and Life	-	-	-	-	-	-	-	-	-	-
23	Regulatory Comm. Exp. - Rate Case	23,335	-	-	-	-	-	-	-	-	23,335
24	Miscellaneous Operating Expense	243,134	375,507	-	(920)	-	-	-	-	-	617,721
25	Depreciation Expense	1,432,265	-	-	-	-		(21,951)	-	-	1,410,314
26	Taxes Other Than Income	36,253	(17)	-	-	67,189	(36,253)	-	-	-	67,173
27	Property Taxes	168,501	-	-	-	-	-		(11,455)	-	157,046
28	Income Tax	(369,763)	-	-	-	-	-	-	-	147,170	(222,593)
29	Tolleson Wastewater User Fees	-	-	-	-	-	-	-	-	-	-
30											
31	Total Operating Expenses	$ 3,700,077	$ 448,093	$ (552,478)	$ (332,507)	$ 740,226	$ (481,323)	$ (21,951)	$ (11,455)	$ 147,170	$ 3,635,852
32	Operating Income (Loss)	$ (164,397)	$ (448,093)	$ 552,478	$ 332,507	$ (740,226)	$ 481,323	$ 21,951	$ 11,455	$ (147,170)	$ (100,172)

ADJ #		References:
1	Citizens, Corporate Costs Allocation	Schedule AII-3
2	Service Company Charges	Schedule AII-4
3	Projected additional expenses	Schedule AII-5
4	Test Year Salaries, Wages & Related Expenses	Schedule AII-6
5	Projected Salaries, Wages & Related Expenses	Schedule AII-7
6	Depreciation Expense	Schedule AII-8
7	Property Taxes	Schedule AII-9
8	Income Taxes	Schedule AII-10

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WASTEWATER SCHEDULE AII-3
Docket No. WS-01303A-02-0867 et al.
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OPERATING INCOME ADJUSTMENT #1 - CITIZEN'S CORPORATE COST

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Taxes Other Than Income	$ 17	1a	$ (17)
2	Purchased Power	$ -	1b	$ -
3	Chemicals	$ (3,862)	1c	$ 3,862
4	Materials and Supplies	$ (2,882)	1d	$ 2,882
5	Office Supplies	$ (9,821)	1e	$ 9,821
6	Outside Services	$ (11,712)	1f	$ 11,712
7	Rents	$ -	1g	$ -
8	Insurance Expense	$ (44,325)	1h	$ 44,325
9	Miscellaneous Expense	$ (375,507)	1i	$ 375,507
10	Total Adjustments	$ (448,091)		$ 448,109

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 2
Bourassa, Direct, page 11
Stephenson, Direct, pages 14, 15, and 16

Column [B]: Testimony, AII

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WASTEWATER
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SCHEDULE AII-4

OPERATING INCOME ADJUSTMENT #2 - SERVICE COMPANY CHARGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT
1	Service Company Charges	$ 552,478	$ (552,478)
2	Total Adjustments	$ 552,478	$ (552,478)

REFERENCES:

Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 4
Bourassa, Direct, pages 11 and 12
Stephenson, Direct, pages 15 and 16

Column [B]: Testimony, AII

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WASTEWATER Schedule AII-5
Docket No. WS-01303A-02-0867 et al.
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OPERATING ADJUSTMENT #3 - PROJECTED ADDITIONAL EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 162,234	3a	$ (162,234)
2	Office Expense	$ 146,103	3b	$ (146,103)
3	Chemicals	$ 23,250	3c	$ (23,250)
4	Miscellaneous	$ 920	3d	$ (920)
5	Total Adjustment	$ 332,507		$ (332,507)

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 10
Bourassa, Direct, pages 14 and 15
Stephenson, Direct, pages 18 and 19

Column [B]: Testimony, AII

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WASTEWATER
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SCHEDULE AII-6

OPERATING INCOME ADJUSTMENT #5 - TEST YEAR SALARIES AND WAGES, AND RELATED EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ (673,037)	4a	$ 673,037
2	Payroll Taxes	$ (67,189)	4b	$ 67,189
3	Total Adjustments	$ (740,226)		$ 740,226

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 3
Bourassa, Direct, page 12

Column [B]: Testimony, AII

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WASTEWATER SCHEDULE AII-7
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OPERATING INCOME ADJUSTMENT #5 - PROJECTED SALARIES AND WAGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 445,070	5a	$ (445,070)
2	Payroll Taxes	$ 36,253	5b	$ (36,253)
3	Total Adjustments	$ 481,323		$ (481,323)

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 5
Bourassa, Direct, pages 14 and 15
Stephenson, Direct, pages 16 and 17

Column [B]: Testimony, AII

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WASTEWATER
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SCHEDULE AII-8

OPERATING ADJUSTMENT #6 - DEPRECIATION EXPENSE

LINE NO.	DESCRIPTION	ORIGINAL COST	RATE	EXPENSE
	Intangible			
1	Organization	$ 4,078	0.00%	$ -
2	Franchises	$ 1,372	0.00%	$ -
3	Miscellaneous Intangibles	$ 5,184	0.00%	$ -
4	Subtotal Intangible	$ 10,634		$ -
5				
6	Treatment & Discharge			
7	Land and Land Rights	$ 542,319	0.00%	$ -
8	Structures and Improvements	$ 2,717,997	5.00%	$ 135,900
9	Preliminary Treatment	$ 1,068,943	5.00%	$ 53,447
10	Primary Treatment Equipment	$ 1,084,172	5.00%	$ 54,209
11	Secondary Treatment Equipment	$ 5,714,476	5.00%	$ 285,724
12	Tertiary Equipment	$ 6,087,981	5.00%	$ 304,399
13	Disinfection Equipment	$ 32,988	5.00%	$ 1,649
14	Effluent Lift Station E	$ 1,004,341	8.40%	$ 84,365
15	Outfall Line	$ 113,141	5.00%	$ 5,657
16	Sludge, Treatment & Distribution	$ -	5.00%	$ -
17	Influent Lift Station	$ 91,546	8.40%	$ 7,690
18	General Treatment Equipment	$ 899,073	5.00%	$ 44,954
19	Subtotal Treatment & Discharge	$ 19,356,977		$ 977,993
20				
21	Collection and Influent			
22	Land and Land Rights	$ 20,747	0.00%	$ -
23	Structures and Improvements	$ -	1.67%	$ -
24	Collection System Lift	$ 1,355,787	8.40%	$ 113,886
25	Collection Mains	$ 12,977,675	2.04%	$ 264,745
26	Force Mains	$ 752,939	2.07%	$ 15,586
27	Discharge Services	$ 2,645,161	2.04%	$ 53,961
28	Manholes	$ -	2.03%	$ -
29	Subtotal Collection and Influent	$ 17,752,309		$ 448,178
30				
31	General			
32	Land and Land Rights	$ 780	0.00%	$ -
33	Structures and Improvements	$ 939,038	1.68%	$ 15,783
34	Office Funiture and Equipment	$ 193,582	4.55%	$ 8,799
35	Computer Equipment	$ 273,086	4.55%	$ 12,412
36	Transportation Equipment	$ 287,389	25.00%	$ 71,847
37	Stores Equipment	$ 10,093	3.92%	$ 396
38	Tools, Shop and Garage	$ 67,343	4.14%	$ 2,785
39	Laboratory Equipment	$ 15,319	3.71%	$ 568
40	Power Operated Equipment	$ 46,439	5.14%	$ 2,389
41	Communication Equipment	$ 124,803	10.28%	$ 12,827
42	Miscellaneous Equipment	$ 44,306	4.98%	$ 2,206
43	Subtotal General	$ 2,002,178		$ 130,012
44				
45	TOTALS	$ 39,122,098		$ 1,556,183
46	Amortization of Deferred Regulatory Assets	$ -	3.84%	$ -
47	Less: Amortization of Contribution	$ 1,458,672	10.00%	$ (145,867)
48	Staff Recommended Depreciation Expense	$ 40,580,770	3.84%	$ 1,410,314
49	Company Proposed Depreciation Expense			$ 1,432,265
50	Staff Adjustment			$ (21,951)

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WASTEWATER
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SCHEDULE AII-9

OPERATING ADJUSTMENT #7 - PROPERTY TAX EXPENSE

LINE NO.	DESCRIPTION	AMOUNT
1	Staff Adjusted Test Year Revenues - 2001	$ 3,535,680
2	Weight Factor	2
3	Subtotal (Line 1 x Line 2)	$ 7,071,360
4	Staff Recommended Revenue	$ 4,663,747
5	Subtotal (Line 4 + Line 5)	$ 11,735,107
6	Number of Years	3
7	Three Year Average (Line 5 / Line 6)	$ 3,911,702
8	Department of Revenue Mutilplier	2
9	Revenue Base Value (Line 7 x Line 8)	$ 7,823,405
10	Plus: 10% of CWIP - 2001	-
11	Less: Net Book Value of Licensed Vehicles	$ 287,389
12	Full Cash Value (Line 9 + Line 10 - Line 11)	$ 7,536,016
13	Assessment Ratio	25%
14	Assessment Value (Line 12 x Line 13)	$ 1,884,004
15	Composite Property Tax Rate	8.33577%
16	Staff Proposed Property Tax Expense (Line 14 x Line 15)	$ 157,046
17	Company Proposed Property Tax Expense	$ 168,501
18	Staff Adjustment (Line 16 - Line 17)	$ (11,455)

OPERATING ADJUSTMENT #8 - INCOME TAX EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT	[C] STAFF PROPOSED
1	Income Taxes	$ (369,763)	$ 147,170	$ (222,593)
2	Total	$ (369,763)	$ 147,170	$ (222,593)

REFERENCES:

Column [A]: Company, Schedule C-1, page 1
Company, Schedule C-2, page 1
Company, Schedule C-3, page 1

Column [B]: Testimony, AII
Schedule DWC-2

Column [C]: Column [A] + Column [B]

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WASTEWATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

Schedule DRR-1

MINIMUM MONTHLY AND COMMODITY CHARGES

LINE NO.	CUSTOMER CLASS	PRESENT			COMPANY PROPOSED		
		MINIMUM CHARGE	GALLONS INCLUDED	COMMODITY CHARGE	MINIMUM CHARGE	GALLONS INCLUDED	COMMODITY CHARGE
1	Residential Units (WSR)	$ 16.24	-	-	$ 25.27	-	-
2	Commerical (SSC)	$ 23.09	-	-	$ 35.93	-	-
3	Comm. Large User (SS6)	$ 45.42	20,000	$ 0.98	$ 70.67	20,000	$ 1.52
4	Multi-family Res. Units (AC SSR)	$ 16.24	-	-	$ 25.27	-	-
5	Comm. additional toilets (WS1)	$ 5.30	-	-	$ 8.25	-	-
6	Comm. per dishwasher (WS2)	$ 42.58	-	-	$ 66.25	-	-
7	Comm. per wash mach. (WS3)	$ 9.93	-	-	$ 15.45	-	-
8	Comm. per wash rack (WS4)	$ 20.81	-	-	$ 32.38	-	-
9	Industrial Discharge Annual Fee <50,000gal/mo	$ 500.00	50,000	-	$ 500.00	50,000	-
10	Industrial Discharge Annual Fee >50,000gal/mo	$ 1,000.00	>50,000	-	$ 1,000.00	>50,000	-

LINE NO.	CUSTOMER CLASS	STAFF RECOMMENDED		
		MINIMUM CHARGE	GALLONS INCLUDED	COMMODITY CHARGE
11	Residential Units (WSR)	$ 21.45	-	-
12	Commerical (SSC)	$ 30.50	-	-
13	Comm. Large User (SS6)	$ 59.99	20,000	$ 1.29
14	Multi-family Res. Units (AC SSR)	$ 21.45	-	-
15	Comm. additional toilets (WS1)	$ 7.00	-	-
16	Comm. per dishwasher (WS2)	$ 56.24	-	-
17	Comm. per wash mach. (WS3)	$ 13.11	-	-
18	Comm. per wash rack (WS4)	$ 27.48	-	-
19	Industrial Discharge Annual Fee <50,000gal/mo	$ 500.00	50,000	-
20	Industrial Discharge Annual Fee >50,000gal/mo	$ 1,000.00	>50,000	-

Note: Commerical Large User's are the only class with a commodity charge, which is assessed at a rate per 1,000 gallons over 20,000.

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WEST WASTEWATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

Schedule DRR-2

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN USAGE COST COMPARISONS

LINE NO.	CUSTOMER CLASS	CURRENT AVERAGE USAGE	CURRENT AVERAGE DOLLARS	CURRENT MEDIAN USAGE	CURRENT MEDIAN DOLLARS
1	Residential Units (WSR)	-	$ 16.24	-	$ 16.24
2	Commerical (SSC)	-	$ 23.09	-	$ 23.09
3	Comm. Large User (SS6)	187,702	$ 209.77	8,000	$ 45.42
4	Multi-family Res. Units (AC SSR)	-	$ 16.24	-	$ 16.24
5	Comm. additional toilets (WS1)	-	$ 5.30	-	$ 5.30
6	Comm. per dishwasher (WS2)	-	$ 42.58	-	$ 42.58
7	Comm. per wash mach. (WS3)	-	$ 9.93	-	$ 9.93
8	Comm. per wash rack (WS4)	-	$ 20.81	-	$ 20.81
9	Industrial Discharge Annual Fee <50,000gal/mo.				
10	Industrial Discharge Annual Fee >50,000gal/mo.				

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED AVERAGE	INCREASE	PERCENT	MEDIAN	INCREASE	PERCENT
11	Residential Units (WSR)	$ 25.27	$ 9.03	55.60%	$ 25.27	$ 9.03	55.60%
12	Commerical (SSC)	$ 35.93	$ 12.84	55.61%	$ 35.93	$ 12.84	55.61%
13	Comm. Large User (SS6)	$ 325.58	$ 115.81	55.21%	$ 70.67	$ 25.25	55.59%
14	Multi-family Res. Units (AC SSR)	$ 25.27	$ 9.03	55.60%	$ 25.27	$ 9.03	55.60%
15	Comm. additional toilets (WS1)	$ 8.25	$ 2.95	55.66%	$ 8.25	$ 2.95	55.66%
16	Comm. per dishwasher (WS2)	$ 66.25	$ 23.67	55.59%	$ 66.25	$ 23.67	55.59%
17	Comm. per wash mach. (WS3)	$ 15.45	$ 5.52	55.59%	$ 15.45	$ 5.52	55.59%
18	Comm. per wash rack (WS4)	$ 32.38	$ 11.57	55.60%	$ 32.38	$ 11.57	55.60%
19	Industrial Discharge Annual Fee <50,000gal/mo.						
20	Industrial Discharge Annual Fee >50,000gal/mo.						

LINE NO.	CUSTOMER CLASS	STAFF RECOMMENDED AVERAGE	INCREASE	PERCENT	MEDIAN	INCREASE	PERCENT
21	Residential Units (WSR)	$ 21.45	$ 5.21	32.08%	$ 21.45	$ 5.21	32.08%
22	Commerical (SSC)	$ 30.50	$ 7.41	32.09%	$ 30.50	$ 7.41	32.09%
23	Comm. Large User (SS6)	$ 277.05	$ 67.28	32.07%	$ 59.99	$ 14.57	32.08%
24	Multi-family Res. Units (AC SSR)	$ 21.45	$ 5.21	32.08%	$ 21.45	$ 5.21	32.08%
25	Comm. additional toilets (WS1)	$ 7.00	$ 1.70	32.08%	$ 7.00	$ 1.70	32.08%
26	Comm. per dishwasher (WS2)	$ 56.24	$ 13.66	32.08%	$ 56.24	$ 13.66	32.08%
27	Comm. per wash mach. (WS3)	$ 13.11	$ 3.18	32.02%	$ 13.11	$ 3.18	32.02%
28	Comm. per wash rack (WS4)	$ 27.48	$ 6.67	32.05%	$ 27.48	$ 6.67	32.05%
29	Industrial Discharge Annual Fee <50,000gal/mo.						
30	Industrial Discharge Annual Fee >50,000gal/mo.						

SUN CITY WATER

ARIZONA-AMERICAN WATER COMPANY, INC. - **SUN CITY WATER** Schedule DWC-1
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY FAIR VALUE	[B] STAFF ORIGINAL COST	[C] STAFF FAIR VALUE
1	Adjusted Rate Base	$ 48,703,463	$ 21,433,625	$ 21,433,625
2	Adjusted Operating Income/(Loss)	$ 476,006	$ 226,091	$ 226,091
3	Current Rate of Return (L2 / L1)	0.98%	1.05%	1.05%
4	Required Rate of Return	7.75%	6.6%	6.6%
5	Required Operating Income (L4 x L1)	$ 3,774,518	$ 1,410,333	$ 1,410,333
6	Operating Income Deficiency/(Excess) (L5 - L2)	$ 3,298,512	$ 1,184,241	$ 1,184,241
7	Gross Revenue Conversion Factor	1.62860	1.62863	1.62863
8	Required Revenue Increase/(Decrease) (L7 x L6)	$ 5,371,957	**$ 1,928,696**	**$ 1,928,696**
9	Adjusted Test Year Revenue	$ 6,193,090	$ 6,193,090	$ 6,193,090
10	Proposed Annual Revenue (L8 + L9)	$ 11,565,047	$ 8,121,786	$ 8,121,786
11	Required Increase/Decrease in Revenue (%)	86.74%	31.14%	31.14%
12	Rate of Return on Common Equity (%)	11.50%	9.7%	9.7%

References:
Column [A]: Company Schedules A-1, A-2, & D-1
Columns [B] & [C]: Staff Schedules AII-1, DWC-2, DWC-3, & JMR-9

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WATER
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Test Year Ended December 31, 2001

Schedule DWC-2

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	[A]	[B]	[C]	[D]
	Calculation of Gross Revenue Conversion Factor:				
1	Billings	100.0000%			
2	Uncollecible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Tax Rate (Line 17)	38.5989%			
5	Subtotal (L3 - L4)	61.4011%			
6	Revenue Conversion Factor (L1 / L5)	1.628635			
	Calculation of Uncollecttible Factor:				
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	38.5989%			
9	One Minus Combined Income Tax Rate (L7 - L8)	61.4011%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 x L10)	0.0000%			
	Calculation of Effective Tax Rate:				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L12 - L13)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 40)	34.0000%			
16	Effective Federal Income Tax Rate (L14 x L15)	31.6309%			
17	Combined Federal and State Income Tax Rate (L13 + L16)	38.5989%			
18	Required Operating Income (Schedule DWC-1, Col. [B], Line 5)	$ 1,410,333			
19	Adjusted Test Year Operating Income (Loss) (Sch. AII-1, Col. [C], Line 28)	$ 226,091			
20	Required Increase in Operating Income (L18 - L19)		$ 1,184,241		
21	Income Taxes on Recommended Revenue (Col. [D], L39)	$ 506,619			
22	Income Taxes on Test Year Revenue (Col. [B], L39)	$ (237,836)			
23	Required Increase in Revenue to Provide for Income Taxes (L21 - L22)		$ 744,455		
24	Recommended Revenue Requirement (Schedule DWC-1, Col. [B], Line 10)	$ 8,121,786			
25	Uncollectible Rate (Line 10)	0.0000%			
26	Uncollectible Expense on Recommended Revenue (L24 x L25)	$ -			
27	Adjusted Test Year Uncollectible Expense	$ -			
28	Required Increase in Revenue to Provide for Uncollectible Exp. (L26 - L27)		$ -		
29	Total Required Increase in Revenue (L20 + L23 + L28)		$ 1,928,696		

	Calculation of Income Tax:	Test Year		STAFF Recommended	
30	Revenue (Schedule AII-1, Col. [C], Line 5 & Sch. DWC-1, Col. [B], Line 10)	$ 6,193,090		$ 8,121,786	
31	Operating Expenses Excluding Income Taxes	$ 6,204,835		$ 6,204,835	
32	Synchronized Interest (L43)	$ 604,428		$ 604,428	
33	Arizona Taxable Income (L30 - L31 - L32)	$ (616,173)		$ 1,312,523	
34	Arizona State Income Tax Rate	6.9680%		6.9680%	
35	Arizona Income Tax (L33 x L34)		$ (42,935)		$ 91,457
36	Federal Taxable Income (L33 - L35)	$ (573,238)		$ 1,221,067	
37	Federal Income Tax Rate	34.0000%		34.0000%	
38	Federal Income Tax (L36 x L37)		-194901		415163
39	Combined Federal and State Income Tax (L35 + L38)		$ (237,836)		$ 506,619
40	Applicable Federal Income Tax Rate (Col. [D], L38 - Col. [B], L38) / (Col. [C], L36 - Col. [A], L36)				34.0000%
	Calculation of Interest Synchronization:				
41	Rate Base (Schedule DWC-3, Col. [C], Line 17)	$ 21,433,625			
42	Weighted Average Cost of Debt	2.82%			
43	Synchronized Interest (L41 x L42)	$ 604,428			

RATE BASE - ORIGINAL COST

LINE NO.		[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	ADJ	[C] STAFF AS ADJUSTED
1	Plant in Service	$ 39,396,791	$ (1,086,332)	A	$ 38,310,459
2	Less: Accumulated Depreciation	13,717,002	(299,657)	B	13,417,345
3	Net Plant in Service	$ 25,679,789	$ (786,675)		$ 24,893,114
	LESS:				
4	Contributions in Aid of Construction (CIAC)	$ -	$ -		$ -
5	Less: Accumulated Amortization	-	-		-
6	Net CIAC	1,127,078	-		1,127,078
7	Advances in Aid of Construction (AIAC)	2,331,186	-		2,331,186
8	Customer Deposits	-	-		-
9	Meter Advances	1,225	-		1,225
10	Deferred Income Tax Credits	-	-		-
	ADD:				
11	Cash Working Capital	-	-		-
12	Prepayments	-	-		-
13	Supplies Inventory	-	-		-
14	Projected Capital Expenditures	-	-		-
15	Deferred Debits	-	-		-
16	Citizens Acquisition Adjustment	9,746,553	(9,746,553)	C	-
17	Original Cost Rate Base	$ 31,966,853	$ (10,533,228)		$ 21,433,625

Adjustments:
A. Per plant adjustments on Schedule DWC-4
B. Per accumulated depreciation adjustments on Schedule DWC-4
C. Per acquisition adjustment on Schedule DWC-4

References:
Column [A]: Company Schedule B-1
Column [B]: Staff Schedule DWC-4
Column [C]: Column [A] + Column [B]

RIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WATER
ocket No. WS-01303A-02-0867 et al.
est Year Ended December 31, 2001

Schedule DWC-4

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] Plant-not used ADJ #1	[C] Plant-unidentified ADJ #2	[D] Plant Mis-Posted ADJ #3	[E] Plant Prev. Dec. ADJ #4	[F] Post-TY Pl. ADJ #5	[G] AFUDC Adj. ADJ #6	[H] Acquisition Adj ADJ #7	[I] STAFF ADJUSTED
		PLANT IN SERVICE:			Leave Blank						
1		Intangible									
2	301.00	Organization	$ 471	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 471
3	302.00	Franchises	2,851	-	-	-	-	-	-	-	2,851
4	303.00	Miscellaneous Intangibles	4,591	-	-	-	-	-	-	-	4,591
5		Subtotal Intangible	7,913	-	-	-	-	-	-	-	7,913
6											
7		Source of Supply									
8	310.00	Land & Land Rights	180,083	-	-	-	-	-	-	-	180,083
9	311.00	Structures & Improvements	682,896	-	-	-	-	192,348	-	-	875,244
10	312.00	Collecting & Impounding Reservoirs	314	-	-	-	-	-	-	-	314
11	313.00	Lakes, Rivers, Other Intakes	-	-	-	-	-	-	-	-	-
12	314.00	Wells and Springs	2,533,035	(407,025)	-	-	(88,746)	(145,720)	-	-	1,891,544
13		Subtotal Source of Supply	3,396,328	(407,025)	-	-	(88,746)	46,628	-	-	2,947,185
14											
15		Pumping									
16	320.00	Land & Land Rights	8,456	-	-	-	-	-	-	-	8,456
17	321.00	Structures & Improvements	582,491	-	-	-	-	-	-	-	582,491
18	323.00	Other Power Production	9,554	-	-	-	-	-	-	-	9,554
19	325.00	Electric Pumping Equipment	6,943,367	(31,713)	-	(171,390)	-	(71,468)	-	-	6,668,796
20	326.00	Diesel Pumping Equipment	25,151	-	-	-	-	-	-	-	25,151
21	328.10	Gas Engine Pumping Equipment	249,781	-	-	-	-	-	-	-	249,781
22		Subtotal Pumping	7,818,800	(31,713)	-	(171,390)	-	(71,468)	-	-	7,544,229
23											
24		Water Treatment									
25	330.00	Land & Land Rights	-	-	-	-	-	-	-	-	-
26	331.00	Structures & Improvements	80,580	-	-	-	-	-	-	-	80,580
27	332.00	Water Treatment Equipment	407,427	(19,594)	-	-	-	5,357	-	-	393,190
28		Subtotal Water Treatment	488,007	(19,594)	-	-	-	5,357	-	-	473,770
29											
30		Transmission & Distribution									
31	340.00	Land & Land Rights	10,493	-	-	-	-	-	-	-	10,493
32	341.00	Structures & Improvements	28,604	-	-	-	-	-	-	-	28,604
33	342.00	Distribution Reservoirs & Standpipes	1,819,148	(319,215)	-	-	-	12,578	-	-	1,512,511
34	343.00	Transmission & Distribution	13,940,066	-	-	-	-	94,037	-	-	14,034,103
35	344.00	Fire Mains	-	-	-	-	-	-	-	-	-
36	345.00	Services	4,783,796	-	-	-	-	-	-	-	4,783,796
37	346.00	Meters	3,232,044	-	-	-	-	-	-	-	3,232,044
38	348.00	Hydrants	1,797,909	-	-	-	-	16,772	-	-	1,814,681
39	349.00	Other Transmission & Distribution	523	-	-	-	-	-	-	-	523
40		Subtotal Transmission & Distribu.	25,612,583	(319,215)	-	-	-	123,387	-	-	25,416,755
41											
42		General									
43	389.00	Land & Land Rights	1,163	-	-	-	-	-	-	-	1,163
44	390.00	Structures & Improvements	798,274	-	-	-	-	-	-	-	798,274
45	391.00	Office Furniture and Equipment	407,688	-	-	-	-	94,703	-	-	502,391
46	391.10	*Computer Equipment*	372,221	(592,003)	-	-	-	-	-	-	(219,782)
47	392.00	Transportation Equipment	605,009	-	-	-	-	(25,663)	-	-	579,346
48	393.00	Stores Equipment	6,847	-	-	-	-	-	-	-	6,847
49	394.00	Tools, Shop, & Garage Equipment	121,573	-	-	-	-	(23,600)	-	-	97,973
50	395.00	Laboratory Equipment	33,835	-	-	-	-	(2,800)	-	-	31,035
51	396.00	Power Operated Equipment	30,379	(669)	-	-	-	(1,700)	-	-	28,010
52	397.00	Communication Equipment	229,443	-	-	-	-	(51,644)	-	-	177,799
53	398.00	Miscellaneous Equipment	66,047	-	-	-	-	-	-	-	66,047
54		Subtotal General	2,672,479	(592,672)	-	-	-	(10,704)	-	-	2,069,103
55			39,996,110								
56	Add:										
57											
58	Less:										
59		Youngtown Plant*	(148,497)	-	-	-	-	-	-	-	(148,497)
60		AFUDC Adjustment 3/95**	(450,822)	-	-	-	-	-	450,822	-	-
61	Total Plant in Service		$ 39,396,791	$ (1,370,218)	$ -	$ (171,390)	$ (88,746)	$ 93,200	$ 450,822	$ -	$ 38,310,459
62	*Less: Accumulated Depreciation*		13,717,002	336,050	-	41,665	33,764	-	111,822	-	13,417,345
63	Net Plant in Service (L59 - L 60)		$ 25,679,789	$ (1,034,168)	$ -	$ (129,725)	$ (54,982)	$ 93,200	$ 339,000	$ -	$ 24,893,114
64											
65	*LESS:*										
66	Contributions in Aid of Construction (CIAC)		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67	Less: Accumulated Amortization		-	-	-	-	-	-	-	-	-
68	Net CIAC (L25 - L26)		1,127,078	-	-	-	-	-	-	-	1,127,078
69	Advances in Aid of Construction (AIAC)		2,331,186	-	-	-	-	-	-	-	2,331,186
70	Customer Deposits		-	-	-	-	-	-	-	-	-
71	Meter Advances		1,225	-	-	-	-	-	-	-	1,225
72	Deferred Income Tax Credits		-	-	-	-	-	-	-	-	-
73											
74	*ADD:*										
75	Cash Working Capital Allowance		-	-	-	-	-	-	-	-	-
76	Prepayments		-	-	-	-	-	-	-	-	-
77	Supplies Inventory		-	-	-	-	-	-	-	-	-
78	Projected Capital Expenditures		-	-	-	-	-	-	-	-	-
79	*Deferred Debits*		-	-	-	-	-	-	-	-	-
80	Citizens Acquisition Adjustment		9,746,553	-	-	-	-	-	-	(9,746,553)	-
81	Original Cost Rate Base		$ 31,966,853	$ (1,034,168)	$ -	$ (129,725)	$ (54,982)	$ 93,200	$ 339,000	$ (9,746,553)	$ 21,433,625

ADJ #		References:
1	Plant - not used & useful	Per Staff Engineering Reports
2	Plant - unidentified	Per Staff Engineering Reports
3	Plant - mis-posted	Per Company Response to Staff Data Request BKB 26-3
4	Plant - removed by previous decision	Per Decision No. 60172
5	Post-Test Year Plant	Per Company Response to Staff Data Request DWC 12-2
6	Remove AFUDC Adj. 3/95	Per Company Response to Staff Data Request DWC 6-10 Amended
7	Remove Acquisition Adjustment	Per Carlson Direct Testimony

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

Schedule AII-1

OPERATING INCOME STATEMENT - TEST YEAR AND STAFF PROPOSED

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
1	*REVENUES:*					
2	Metered Water Sales	$ 6,079,671	$ -	$ 6,079,671	$ 1,928,696	$ 8,008,367
3	Water Sales - Unmetered	-	$ -	$ -	-	-
4	Other Operating Revenue	113,419	$ -	$ 113,419	-	113,419
5	Total Operating Revenues	$ 6,193,090	$ -	$ 6,193,090	$ 1,928,696	$ 8,121,786
6	*OPERATING EXPENSES:*					
7	Salaries & Wages	$ 1,167,073	$ 401,344	$ 1,568,417	$ -	$ 1,568,417
8	Purchased Water	-	$ -	$ -	-	-
9	Purchased Pumping Power	1,416,410	$ 761	$ 1,417,171	-	1,417,171
10	Chemicals	17,413	$ -	$ 17,413	-	17,413
11	Repairs & Maintenance	540,349	$ (37)	$ 540,312	-	540,312
12	Office Supplies & Expense	483,141	$ (313,622)	$ 169,519	-	169,519
13	Outside Services	93,641	$ 70,923	$ 164,564	-	164,564
14	Service Company Charges	926,122	$ (926,122)	$ -	-	-
15	Water Testing	6,878	$ -	$ 6,878	-	6,878
16	Rents	28,369	$ -	$ 28,369	-	28,369
17	Transportation Expense	22	$ -	$ 22	-	22
18	Insurance - General Liability	87,848	$ (9,411)	$ 78,437	-	78,437
19	Insurance - Health and Life	-	$ -	$ -	-	-
20	Regulatory Comm. Exp. - Rate Case	40,874	$ -	$ 40,874	-	40,874
21	Miscellaneous Operating Expense	300,122	$ 564,571	$ 864,693	-	864,693
22	Depreciation Expense	1,025,028	$ (70,180)	$ 954,848	-	954,848
23	Taxes Other Than Income	62,065	$ 52,615	$ 114,680	-	114,680
24	Property Taxes	186,779	$ 51,859	$ 238,638	-	238,638
25	Income Tax	(665,050)	$ 427,214	$ (237,836)	744,455	506,619
26						
27	Total Operating Expenses	$ 5,717,084	$ 249,915	$ 5,966,999	$ 744,455	$ 6,711,454
28	Operating Income (Loss)	$ 476,006	$ (249,915)	$ 226,091	$ 1,184,241	$ 1,410,332

References:
Column [A]: Company Schedule C-1
Column [B]: Schedule AII-2
Column [C]: Column [A] + Column [B]
Column [D]: Schedules DWC-1 and DWC-2
Column [E]: Column [C] + Column [D]

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WATER
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Schedule AII-2

SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR

LINE 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] ADJ #7	[I] ADJ #8	[J] STAFF ADJUSTED
1	*REVENUES:*										
2	Metered Water Sales	$ 6,079,671	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,079,671
3	Water Sales - Unmetered	-	-	-	-	-	-	-	-	-	$ -
4	Other Operating Revenue	113,419	-	-	-	-	-	-	-	-	$ 113,419
5	Total Operating Revenues	$ 6,193,090	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,193,090
											$ -
6	*OPERATING EXPENSES:*										$ -
7	Salaries & Wages	$ 1,167,073	$ -		$ (432,625)	$ 833,969	$ -	$ -	$ -	$ -	$ 1,568,417
8	Purchased Water	-	$ -	-	$ -	-	-	-	-	-	$ -
9	Purchased Pumping Power	1,416,410	761	-	-	-	-	-	-	-	$ 1,417,171
10	Chemicals	17,413	-	-	-	-	-	-	-	-	$ 17,413
11	Repairs & Maintenance	540,349	(37)	-	-	-	-	-	-	-	$ 540,312
12	Office Supplies & Expense	483,141	27,135	-	(340,757)	-	-	-	-	-	$ 169,519
13	Outside Services	93,641	70,923	-	-	-	-	-	-	-	$ 164,564
14	Service Company Charges	926,122	-	(926,122)	-	-	-	-	-	-	$ -
15	Water Testing	6,878	-	-	-	-	-	-	-	-	$ 6,878
16	Rents	28,369	-	-		-	-	-	-	-	$ 28,369
17	Transportation Expense	22	-	-	-	-	-	-	-	-	$ 22
18	Insurance - General Liability	87,848	74,741	-	(84,152)	-	-	-	-	-	$ 78,437
19	Insurance -Health and Life	-	-	-	-	-	-	-	-	-	$ -
20	Regulatory Comm. Exp. - Rate Case	40,874	-	-	-	-	-	-	-	-	$ 40,874
21	Miscellaneous Operating Expense	300,122	568,017	-	(3,446)	-	-	-	-	-	$ 864,693
22	Depreciation Expense	1,025,028	-	-	-	-		(70,180)	-	-	$ 954,848
23	Taxes Other Than Income	62,065	-			114,680	(62,065)	-	-	-	$ 114,680
24	Property Taxes	186,779	-	-	-	-	-		51,859	-	$ 238,638
25	Income Tax	(665,050)	-	-	-	-	-	-	-	427,214	$ (237,836)
26											$ -
27	Total Operating Expenses	$ 5,717,084	$ 741,540	$ (926,122)	$ (860,980)	$ 948,649	$ (62,065)	$ (70,180)	$ 51,859	$ 427,214	$ 5,966,999
28	Operating Income (Loss)	$ 476,006	$ (741,540)	$ 926,122	$ 860,980	$ (948,649)	$ 62,065	$ 70,180	$ (51,859)	$ (427,214)	$ 226,091

ADJ #		References:
1	Citizens, Corporate Costs Allocation	Schedule AII-3
2	Service Company Charges	Schedule AII-4
3	Projected additional expenses	Schedule AII-5
4	Test Year Salaries, Wages & Related Expenses	Schedule AII-6
5	Projected Salaries, Wages & Related Expenses	Schedule AII-7
6	Depreciation Expense	Schedule AII-8
7	Property Taxes	Schedule AII-9
8	Income Taxes	Schedule AII-10

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Schedule AII-3

OPERATING INCOME ADJUSTMENT #1 - CITIZEN'S CORPORATE COST

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Taxes Other Than Income	$ -	1a	$ -
2	Purchased Power	$ (761)	1b	$ 761
3	Chemicals	$ -	1c	$ -
4	Repairs and Maintenance	$ 37	1d	$ (37)
5	Office Supplies & Expense	$ (27,135)	1e	$ 27,135
6	Outside Services	$ (70,923)	1f	$ 70,923
7	Rents	$ -	1g	$ -
8	Insurance Expense - General Liability	$ (74,741)	1h	$ 74,741
9	Miscellaneous Expense	$ (568,017)	1i	$ 568,017
10	Total Adjustments	$ (741,540)		$ 741,540

REFERENCES:
Column [A]: Company Schedule C-2, page 1
Company Schedule C-2, page 2
Bourassa, Direct, pages 15 and 16
Stephenson, Direct, pages 12, 15, 16, and 17

Columns [B]: Testimony, All

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Schedule AII-4

OPERATING INCOME ADJUSTMENT #2 - SERVICE COMPANY CHARGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT
1	Service Company Charges	$ 926,122	$ (926,122)
2	Total	$ 926,122	$ (926,122)

REFERENCES:

Column [A]:
Company, Schedule C-2, page 1
Company, Schedule C-2, page 4
Bourassa, Direct, page 16
Stephenson, Direct, pages 16 and 17

Column [B]:
Testimony, AII

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Schedule AII-5

OPERATING ADJUSTMENT #3 - PROJECTED ADDITIONAL EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 432,625	3a	$ (432,625)
2	Office Expense	$ 340,757	3b	$ (340,757)
3	Insurance	$ 84,152	3c	$ (84,152)
4	Miscellaneous	$ 3,446	3d	$ (3,446)
5	Total	$ 860,980		$ (860,980)

REFERENCES:

Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 10
Bourassa, Direct, page 19
Stephenson, Direct, pages 18 and 19

Column [B]: Testimony, AII

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Schedule AII-6

OPERATING INCOME ADJUSTMENT #4 - TEST YEAR SALARIES AND WAGES, AND RELATED EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ (833,969)	4a	$ 833,969
2	Payroll Taxes	$ (114,680)	4b	$ 114,680
3	Total	$ (948,649)		$ 948,649

REFERENCES:

Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 3
Bourassa, Direct, page 16

Column [B]: Testimony, AII

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WATER Schedule All-7
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OPERATING INCOME ADJUSTMENT #5 - PROJECTED SALARIES AND WAGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages		5a	$ -
2	Payroll Taxes	$ 62,065	5b	$ (62,065)
3	Total	$ 62,065		$ (62,065)

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 5
Bourassa, Direct, page 16
Stephenson, Direct, pages 16 and 17

Column [B]: Testimony, All

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WATER
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SCHEDULE AII-8

OPERATING ADJUSTMENT #6 - DEPRECIATION EXPENSE

LINE NO.	DESCRIPTION	ORIGINAL COST	RATE	EXPENSE
1	Intangible			
2	Organization	$ 471	0.00%	$ -
3	Franchises	$ 2,851	0.00%	$ -
4	Miscellaneous Intangibles	$ 4,591	0.00%	$ -
5	Subtotal Intangible	$ 7,913		$ -
6				
7	Source of Supply			
8	Land and Land Rights	$ 180,083	0.00%	$ -
9	Structures and Improvements	$ 875,244	2.50%	$ 21,881
10	Collecting and Impounding Res.	$ 314	2.50%	$ 8
11	Lakes, Rivers, Other Intakes	$ -	0.00%	$ -
12	Wells and Springs	$ 1,891,544	2.52%	$ 47,667
13	Subtotal Source of Supply	$ 2,947,185		$ 69,556
14				
15	Pumping			
16	Land and Land Rights	$ 8,456	0.00%	$ -
17	Structures and Improvements	$ 582,491	1.67%	$ 9,728
18	Other Power Production	$ 9,554	4.42%	$ 422
19	Electric Pumping Equipment	$ 6,668,796	4.42%	$ 294,761
20	Diesel Pumping Equipment	$ 25,151	5.00%	$ 1,258
21	Gas Engine Pumping Equipment	$ 249,781	5.01%	$ 12,514
22	Subtotal Pumping	$ 7,544,229		$ 318,682
23				
24	Water Treatment			
25	Land and Land Rights	$ -	0.00%	$ -
26	Structures and Improvements	$ 80,580	1.67%	$ 1,346
27	Water Treatment Equipment	$ 393,190	4.00%	$ 15,728
28	Subtotal Water Treatment	$ 473,770		$ 17,073
29				
30	Transmission and Distribution			
31	Land and Land Rights	$ 10,493	0.00%	$ -
32	Structures and Improvements	$ 28,604	2.00%	$ 572
33	Distribution, Reservoirs, & ST	$ 1,512,511	1.67%	$ 25,259
34	Transmission and Distribution	$ 14,034,103	1.53%	$ 214,722
35	Fire Mains	$ -	0.00%	$ -
36	Services	$ 4,783,796	2.48%	$ 118,638
37	Meters	$ 3,232,044	2.51%	$ 81,124
38	Hydrants	$ 1,814,681	2.00%	$ 36,294
39	Other Transmission & Distribution	$ 523	2.00%	$ 10
40	Subtotal Transmission and Distribution	$ 25,416,755		$ 476,619
41				
42	General			
43	Land and Land Rights	$ 1,163	0.00%	$ -
44	Structures and Improvements	$ 798,274	1.67%	$ 13,331
45	Office Furniture and Equipment	$ 502,391	4.59%	$ 10,914
46	Computer Equipment	$ (219,782)	4.59%	$ 15,626
47	Transportation Equipment	$ 579,346	25.00%	$ 107,102
48	Stores Equipment	$ 6,847	3.91%	$ 268
49	Tools, Shop and Garage	$ 97,973	4.02%	$ 3,939
50	Laboratory Equipment	$ 31,035	3.71%	$ 1,151
51	Power Operated Equipment	$ 28,010	5.20%	$ 1,491
52	Communication Equipment	$ 177,799	10.30%	$ 14,177
53	Miscellaneous Equipment	$ 66,047	4.93%	$ 3,256
54	*Subtotal General*	$ 2,069,103		$ 171,257
55				
56				
57	Youngtown Plant	$ (148,497)	2.83%	$ (4,205)
58	AFUDC adjustment 3/95	$ -	2.83%	$ -
59	TOTALS	$ 38,310,459		$ 1,048,982
60	Amortization of Deferred Regulatory Assets	$ 655,877	2.83%	$ 18,573
61	Less: Amortization of Contributions	$ 1,127,078	10.00%	$ (112,708)
62	Staff Recommended Depreciation Expense			$ 954,848
63	Company Proposed Depreciation Expense			$ 1,025,028
64	Staff Adjustment			$ (70,180)

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OPERATING ADJUSTMENT #7 - PROPERTY TAX EXPENSE

LINE NO.	DESCRIPTION	AMOUNT
1	Staff Adjusted Test Year Revenues - 2001	$ 6,193,090
2	Weight Factor	2
3	Subtotal (Line 1 x Line 2)	$ 12,386,180
4	Staff Recommended Revenue	$ 8,121,786
5	Subtotal (Line 4 + Line 5)	$ 20,507,966
6	Number of Years	3
7	Three Year Average (Line 5 / Line 6)	6,835,989
8	Department of Revenue Multiplier	2
9	Revenue Base Value (Line 7 x Line 8)	13,671,977
10	Plus: 10% of CWIP - 2001	-
11	Less: Net Book Value of Licensed Vehicles	$ 247,444
12	Less: Net Book Value of Licensed Vehicles - Pro Forma	$ 176,600
13	Full Cash Value (Line 9 + Line 10 - Line 11)	$ 13,247,933
14	Assessment Ratio	25%
15	Assessment Value (Line 12 x Line 13)	3311983.333
16	Composite Property Tax Rate	7.205292%
17	Staff Recommended Property Tax Expense (Line 14 x Line 15)	$ 238,638
18	Company Proposed Property Tax Expense	$ 186,779
19	Staff Adjustment	$ 51,859

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WATER SCHEDULE AII-10
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OPERATING ADJUSTMENT #8 - INCOME TAX EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT	[C] STAFF PROPOSED
1	Income Taxes	$ (665,050)	$ 427,214	$ (237,836)
2	Total	$ (665,050)	$ 427,214	$ (237,836)

REFERENCES:
Column [A]: Company, Schedule C-1, page 1
Company, Schedule C-2, page 1
Company, Schedule C-3, page 1

Column [B]: Testimony, AII
Schedule DWC-2

Column [C]: Column [A] + Column [B]

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WATER
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Schedule DRR-1

MINIMUM MONTHLY CHARGES AND COMMODITY RATES

LINE NO.	CUSTOMER CLASS	PRESENT		COMPANY PROPOSED		STAFF RECOMMENDED		PRESENT RATES			
								TIER ONE		TIER TWO	
		MINIMUM CHARGE	GALLONS INCLUDED	MINIMUM CHARGE (b)	GALLONS INCLUDED	MINIMUM CHARGE	GALLONS INCLUDED	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT
1	Residential 5/8"	$ 5.00	-	$ 9.43	-	$ 6.59	-	$ 0.73	8,000	$ 0.92	Infinite
2	Residential 3/4"	$ 5.00	-	$ 9.43	-	$ 6.59	-	$ 0.73	8,000	$ 0.92	Infinite
3	Residential 1"	$ 13.00	-	$ 24.51	-	$ 17.15	-	$ 0.73	8,000	$ 0.92	Infinite
4	Residential 1.5"	$ 28.00	-	$ 52.78	-	$ 36.93	-	$ 0.73	8,000	$ 0.92	Infinite
5	Residential 2"	$ 41.00	-	$ 77.29	-	$ 54.07	-	$ 0.73	8,000	$ 0.92	Infinite
6	Residential 3"	$ 70.00	-	$ 131.95	-	$ 92.32	-	$ 0.73	8,000	$ 0.92	Infinite
7	Residential 4"	$ 103.00	-	$ 194.16	-	$ 135.85	-	$ 0.73	8,000	$ 0.92	Infinite
8	Residential 6"	$ 141.00	-	$ 265.79	-	$ 185.97	-	$ 0.73	8,000	$ 0.92	Infinite
9	Commerical 5/8"	$ 5.00	-	$ 9.43	-	$ 6.59	-	$ 0.73	8,000	$ 0.92	Infinite
10	Commerical 3/4"	$ 5.00	-	$ 9.43	-	$ 6.59	-	$ 0.73	8,000	$ 0.92	Infinite
11	Commerical 1"	$ 13.00	-	$ 24.51		$ 17.15	-	$ 0.73	8,000	$ 0.92	Infinite
12	Commerical 1.5"	$ 28.00	-	$ 52.78	-	$ 36.93	-	$ 0.73	8,000	$ 0.92	Infinite
13	Commerical 2"	$ 41.00	-	$ 77.29	-	$ 54.07	-	$ 0.73	8,000	$ 0.92	Infinite
14	Commerical 3"	$ 70.00	-	$ 131.95	-	$ 92.32	-	$ 0.73	8,000	$ 0.92	Infinite
15	Commerical 4"	$ 103.00	-	$ 194.16	-	$ 135.85	-	$ 0.73	8,000	$ 0.92	Infinite
16	Commerical 6"	$ 141.00	-	$ 265.79	-	$ 185.97	-	$ 0.73	8,000	$ 0.92	Infinite
17	Irrigation 1"	$ 13.00	-	$ 24.51	-	$ 17.15	-	$ 0.65	Infinite		
18	Irrigation 1.5"	$ 28.00	-	$ 52.78	-	$ 36.93	-	$ 0.65	Infinite		
19	Irrigation 2"	$ 41.00	-	$ 77.29	-	$ 54.07	-	$ 0.65	Infinite		
20	Irrigation 3"	$ 70.00	-	$ 131.95	-	$ 92.32	-	$ 0.65	Infinite		
21	Irrigation 4"	$ 103.00	-	$ 194.16	-	$ 135.85	-	$ 0.65	Infinite		
22	Irrigation 6"	$ 141.00	-	$ 265.79	-	$ 185.97	-	$ 0.65	Infinite		
23	Pub. Interrupt 3"	$ 3.50	-	$ 6.60	-	$ 4.62	-	$ 0.50	Infinite		
24	Pub. Interrupt 8"	$ 3.50	-	$ 6.60	-	$ 4.62	-	$ 0.50	Infinite		
25	PF 3"	$ 6.00	-	$ 11.31	-	$ 7.91	-	$ 0.73	Infinite		
26	PF 4"	$ 9.00	-	$ 16.97	-	$ 11.87	-	$ 0.73	Infinite		
27	PF 6"	$ 12.50	-	$ 23.56	-	$ 16.49	-	$ 0.73	Infinite		
28	PF 8"	$ 20.00	-	$ 37.70	-	$ 26.38	-	$ 0.73	Infinite		
29	PF 10"	$ 30.00	-	$ 56.55	-	$ 39.57	-	$ 0.73	Infinite		
30	Standby	$ 3.50		$ 6.60		$ 4.62		$ 0.73	Infinite		
31	Construction/Untreated CAP	$ -	-	$ -	-	$ -	-	$ 0.50	Infinite		

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED RATES						STAFF RECOMMENDED RATES					
		TIER ONE		TIER TWO		TIER THREE		TIER ONE		TIER TWO		TIER THREE	
		COMMODITY RATE	UPPER LIMIT (000's)	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT
32	Residential 5/8"	$ 1.38	8,000	$ 1.73	Infinite			$ 0.78	4,000	$ 1.17	100,000	$ 1.39	Infinite
33	Residential 3/4"	$ 1.38	8,000	$ 1.73	Infinite			$ 0.78	4,000	$ 1.17	100,000	$ 1.39	Infinite
34	Residential 1"	$ 1.38	8,000	$ 1.73	Infinite			$ 0.78	4,000	$ 1.17	100,000	$ 1.39	Infinite
35	Residential 1.5"	$ 1.38	8,000	$ 1.73	Infinite			$ 0.78	4,000	$ 1.17	100,000	$ 1.39	Infinite
36	Residential 2"	$ 1.38	8,000	$ 1.73	Infinite			$ 0.78	4,000	$ 1.17	100,000	$ 1.39	Infinite
37	Residential 3"	$ 1.38	8,000	$ 1.73	Infinite			$ 0.78	4,000	$ 1.17	100,000	$ 1.39	Infinite
38	Residential 4"	$ 1.38	8,000	$ 1.73	Infinite			$ 0.78	4,000	$ 1.17	100,000	$ 1.39	Infinite
39	Residential 6"	$ 1.38	8,000	$ 1.73	Infinite			$ 0.78	4,000	$ 1.17	100,000	$ 1.39	Infinite
40	Commerical 5/8"	$ 1.38	8,000	$ 1.73	Infinite			$ 0.78	4,000	$ 1.17	100,000	$ 1.39	Infinite
41	Commerical 3/4"	$ 1.38	8,000	$ 1.73	Infinite			$ 0.78	4,000	$ 1.17	100,000	$ 1.39	Infinite
42	Commerical 1"	$ 1.38	8,000	$ 1.73	Infinite			$ 0.78	4,000	$ 1.17	100,000	$ 1.39	Infinite
43	Commerical 1.5"	$ 1.38	8,000	$ 1.73	Infinite			$ 0.78	4,000	$ 1.17	100,000	$ 1.39	Infinite
44	Commerical 2"	$ 1.38	8,000	$ 1.73	Infinite			$ 0.78	4,000	$ 1.17	100,000	$ 1.39	Infinite
45	Commerical 3"	$ 1.38	8,000	$ 1.73	Infinite			$ 0.78	4,000	$ 1.17	100,000	$ 1.39	Infinite
46	Commerical 4"	$ 1.38	8,000	$ 1.73	Infinite			$ 0.78	4,000	$ 1.17	100,000	$ 1.39	Infinite
47	Commerical 6"	$ 1.38	8,000	$ 1.73	Infinite			$ 0.78	4,000	$ 1.17	100,000	$ 1.39	Infinite
48	Irrigation 1"	$ 1.23	Infinite					$ 0.86	Infinite				
49	Irrigation 1.5"	$ 1.23	Infinite					$ 0.86	Infinite				
50	Irrigation 2"	$ 1.23	Infinite					$ 0.86	Infinite				
51	Irrigation 3"	$ 1.23	Infinite					$ 0.86	Infinite				
52	Irrigation 4"	$ 1.23	Infinite					$ 0.86	Infinite				
53	Irrigation 6"	$ 1.23	Infinite					$ 0.86	Infinite				
54	Pub. Interrupt 3"	$ 0.94	Infinite					$ 0.66	Infinite				
55	Pub. Interrupt 8"	$ 0.94	Infinite					$ 0.66	Infinite				
56	PF 3"	$ 0.92	Infinite					$ 0.78	Infinite				
57	PF 4"	$ 0.92	Infinite					$ 0.78	Infinite				
58	PF 6"	$ 0.92	Infinite					$ 0.78	Infinite				
59	PF 8"	$ 0.92	Infinite					$ 0.78	Infinite				
60	PF 10"	$ 0.92	Infinite					$ 0.78	Infinite				
61	Standby	$ 0.92	Infinite					$ 0.78	Infinite				
62	Construction/Untreated CAP	$ 0.94	Infinite					$ 0.66	Infinite				

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN USAGE AND COSTS

LINE NO.	CUSTOMER CLASS	CURRENT AVERAGE USAGE	CURRENT AVERAGE DOLLARS	CURRENT MEDIAN USAGE	CURRENT MEDIAN DOLLARS
1	Residential 5/8"	8,361	$ 11.17	7,000	$ 10.11
2	Residential 3/4"	15,869	$ 18.08	10,000	$ 12.68
3	Residential 1"	38,788	$ 47.17	24,000	$ 33.56
4	Residential 1.5"	73,721	$ 94.30	57,000	$ 78.92
5	Residential 2"	91,864	$ 123.99	64,000	$ 98.36
6	Residential 3"	321,194	$ 363.98	316,000	$ 359.20
7	Residential 4"				
8	Residential 6"	137,292	$ 265.79	21,000	$ 158.80
9	Commerical 5/8"	7,054	$ 10.15	1,000	$ 5.73
10	Commerical 3/4"	9,488	$ 12.21	2,000	$ 6.46
11	Commerical 1"	22,247	$ 31.95	10,000	$ 20.68
12	Commerical 1.5"	46,341	$ 69.11	18,000	$ 43.04
13	Commerical 2"	120,339	$ 150.19	71,000	$ 104.80
14	Commerical 3"	204,111	$ 256.26	130,500	$ 188.54
15	Commerical 4"	1,190,450	$ 1,196.69	1,132,000	$ 1,142.92
16	Commerical 6"	2,486,155	$ 2,426.74	1,674,000	$ 1,679.56
17	Irrigation 1"	77	$ 13.05	-	$ 13.00
18	Irrigation 1.5"	64,318	$ 69.81	54,000	$ 63.10
19	Irrigation 2"	613,500	$ 439.78	609,000	$ 436.85
20	Irrigation 3"	27,462	$ 87.85	-	$ 70.00
21	Irrigation 4"				
22	Irrigation 6"	10,762,250	$ 7,136.46	9,861,000	$ 6,550.65
23	Pub. Interrupt 3"	491,154	$ 245.58	-	$ 3.50
24	Pub. Interrupt 8"	3,167	$ 5.54	-	$ 3.50
25	PF 2"	-	$ 6.00	-	$ 6.00
26	PF 4"	-	$ 9.00	-	$ 9.00
27	PF 6"	-	$ 12.50	-	$ 12.50
28	PF 8"	-	$ 20.00	-	$ 20.00
29	PF 10"				
30	Construction/Untreated CAP	-	$ 3.50	-	$ 3.50
31	Intentionally left blank				

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED AVERAGE	INCREASE	PERCENT	MEDIAN	INCREASE	PERCENT
32	Residential 5/8"	$ 15.63	$ 4.45	39.86%	$ 14.14	$ 4.03	39.86%
33	Residential 3/4"	$ 25.31	$ 7.23	40.00%	$ 17.74	$ 5.06	39.91%
34	Residential 1"	$ 66.08	$ 18.91	40.10%	$ 47.00	$ 13.44	40.05%
35	Residential 1.5"	$ 132.14	$ 37.84	40.12%	$ 110.57	$ 31.65	40.10%
36	Residential 2"	$ 173.74	$ 49.75	40.12%	$ 137.80	$ 39.44	40.10%
37	Residential 3"	$ 510.18	$ 146.20	40.17%	$ 503.48	$ 144.28	40.17%
38	Residential 4"						
39	Residential 6"	$ 372.35	$ 106.56	40.09%	$ 222.33	$ 63.53	40.01%
40	Commerical 5/8"	$ 14.20	$ 4.05	39.86%	$ 8.02	$ 2.29	39.97%
41	Commerical 3/4"	$ 17.08	$ 4.87	39.89%	$ 9.04	$ 2.58	39.94%
42	Commerical 1"	$ 44.74	$ 12.79	40.04%	$ 28.94	$ 8.26	39.94%
43	Commerical 1.5"	$ 96.82	$ 27.71	40.09%	$ 60.26	$ 17.22	40.01%
44	Commerical 2"	$ 210.48	$ 60.29	40.14%	$ 146.83	$ 42.03	40.10%
45	Commerical 3"	$ 359.14	$ 102.88	40.15%	$ 264.19	$ 75.65	40.12%
46	Commerical 4"	$ 1,677.72	$ 481.03	40.20%	$ 1,602.32	$ 459.40	40.20%
47	Commerical 6"	$ 3,402.38	$ 975.64	40.20%	$ 2,354.70	$ 675.14	40.20%
48	Irrigation 1"	$ 18.27	$ 5.22	40.00%	$ 18.20	$ 5.20	40.00%
49	Irrigation 1.5"	$ 97.73	$ 27.92	40.00%	$ 88.34	$ 25.24	40.00%
50	Irrigation 2"	$ 615.69	$ 175.91	40.00%	$ 611.59	$ 174.74	40.00%
51	Irrigation 3"	$ 122.99	$ 35.14	40.00%	$ 98.00	$ 28.00	40.00%
52	Irrigation 4"						
53	Irrigation 6"	$ 9,991.05	$ 2,854.59	40.00%	$ 9,170.91	$ 2,620.26	40.00%
54	Pub. Interrupt 3"	$ 343.81	$ 98.23	40.00%	$ -	$ -	N/A
55	Pub. Interrupt 8"	$ 2.22	$ 0.63	40.00%	$ -	$ -	N/A
56	PF 2"	$ 8.40	$ 2.40	40.00%	$ -	$ -	N/A
57	PF 4"	$ 12.60	$ 3.60	40.00%	$ -	$ -	N/A
58	PF 6"	$ 17.50	$ 5.00	40.00%	$ -	$ -	N/A
59	PF 8"	$ 28.00	$ 8.00	40.00%	$ -	$ -	N/A
60	PF 10"						
61	Standby	$ 4.90	$ 1.40	40.00%	$ -	$ -	N/A
62	Construction/Untreated CAP						

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN USAGE AND COSTS

LINE NO.	CUSTOMER CLASS	STAFF RECOMMENDED					
		AVERAGE	INCREASE	PERCENT	MEDIAN	INCREASE	PERCENT
63	Residential 5/8"	$ 14.82	$ 3.65	32.65%	$ 13.22	$ 3.11	30.81%
64	Residential 3/4"	$ 23.60	$ 5.52	30.54%	$ 16.73	$ 4.05	31.98%
65	Residential 1"	$ 60.97	$ 13.80	29.25%	$ 43.67	$ 10.11	30.11%
66	Residential 1.5"	$ 121.62	$ 27.32	28.97%	$ 102.06	$ 23.14	29.32%
67	Residential 2"	$ 160.00	$ 36.01	29.04%	$ 127.39	$ 29.03	29.52%
68	Residential 3"	$ 515.22	$ 151.24	41.55%	$ 508.00	$ 148.80	41.43%
69	Residential 4"	NOT USED					
70	Residential 6"	$ 353.24	$ 87.45	32.90%	$ 208.98	$ 50.18	31.60%
71	Commerical 5/8"	$ 13.29	$ 3.14	30.91%	$ 7.37	$ 1.64	28.70%
72	Commerical 3/4"	$ 16.14	$ 3.93	32.15%	$ 8.15	$ 1.69	26.23%
73	Commerical 1"	$ 41.61	$ 9.66	30.25%	$ 27.29	$ 6.61	31.94%
74	Commerical 1.5"	$ 89.59	$ 20.48	29.63%	$ 56.43	$ 13.39	31.11%
75	Commerical 2"	$ 197.79	$ 47.60	31.69%	$ 135.58	$ 30.78	29.37%
76	Commerical 3"	$ 352.48	$ 96.22	37.55%	$ 250.16	$ 61.62	32.68%
77	Commerical 4"	$ 1,767.01	$ 570.32	47.66%	$ 1,685.77	$ 542.85	47.50%
78	Commerical 6"	$ 3,618.16	$ 1,191.42	49.10%	$ 2,489.27	$ 809.71	48.21%
79	Irrigation 1"	$ 17.21	$ 4.16	31.89%	$ 17.15	$ 4.15	31.89%
80	Irrigation 1.5"	$ 92.07	$ 22.26	31.88%	$ 83.22	$ 20.12	31.89%
81	Irrigation 2"	$ 580.02	$ 140.24	31.89%	$ 576.16	$ 139.31	31.89%
82	Irrigation 3"	$ 115.87	$ 28.02	31.89%	$ 92.32	$ 22.32	31.89%
83	Irrigation 4"	NOT USED					
84	Irrigation 6"	$ 9,412.29	$ 2,275.83	31.89%	$ 8,639.67	$ 2,089.02	31.89%
85	Pub. Interrupt 3"	$ 328.51	$ 82.93	33.77%	$ 4.62	$ 1.12	31.89%
86	Pub. Interrupt 8"	$ 6.70	$ 1.16	20.97%	$ 4.62	$ 1.12	31.89%
87	PF 3"	$ 7.91	$ 1.91	31.89%	$ 7.91	$ 1.91	31.89%
88	PF 4"	$ 11.87	$ 2.87	31.89%	$ 11.87	$ 2.87	31.89%
89	PF 6"	$ 16.49	$ 3.99	31.89%	$ 16.49	$ 3.99	31.89%
90	PF 8"	$ 26.38	$ 6.38	31.89%	$ 26.38	$ 6.38	31.89%
91	PF 10"	NOT USED					
92	Standby	$ 4.62	$ 1.12	31.89%	$ 4.62	$ 1.12	32.00%
93	Construction/Untreated CAP	NOT USED					

SUN CITY WASTEWATER

ARIZONA-AMERICAN WATER COMPANY, INC. - **SUN CITY WASTEWATER** Schedule DWC-1
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY FAIR VALUE	[B] STAFF ORIGINAL COST	[C] STAFF FAIR VALUE
1	Adjusted Rate Base	$ 20,233,575	$ 8,838,548	$ 8,838,548
2	Adjusted Operating Income/(Loss)	$ 1,175,416	$ 1,077,108	$ 1,077,108
3	Current Rate of Return (L2 / L1)	5.81%	12.19%	12.19%
4	Required Rate of Return	7.75%	6.6%	6.6%
5	Required Operating Income (L4 x L1)	$ 1,568,102	$ 581,576	$ 581,576
6	Operating Income Deficiency/(Excess) (L5 - L2)	$ 392,686	$ (495,532)	$ (495,532)
7	Gross Revenue Conversion Factor	1.62860	1.62863	1.62863
8	Required Revenue Increase/(Decrease) (L7 x L6)	$ 639,529	**$ (807,040)**	**$ (807,040)**
9	Adjusted Test Year Revenue	$ 5,088,340	$ 5,088,340	$ 5,088,340
10	Proposed Annual Revenue (L8 + L9)	$ 5,727,869	$ 4,281,300	$ 4,281,300
11	Required Increase/Decrease in Revenue (%)	12.57%	-15.86%	-15.86%
12	Rate of Return on Common Equity (%)	11.50%	9.7%	9.7%

References:
Column [A]: Company Schedules A-1, A-2, & D-1
Columns [B] & [C]: Staff Schedules AII-1, DWC-2, DWC-3, & JMR-9

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WASTEWATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

Schedule DWC-2

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	[A]	[B]	[C]	[D]
	Calculation of Gross Revenue Conversion Factor:				
1	Billings	100.0000%			
2	Uncollecible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Tax Rate (Line 17)	38.5989%			
5	Subtotal (L3 - L4)	61.4011%			
6	Revenue Conversion Factor (L1 / L5)	1.628635			
	Calculation of Uncollecttible Factor:				
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	38.5989%			
9	One Minus Combined Income Tax Rate (L7 - L8)	61.4011%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 x L10)	0.0000%			
	Calculation of Effective Tax Rate:				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L12 - L13)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 40)	34.0000%			
16	Effective Federal Income Tax Rate (L14 x L15)	31.6309%			
17	Combined Federal and State Income Tax Rate (L13 + L16)	38.5989%			
18	Required Operating Income (Schedule DWC-1, Col. [B], Line 5)	$ 581,576			
19	Adjusted Test Year Operating Income (Loss) (Sch. All-1, Col. [C], Line 28)	$ 1,077,108			
20	Required Increase in Operating Income (L18 - L19)		$ (495,532)		
21	Income Taxes on Recommended Revenue (Col. [D], L39)	$ 208,914			
22	Income Taxes on Test Year Revenue (Col. [B], L39)	$ 520,422			
23	Required Increase in Revenue to Provide for Income Taxes (L21 - L22)		$ (311,508)		
24	Recommended Revenue Requirement (Schedule DWC-1, Col. [B], Line 10)	$ 4,281,300			
25	Uncollectible Rate (Line 10)	0.0000%			
26	Uncollectible Expense on Recommended Revenue (L24 x L25)	$ -			
27	Adjusted Test Year Uncollectible Expense	$ -			
28	Required Increase in Revenue to Provide for Uncollectible Exp. (L26 - L27)		$ -		
29	Total Required Increase in Revenue (L20 + L23 + L28)		$ (807,040)		
	Calculation of Income Tax:	Test Year		STAFF Recommended	
30	Revenue (Schedule All-1, Col. [C], Line 5 & Sch. DWC-1, Col. [B], Line 10)	$ 5,088,340		$ 4,281,300	
31	Operating Expenses Excluding Income Taxes	$ 3,490,810		$ 3,490,810	
32	Synchronized Interest (L43)	$ 249,247		$ 249,247	
33	Arizona Taxable Income (L30 - L31 - L32)	$ 1,348,283		$ 541,243	
34	Arizona State Income Tax Rate	6.9680%		6.9680%	
35	Arizona Income Tax (L33 x L34)		$ 93,948		$ 37,714
36	Federal Taxable Income (L33 - L35)	$ 1,254,335		$ 503,529	
37	Federal Income Tax Rate	34.0000%		34.0000%	
38	Federal Income Tax (L36 x L37)		$ 426,474		$ 171,200
39	Combined Federal and State Income Tax (L35 + L38)		$ 520,422		$ 208,914
40	Applicable Federal Income Tax Rate (Col. [D], L38 - Col. [B], L38) / (Col. [C], L36 - Col. [A], L36)				34.0000%
	Calculation of Interest Synchronization:				
41	Rate Base (Schedule DWC-3, Col. [C], Line 17)	$ 8,838,548			
42	Weighted Average Cost of Debt	2.82%			
43	Synchronized Interest (L41 x L42)	$ 249,247			

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WASTEWATER
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Test Year Ended December 31, 2001

Schedule DWC-3

RATE BASE - ORIGINAL COST

LINE NO.		[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	ADJ	[C] STAFF AS ADJUSTED
1	Plant in Service	$ 19,962,780	$ 65,102	A	$ 20,027,882
2	Less: Accumulated Depreciation	7,189,539	3,651	B	7,193,190
3	Net Plant in Service	$ 12,773,241	$ 61,451		$ 12,834,692
	LESS:				
4	Contributions in Aid of Construction (CIAC)	$ -	$ -		$ -
5	Less: Accumulated Amortization	-	-		-
6	Net CIAC	1,187,139	-		1,187,139
7	Advances in Aid of Construction (AIAC)	3,309,005	-		3,309,005
8	Customer Deposits	-	-		-
9	Meter Advances	-	-		-
10	Deferred Income Tax Credits	-	-		-
	ADD:				
11	Cash Working Capital	-	-		-
12	Prepayments	-	-		-
13	Supplies Inventory	-	-		-
14	Projected Capital Expenditures	-	-		-
15	Deferred Debits	-	-		-
16	Tolleson Trickling Filter	500,000	-		500,000
16	Citizens Acquisition Adjustment	5,264,640	(5,264,640)	C	-
17	Original Cost Rate Base	$ 14,041,737	$ (5,203,189)		$ 8,838,548

Adjustments:
A. Per plant adjustments on Schedule DWC-4
B. Per accumulated depreciation adjustments on Schedule DWC-4
C. Per acquisition adjustment on Schedule DWC-4

References:
Column [A]: Company Schedule B-1
Column [B]: Staff Schedule DWC-4
Column [C]: Column [A] + Column [B]

RIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WASTEWATER
ocket No. WS-01303A-02-0867 et al.
est Year Ended December 31, 2001

Schedule DWC-4

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] Plant-not used ADJ #1	[C] Plant-unidentified ADJ #2	[D] Plant Mis-Posted ADJ #3	[E] Plant Prev. Dec. ADJ #4	[F] Post-TY Pl. ADJ #5	[G] AFUDC Adj. ADJ #6	[H] Acquisition Adj ADJ #7	[I] STAFF ADJUSTED
		PLANT IN SERVICE:		Leave Blank		Leave Blank	Leave Blank				
1		Intangible									
2	301.00	Organization	$ 122,373	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 122,373
3	302.00	Franchises	6,132	-	-	-	-	-	-	-	6,132
4	303.00	Miscellaneous Intangibles	10,495	-	(868)	-	-	-	-	-	9,627
5		Subtotal Intangible	139,000	-	(868)	-	-	-	-	-	138,132
6											
7		Treatment and Discharge									
8	310.00	Land & Land Rights	6,565	-	-	-	-	-	-	-	6,565
9	311.00	Structures & Improvements	42,195	-	-	-	-	11,337	-	-	53,532
10	312.00	Preliminary Treatment	453	-	-	-	-	-	-	-	453
11	313.00	Primary Treatment Eauipment	-	-	-	-	-	-	-	-	-
12	314.00	Secondary Treatment Equipment	2,575	-	-	-	-	-	-	-	2,575
13	315.00	Tertiary Equipment	-	-	-	-	-	-	-	-	-
14	316.00	Disfection Equipment	-	-	-	-	-	-	-	-	-
15	317.00	Effluent Lift Station E	1,503	-	-	-	-	-	-	-	1,503
16	318.00	Outfall Line	291	-	-	-	-	-	-	-	291
17	319.00	Sludge, Treatment & Distribution	-	-	-	-	-	-	-	-	-
18	321.00	Influent Lift Station	4,778	-	-	-	-	(4,310)	-	-	468
20	322.00	General Treatment Equipment	18,743	-	-	-	-	-	-	-	18,743
13		Subtotal Treatment & Discharge	77,103	-	-	-	-	7,027	-	-	84,130
14											
15		Collection and Influent									
16	340.00	Land & Land Rights	-	-	-	-	-	-	-	-	-
17	341.00	*Structures & Improvements*	350,713	-	-	-	-	-	-	-	350,713
18	342.00	Collection System Lift	1,229,723	-	-	-	-	-	-	-	1,229,723
19	343.00	Collection Mains	12,384,079	-	-	-	-	-	-	-	12,384,079
20	344.00	Force Mains	1,300,266	-	-	-	-	-	-	-	1,300,266
	345.00	Discharge Services	2,307,454	-	-	-	-	-	-	-	2,307,454
21	348.00	Manholes	-	-	-	-	-	-	-	-	-
22		Subtotal Collection and Influent	17,572,235	-	-	-	-	-	-	-	17,572,235
23											
42		General									
43	389.00	Land & Land Rights	1,108	-	-	-	-	-	-	-	1,108
44	390.00	Structures & Improvements	760,473	-	-	-	-	-	-	-	760,473
45	391.00	Office Furniture and Equipment	388,328	-	-	-	-	(23,238)	-	-	365,090
46	391.10	Computer Equipment	425,624	-	-	-	-	-	-	-	425,624
47	392.00	Transportation Equipment	408,123	-	-	-	-	-	-	-	408,123
48	393.00	Stores Equipment	6,523	-	-	-	-	-	-	-	6,523
49	394.00	Tools, Shop, & Garage Equipment	93,334	-	-	-	-	-	-	-	93,334
50	395.00	Laboratory Equipment	29,565	-	-	-	-	-	-	-	29,565
51	396.00	Power Operated Equipment	27,321	-	-	-	-	-	-	-	27,321
52	397.00	Communication Equipment	160,926	-	-	-	-	3,785	-	-	164,711
53	398.00	Miscellaneous Equipment	62,919	-	(14,679)	-	-	-	-	-	48,240
54		Subtotal General	2,364,244	-	(14,679)	-	-	(19,453)	-	-	2,330,112
55											
56	Add:			-	-	-	-	-	-	-	-
57				-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-
58	Less:		-	-	-	-	-	-	-	-	-
59		Youngtown Plant*	(96,727)	-	-	-	-	-	-	-	(96,727)
60		AFUDC Adjustment 3/95**	(93,075)	-	-	-	-	-	93,075	-	-
61	Total Plant in Service		$ 19,962,780	$ -	$ (15,547)	$ -	$ -	$ (12,426)	$ 93,075	$ -	$ 20,027,882
62	Less: Accumulated Depreciation		7,189,539	-	14,679	-	-	-	18,330	-	7,193,190
63	Net Plant in Service (L59 - L 60)		$ 12,773,241	$ -	$ (868)	$ -	$ -	$ (12,426)	$ 74,745	$ -	$ 12,834,692
64											
65	*LESS:*										
66	Contributions in Aid of Construction (CIAC)		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67	Less: Accumulated Amortization		-	-	-	-	-	-	-	-	-
68	Net CIAC (L25 - L26)		1,187,139	-	-	-	-	-	-	-	1,187,139
69	Advances in Aid of Construction (AIAC)		3,309,005	-	-	-	-	-	-	-	3,309,005
70	Customer Deposits		-	-	-	-	-	-	-	-	-
71	Meter Advances		-	-	-	-	-	-	-	-	-
72	Deferred Income Tax Credits		-	-	-	-	-	-	-	-	-
73											
74	*ADD:*										
75	Cash Working Capital Allowance		-	-	-	-	-	-	-	-	-
76	Prepayments		-	-	-	-	-	-	-	-	-
77	Supplies Inventory		-	-	-	-	-	-	-	-	-
78	Projected Capital Expenditures		-	-	-	-	-	-	-	-	-
79	Deferred Debits		-	-	-	-	-	-	-	-	-
80	Tolleson Trickling Filter		500,000	-	-	-	-	-	-	-	500,000
81	Citizens Acquisition Adjustment		5,264,640	-	-	-	-	-	-	(5,264,640)	-
82	Original Cost Rate Base		$ 14,041,737	$ -	$ (868)	$ -	$ -	$ (12,426)	$ 74,745	$ (5,264,640)	$ 8,838,548

ADJ #		References:
1	Plant - not used & useful	Per Staff Engineering Reports
2	Plant - unidentified	Per Staff Engineering Reports
3	Plant - mis-posted	Per Company Response to Staff Data Request BKB 26-3
4	Plant - removed by previous decision	Per Decision No. 60172
5	Post-Test Year Plant	Per Company Response to Staff Data Request DWC 12-2
6	Remove AFUDC Adj. 3/95	Per Company Response to Staff Data Request DWC 6-10 Amended
7	Remove Acquisition Adjustment	Per Carlson Direct Testimony

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WASTEWATER
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Schedule AII-1

OPERATING INCOME STATEMENT - TEST YEAR AND STAFF PROPOSED

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
1	*REVENUES:*					
2	Flat Rate Revenues	$ 5,085,481	$ -	$ 5,085,481	$ (807,040)	$ 4,278,441
3	Measured Revenues	$ -	$ -	$ -	$ -	$ -
4	Other Wastewater Revenues	$ 2,859	$ -	$ 2,859	$ -	$ 2,859
5	Total Operating Revenues	$ 5,088,340	$ -	$ 5,088,340	$ (807,040)	$ 4,281,300
6						
7	*OPERATING EXPENSES:*					
8	Salaries & Wages	$ 160,653	$ 172,045	$ 332,698	$ -	$ 332,698
9	Purchased Wastewater Treatment	992,447	$ -	$ 992,447	$ -	$ 992,447
10	Purchased Power	1,509	$ 123	$ 1,632	$ -	$ 1,632
11	Fuel for Power Production	-	$ -	$ -	$ -	$ -
12	Chemicals	-	$ -	$ -	$ -	$ -
13	Materials and Supplies	-	$ 2,885	$ 2,885	$ -	$ 2,885
14	Repairs & Maintenance	-	$ -	$ -	$ -	$ -
15	Office Supplies & Expense	204,642	$ (204,642)	$ -	$ -	$ -
16	Outside Services	3,123	$ 28,996	$ 32,119	$ -	$ 32,119
17	Service Company Charges	522,586	$ (522,586)	$ -	$ -	$ -
18	Water Testing	-	$ -	$ -	$ -	$ -
19	Rents	21,265	$ -	$ 21,265	$ -	$ 21,265
20	Transportation Expense	-	$ -	$ -	$ -	$ -
21	Insurance - General Liability	36,400	$ 14,457	$ 50,857	$ -	$ 50,857
22	Insurance -Health and Life	-	$ -	$ -	$ -	$ -
23	Regulatory Comm. Exp. - Rate Case	33,583	$ -	$ 33,583	$ -	$ 33,583
24	Miscellaneous Operating Expense	145,130	$ 347,318	$ 492,448	$ -	$ 492,448
25	Depreciation Expense	514,852	$ (2,737)	$ 512,115	$ -	$ 512,115
26	Taxes Other Than Income	7,754	$ 17,118	$ 24,872	$ -	$ 24,872
27	Property Taxes	193,701	$ (17,903)	$ 175,798	$ -	$ 175,798
28	Income Tax	257,188	$ 263,234	$ 520,422	$ (311,508)	$ 208,914
29	Tolleson Wastewater User Fees	818,091	$ -	$ 818,091	$ -	$ 818,091
30						
31	Total Operating Expenses	$ 3,912,924	$ 98,308	$ 4,011,232	$ (311,508)	$ 3,699,724
32	Operating Income (Loss)	$ 1,175,416	$ (98,308)	$ 1,077,108	$ (495,532)	$ 581,576

References:
Column [A]: Company Schedule C-1
Column [B]: Schedule AII-2
Column [C]: Column [A] + Column [B]
Column [D]: Schedules DWC-1 and DWC-2
Column [E]: Column [C] + Column [D]

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WASTEWATER
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SCHEDULE AII-2

SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR

LINE 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] ADJ #7	[I] ADJ #8	[J] STAFF ADJUSTED
1	*REVENUES:*										
2	Flat Rate Revenues	$ 5,085,481	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,085,481
3	Measured Revenues	-	-	-	-	-	-	-	-	-	$ -
4	Other Wastewater Revenues	2,859	-	-	-	-	-	-	-	-	$ 2,859
5	Total Operating Revenues	$ 5,088,340	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,088,340
6											
7	*OPERATING EXPENSES:*										
8	Salaries & Wages	$ 160,653	$ -		$ (72,104)	$ 332,698	$ (88,549)	$ -	$ -	$ -	$ 332,698
9	Purchased Wastewater Treatment	992,447	-	-	-	-	-	-	-	-	$ 992,447
10	Purchased Power	1,509	123	-	-	-	-	-	-	-	$ 1,632
11	Fuel for Power Production	-	-	-	-	-	-	-	-	-	$ -
12	Chemicals	-	-	-	-	-	-	-	-	-	$ -
13	Materials and Supplies	-	2,885	-	-	-	-	-	-	-	$ 2,885
14	Repairs & Maintenance	-	-	-	-	-	-	-	-	-	$ -
15	Office Supplies & Expense	204,642	7,599	-	(212,241)	-	-	-	-	-	$ -
16	Outside Services	3,123	28,996	-	-	-	-	-	-	-	$ 32,119
17	Service Company Charges	522,586	-	(522,586)	-	-	-	-	-	-	$ -
18	Water Testing	-	-	-	-	-	-	-	-	-	$ -
19	Rents	21,265	-	-	-	-	-	-	-	-	$ 21,265
20	Transportation Expense	-	-	-	-	-	-	-	-	-	$ -
21	Insurance - General Liability	36,400	49,418	-	(34,961)	-	-	-	-	-	$ 50,857
22	Insurance -Health and Life	-	-	-	-	-	-	-	-	-	$ -
23	Regulatory Comm. Exp. - Rate Case	33,583	-	-	-	-	-	-	-	-	$ 33,583
24	Miscellaneous Operating Expense	145,130	348,567	-	(1,249)	-	-	-	-	-	$ 492,448
25	Depreciation Expense	514,852	-	-	-	-		(2,737)	-	-	$ 512,115
26	Taxes Other Than Income	7,754	-		-	24,872	(7,754)	-	-	-	$ 24,872
27	Property Taxes	193,701	-	-	-	-	-		$ (17,903)	-	$ 175,798
28	Income Tax	257,188	-	-	-	-	-	-	-	263,234	$ 520,422
29	Tolleson Wastewater User Fees	818,091	-	-	-	-	-	-	-	-	$ 818,091
30											
31	Total Operating Expenses	$ 3,912,924	$ 437,588	$ (522,586)	$ (320,555)	$ 357,570	$ (96,303)	$ (2,737)	$ (17,903)	$ 263,234	$ 4,011,232
32	Operating Income (Loss)	$ 1,175,416	$ (437,588)	$ 522,586	$ 320,555	$ (357,570)	$ 96,303	$ 2,737	$ 17,903	$ (263,234)	$ 1,077,108

ADJ #		References:
1	Citizens' Corporate Costs Allocation	Schedule AII-3
2	Service Company Charges	Schedule AII-4
3	Projected additional expenses	Schedule AII-5
4	Test Year Salaries, Wages & Related Expenses	Schedule AII-6
5	Projected Salaries, Wages & Related Expenses	Schedule AII-7
6	Depreciation Expense	Schedule AII-8
7	Property Taxes	Schedule AII-9
8	Income Taxes	Schedule AII-10

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WASTEWATER
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Schedule AII-3

OPERATING INCOME ADJUSTMENT #1 - CITIZEN'S CORPORATE COST

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Taxes Other Than Income	$ -	1a	$ -
2	Purchased Power	$ (123)	1b	$ 123
3	Chemicals (Tolleson Trickling Filter Expensed in 2001)	$ (500,000)	1c	$ -
4	Materials and Supplies	$ (2,885)	1d	$ 2,885
5	Office Supplies	$ (7,599)	1e	$ 7,599
6	Outside Services	$ (28,996)	1f	$ 28,996
7	Rents	$ -	1g	$ -
8	Insurance Expense	$ (49,418)	1h	$ 49,418
9	Miscellaneous Expense	$ (348,567)	1i	$ 348,567
10	Total Adjustment	$ (937,588)		$ 437,588

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 2
Bourassa, Direct, pages 15 and 16
Stephenson, Direct, pages 12, 15, 16, and 17

Column [B]: Testimony, All

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WASTEWATER Schedule AII-4
Docket No. WS-01303A-02-0867 et al.
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OPERATING INCOME ADJUSTMENT #2 - SERVICE COMPANY CHARGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT
1	Service Company Charges	$ 522,586	$ (522,586)
2	Total Adjustment	$ 522,586	$ (522,586)

REFERENCES:

Column [A]:
Company, Schedule C-2, page 1
Company, Schedule C-2, page 4
Bourassa, Direct, page 16
Stephenson, Direct, pages 16 and 17

Column [B]:
Testimony, AII

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WASTEWATER Schedule AII-5
Docket No. WS-01303A-02-0867 et al.
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OPERATING ADJUSTMENT #3 - PROJECTED ADDITIONAL EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 72,104	3a	$ (72,104)
2	Office Expense	$ 212,241	3b	$ (212,241)
3	Insurance	$ 34,961	3c	$ (34,961)
4	Miscellaneous	$ 1,249	3d	$ (1,249)
5	Total Adjustment	$ 320,555		$ (320,555)

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 10
Bourassa, Direct, page 19
Stephenson, Direct, pages 18 and 19

Column [B]: Testimony, AII

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WASTEWATER Schedule AII-6
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

OPERATING INCOME ADJUSTMENT #4 - TEST YEAR SALARIES AND WAGES, AND RELATED EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ (332,698.00)	4a	332,698
2	Payroll Taxes	$ (24,872.00)	4b	24,872
3	Total Adjustment	$ (357,570)		$ 357,570

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 3
Bourassa, Direct, page 16

Column [B]: Testimony, AII

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WASTEWATER Schedule AII-7
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

OPERATING INCOME ADJUSTMENT #5 - PROJECTED SALARIES AND WAGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 88,549	5a	$ (88,549)
2	Payroll Taxes	$ 7,754	5b	$ (7,754)
3	Total Adjustment	$ 96,303		$ (96,303)

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 5
Bourassa, Direct, page 16
Stephenson, Direct, pages 16 and 17

Column [B]: Testimony, AII

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WASTEWATER
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Test Year Ended December 31, 2001

Schedule AII-8

OPERATING ADJUSTMENT #6 - DEPRECIATION EXPENSE

LINE NO.	DESCRIPTION	ORIGINAL COST	RATE	EXPENSE
1	Intangible			
2	Organization	$ 122,373	0.00%	$ -
3	Franchises	$ 6,132	0.00%	$ -
4	Miscellaneous Intangibles	$ 9,627	0.00%	$ -
5	Subtotal Intangible	$ 138,132		$ -
6				
7	Treatment & Discharge			
8	Land and Land Rights	$ 6,565	0.00%	$ -
9	Structures and Improvements	$ 53,532	2.50%	$ 1,338
10	Preliminary Treatment	$ 453	0.00%	$ -
11	Primary Treatment Equipment	$ -	0.00%	$ -
12	Secondary Treatment Equipment	$ 2,575	2.52%	$ 65
13	Tertiary Equipment	$ -	0.00%	$ -
14	Disinfection Equipment	$ -	0.00%	$ -
15	Effluent Lift Station E	$ 1,503	2.00%	$ 30
16	Outfall Line	$ 291	2.00%	$ 6
17	Sludge, Treatment & Distribution	$ -	2.50%	$ -
18	Influent Lift Station	$ 468	2.00%	$ 9
19	General Treatment Equipment	$ 18,743	2.00%	$ 375
20	Subtotal Treatment & Discharge	$ 84,130		$ 1,824
21				
22	Collection and Influent			
23	Land and Land Rights	$ -	0.00%	$ -
24	Structures and Improvements	$ 350,713	2.00%	$ 7,014
25	Collection System Lift	$ 1,229,723	8.40%	$ 103,297
26	Collection Mains	$ 12,384,079	2.04%	$ 252,635
27	Force Mains	$ 1,300,266	2.07%	$ 26,916
28	Discharge Services	$ 2,307,454	2.04%	$ 47,072
29	Manholes	$ -	2.03%	$ -
30	Subtotal Collection and Influent	$ 17,572,235		$ 436,934
31				
32	General			
33	Land and Land Rights	$ 1,108	0.00%	$ -
34	Structures and Improvements	$ 760,473	1.68%	$ 12,782
35	Office Funiture and Equipment	$ 365,090	4.55%	$ 16,593
36	Computer Equipment	$ 425,624	4.55%	$ 19,346
37	Transportation Equipment	$ 408,123	25.00%	$ 102,031
38	Stores Equipment	$ 6,523	3.92%	$ 256
39	Tools, Shop and Garage	$ 93,334	4.14%	$ 3,860
40	Laboratory Equipment	$ 29,565	3.71%	$ 1,097
41	Power Operated Equipment	$ 27,321	5.14%	$ 1,405
42	Communication Equipment	$ 164,711	10.28%	$ 16,927
43	Miscellaneous Equipment	$ 48,240	4.98%	$ 2,402
44	Subtotal General	$ 2,330,112		$ 176,699
45				
46	Youngtown Plant *	(96,727)	2.80%	$ (2,709)
47	ADFUC adjustment 3/95 **	-	2.80%	$ -
48	TOTALS	$ 20,027,882		$ 612,747
49	Tolleson Trickling Filter	$ 500,000	2.80%	$ 14,000
50	Amortization of Citizens Acquisition Adjustment (C-2, Page 6a)			
51	Amortization of Deferred Regulatory Assets	$ 145,771	2.80%	$ 4,082
52	Less: Amortization of Contributions	$ 1,187,139	10.00%	$ (118,714)
53				
54	Staff Recommended Depreciation Expense			$ 512,115
55	Company Proposed Deprecioation Expense			$ 514,852
56	Staff Adjustment			$ (2,737)

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WASTEWATER
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Schedule AII-9

OPERATING ADJUSTMENT #7 - PROPERTY TAX EXPENSE

LINE NO.	DESCRIPTION		AMOUNT
1	Staff Adjusted Test Year Revenues - 2001	$	5,088,340
2	Weight Factor		2
3	Subtotal (Line 1 x Line 2)	$	10,176,680
4	Staff Recommended Revenue	$	4,281,300
5	Subtotal (Line 4 + Line 5)	$	14,457,980
6	Number of Years		3
7	Three Year Average (Line 5 / Line 6)	$	4,819,327
8	Department of Revenue Mutilplier		2
9	Revenue Base Value (Line 7 x Line 8)	$	9,638,653
10	Plus: 10% of CWIP - 2001	$	-
11	Less: Net Book Value of Licensed Vehicles	$	408,123
12	Full Cash Value (Line 9 + Line 10 - Line 11)	$	9,230,530
13	Assessment Ratio		25%
14	Assessment Value (Line 12 x Line 13)	$	2,307,633
15	Composite Property Tax Rate		7.618094%
16	Staff Proposed Property Tax Expense (Line 14 x Line 15)	$	175,798
17	Company Proposed Property Tax Expense	$	193,701
18	Staff Adjustment	$	(17,903)

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WASTEWATER SCHEDULE AII-10
Docket No. WS-01303A-02-0867 et al.
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OPERATING ADJUSTMENT #8 - INCOME TAX EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT	[C] STAFF PROPOSED
1	Income Taxes	$ 257,188	$ 263,234	$ 520,422
2	Total	$ 257,188	$ 263,234	$ 520,422

REFERENCES:

Column [A]: Company, Schedule C-1, page 1
Company, Schedule C-2, page 1
Company, Schedule C-3, page 1

Column [B]: Testimony, AII
Schedule DWC-2

Column [C]: Column [A] + Column [B]

MINIMUM MONTHLY AND COMMODITY CHARGES

LINE NO.	CUSTOMER CLASS	PRESENT			COMPANY PROPOSED		
		MINIMUM CHARGE	GALLONS INCLUDED	COMMODITY CHARGE	MINIMUM CHARGE (b)	GALLONS INCLUDED	COMMODITY CHARGE
1	Residential Units (SSR)	$ 12.87	-	-	$ 14.48	-	-
2	Comm/Resid Units (SSR)	$ 12.87	-	-	$ 14.48	-	-
3	Commerical	$ 15.46	-	-	$ 17.39	-	-
4	Comm. Large User (SS6)	$ 32.80	20,000	$ 1.24	$ 36.00	20,000	$ 1.24
5	Multi-family Res. Units (AC SSR)	$ 12.87	-	-	$ 14.48	-	-
6	Comm. additional toilets (SS1)	$ 3.78	-	-	$ 4.25	-	-
7	Comm. per dishwasher (SS2)	$ 29.10	-	-	$ 32.74	-	-
8	Comm. per wash mach. (SS3)	$ 7.06	-	-	$ 7.94	-	-
9	Comm. per wash rack (SS4)	$ 14.40	-	-	$ 16.20	-	-
10	Intentionally left blank	$ -	-	-	$ -	-	-

LINE NO.	CUSTOMER CLASS	STAFF RECOMMENDED		
		MINIMUM CHARGE	GALLONS INCLUDED	COMMODITY CHARGE
11	Residential Units (SSR)	$ 10.82	-	-
12	Comm/Resid Units (SSR)	$ 10.82	-	-
13	Commerical	$ 12.99	-	-
14	Comm. Large User (SS6)	$ 27.56	20,000	$ 1.04
15	Multi-family Res. Units (AC SSR)	$ 10.82	-	-
16	Comm. additional toilets (SS1)	$ 3.18	-	-
17	Comm. per dishwasher (SS2)	$ 24.45	-	-
18	Comm. per wash mach. (SS3)	$ 5.93	-	-
19	Comm. per wash rack (SS4)	$ 12.10	-	-
20	Intentionally left blank	$ -	-	-

Note: Commerical Large User's are the only class with a commodity charge, which is assessed at a rate per 1,000 gallons over 20,000.

ARIZONA-AMERICAN WATER COMPANY, INC. - SUN CITY WASTEWATER
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Schedule DRR-2

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN USAGE COST COMPARISONS

LINE NO.	CUSTOMER CLASS	CURRENT AVERAGE USAGE	CURRENT AVERAGE DOLLARS	CURRENT MEDIAN USAGE	CURRENT MEDIAN DOLLARS
1	Residential Units (SSR)	N/A	$ 12.87	N/A	$ 12.87
2	Comm/Resid Units (SSR)	N/A	$ 12.87	N/A	$ 12.87
3	Commerical	N/A	$ 15.46	N/A	$ 15.46
4	Comm. Large User (SS6)	1,080,156	$ 1,347.39	1,080,156	$ 1,347.39
5	Multi-family Res. Units (AC SSR)	N/A	$ 12.87	N/A	$ 12.87
6	Comm. additional toilets (SS1)	N/A	$ 3.78	N/A	$ 3.78
7	Comm. per dishwasher (SS2)	N/A	$ 29.10	N/A	$ 29.10
8	Comm. per wash mach. (SS3)	N/A	$ 7.06	N/A	$ 7.06
9	Comm. per wash rack (SS4)	N/A	$ 14.40	N/A	$ 14.40
10	Intentionally left blank				

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED AVERAGE	INCREASE	PERCENT	MEDIAN	INCREASE	PERCENT
11	Residential Units (SSR)	$ 14.48	$ 1.61	12.51%	$ 14.48	$ 1.61	12.51%
12	Comm/Resid Units (SSR)	$ 14.48	$ 1.61	12.51%	$ 14.48	$ 1.61	12.51%
13	Commerical	$ 17.39	$ 1.93	12.48%	$ 17.39	$ 1.93	12.48%
14	Comm. Large User (SS6)	$ 1,521.12	$ 173.73	12.89%	$ 1,521.12	$ 173.73	12.89%
15	Multi-family Res. Units (AC SSR)	$ 14.48	$ 1.61	12.51%	$ 14.48	$ 1.61	12.51%
16	Comm. additional toilets (SS1)	$ 4.25	$ 0.47	12.43%	$ 4.25	$ 0.47	12.43%
17	Comm. per dishwasher (SS2)	$ 32.74	$ 3.64	12.51%	$ 32.74	$ 3.64	12.51%
18	Comm. per wash mach. (SS3)	$ 7.94	$ 0.88	12.46%	$ 7.94	$ 0.88	12.46%
19	Comm. per wash rack (SS4)	$ 16.20	$ 1.80	12.50%	$ 16.20	$ 1.80	12.50%
20	Intentionally left blank						

(a) Reflects phase two rates.

LINE NO.	CUSTOMER CLASS	STAFF RECOMMENDED AVERAGE	DECREASE	PERCENT	MEDIAN	DECREASE	PERCENT
21	Residential Units (SSR)	$ 10.82	$ (2.05)	-15.93%	$ 10.82	$ (2.05)	-15.93%
22	Comm/Resid Units (SSR)	$ 10.82	$ (2.05)	-15.93%	$ 10.82	$ (2.05)	-15.93%
23	Commerical	$ 12.99	$ (2.47)	-15.98%	$ 12.99	$ 0.12	0.93%
24	Comm. Large User (SS6)	$ 1,150.92	$ (196.47)	-14.58%	$ 1,150.92	$ (196.47)	-14.58%
25	Multi-family Res. Units (AC SSR)	$ 10.82	$ (2.05)	-15.93%	$ 10.82	$ (2.05)	-15.93%
26	Comm. additional toilets (SS1)	$ 3.18	$ (0.60)	-15.87%	$ 3.18	$ (0.60)	-15.87%
27	Comm. per dishwasher (SS2)	$ 24.45	$ (4.65)	-15.98%	$ 24.45	$ (4.65)	-15.98%
28	Comm. per wash mach. (SS3)	$ 5.93	$ (1.13)	-16.01%	$ 5.93	$ (1.13)	-16.01%
29	Comm. per wash rack (SS4)	$ 12.10	$ (2.30)	-15.97%	$ 12.10	$ (2.30)	-15.97%
30	Intentionally left blank						

MOHAVE WATER

ARIZONA-AMERICAN WATER COMPANY, INC. - **MOHAVE WATER** Schedule DWC-1
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REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY FAIR VALUE	[B] STAFF ORIGINAL COST	[C] STAFF FAIR VALUE
1	Adjusted Rate Base	$ 15,212,898	$ 9,649,461	$ 9,649,461
2	Adjusted Operating Income/(Loss)	$ 796,077	$ 1,055,366	$ 1,055,366
3	Current Rate of Return (L2 / L1)	5.23%	10.94%	10.94%
4	Required Rate of Return	7.75%	6.6%	6.6%
5	Required Operating Income (L4 x L1)	$ 1,179,000	$ 634,935	$ 634,935
6	Operating Income Deficiency/(Excess) (L5 - L2)	$ 382,923	$ (420,431)	$ (420,431)
7	Gross Revenue Conversion Factor	1.62860	1.62863	1.62863
8	Required Revenue Increase/(Decrease) (L7 x L6)	$ 623,628	**$ (684,729)**	**$ (684,729)**
9	Adjusted Test Year Revenue	$ 4,394,775	$ 4,394,775	$ 4,394,775
10	Proposed Annual Revenue (L8 + L9)	$ 5,018,403	$ 3,710,046	$ 3,710,046
11	Required Increase/Decrease in Revenue (%)	14.19%	-15.58%	-15.58%
12	Rate of Return on Common Equity (%)	11.50%	9.7%	9.7%

References:
Column [A]: Company Schedules A-1, A-2, & D-1
Columns [B] & [C]: Staff Schedules AII-1, DWC-2, DWC-3, & JMR-9

ARIZONA-AMERICAN WATER COMPANY, INC. - MOHAVE WATER
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Schedule DWC-2

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	[A]	[B]	[C]	[D]
	Calculation of Gross Revenue Conversion Factor:				
1	Billings	100.0000%			
2	Uncollecible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Tax Rate (Line 17)	38.5989%			
5	Subtotal (L3 - L4)	61.4011%			
6	Revenue Conversion Factor (L1 / L5)	1.628635			
	Calculation of Uncollecttible Factor:				
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	38.5989%			
9	One Minus Combined Income Tax Rate (L7 - L8)	61.4011%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 x L10)	0.0000%			
	Calculation of Effective Tax Rate:				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L12 - L13)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 40)	34.0000%			
16	Effective Federal Income Tax Rate (L14 x L15)	31.6309%			
17	Combined Federal and State Income Tax Rate (L13 + L16)	38.5989%			
18	Required Operating Income (Schedule DWC-1,Col. [B], Line 5)	$ 634,935			
19	Adjusted Test Year Operating Income (Loss) (Sch. AII-1, Col. [C], Line 28)	$ 1,055,366			
20	Required Increase in Operating Income (L18 - L19)		$ (420,431)		
21	Income Taxes on Recommended Revenue (Col. [D], L39)	$ 228,081			
22	Income Taxes on Test Year Revenue (Col. [B], L39)	$ 492,378			
23	Required Increase in Revenue to Provide for Income Taxes (L21 - L22)		$ (264,298)		
24	Recommended Revenue Requirement (Schedule DWC-1, Col. [B], Line 10)	$ 3,710,046			
25	Uncollectible Rate (Line 10)	0.0000%			
26	Uncollectible Expense on Recommended Revenue (L24 x L25)	$ -			
27	Adjusted Test Year Uncollectible Expense	$ -			
28	Required Increase in Revenue to Provide for Uncollectible Exp. (L26 - L27)		$ -		
29	Total Required Increase in Revenue (L20 + L23 + L28)		$ (684,729)		

	Calculation of Income Tax:	Test Year		STAFF Recommended	
30	Revenue (Schedule AII-1, Col. [C], Line 5 & Sch. DWC-1, Col. [B], Line 10)	$ 4,394,775		$ 3,710,046	
31	Operating Expenses Excluding Income Taxes	$ 2,847,031	$ -	$ 2,847,031	
32	Synchronized Interest (L43)	$ 272,115		$ 272,115	
33	Arizona Taxable Income (L30 - L31 - L32)	$ 1,275,629		$ 590,900	
34	Arizona State Income Tax Rate	6.9680%		6.9680%	
35	Arizona Income Tax (L33 x L34)		$ 88,886		$ 41,174
36	Federal Taxable Income (L33 - L35)	$ 1,186,743		$ 549,726	
37	Federal Income Tax Rate	34.0000%		34.0000%	
38	Federal Income Tax (L36 x L37)		$ 403,493		$ 186,907
39	Combined Federal and State Income Tax (L35 + L38)		$ 492,378		$ 228,081
40	Applicable Federal Income Tax Rate(Col. [D], L38 - Col. [B], L38) / (Col. [C], L36 - Col. [A], L36)				34.0000%
	Calculation of Interest Synchronization:				
41	Rate Base (Schedule DWC-3, Col. [C], Line 17)	$ 9,649,461			
42	Weighted Average Cost of Debt	2.82%			
43	Synchronized Interest (L41 x L42)	$ 272,115			

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Schedule DWC-3

RATE BASE - ORIGINAL COST

LINE NO.		[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	ADJ	[C] STAFF AS ADJUSTED
1	Plant in Service	$ 23,833,079	$ (28,638)	A	$ 23,804,441
2	Less: Accumulated Depreciation	7,852,645	(93,363)	B	7,759,282
3	Net Plant in Service	$ 15,980,434	$ 64,725		$ 16,045,159
	LESS:				
4	Contributions in Aid of Construction (CIAC)	$ -	$ -		$ -
5	Less: Accumulated Amortization	-	-		-
6	Net CIAC	2,825,809	-		2,825,809
7	Advances in Aid of Construction (AIAC)	3,462,178	-		3,462,178
8	Customer Deposits	-	-		-
9	Meter Advances	107,711	-		107,711
10	Deferred Income Tax Credits	-	-		-
	ADD:				
11	Cash Working Capital	-	-		-
12	Prepayments	-	-		-
13	Supplies Inventory	-	-		-
14	Projected Capital Expenditures	-	-		-
15	Deferred Debits	-	-		-
16	Citizens Acquisition Adjustment	6,121,931	(6,121,931)	C	-
17	Original Cost Rate Base	$ 15,706,667	$ (6,057,206)		$ 9,649,461

Adjustments:
A. Per plant adjustments on Schedule DWC-4
B. Per accumulated depreciation adjustments on Schedule DWC-4
C. Per acquisition adjustment on Schedule DWC-4

References:
Column [A]: Company Schedule B-1
Column [B]: Staff Schedule DWC-4
Column [C]: Column [A] + Column [B]

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Schedule DWC-4

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] Plant-not used ADJ #1	[C] Plant-unidentified ADJ #2	[D] Plant Mis-Posted ADJ #3	[E] Plant Prev. Dec. ADJ #4	[F] Post-TY Pl. ADJ #5	[G] AFUDC Adj. ADJ #6	[H] Acquisition Adj ADJ #7	[I] STAFF ADJUSTED
		PLANT IN SERVICE:		Leave Blank		Leave Blank	Leave Blank		Leave Blank		
1		Intangible									
2	301.00	Organization	$ 34,004	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 34,004
3	302.00	Franchises	37,061	-	-	-	-	-	-	-	37,061
4	303.00	*Miscellaneous Intangibles*	-	-	-	-	-	-	-	-	-
5		Subtotal Intangible	71,065	-	-	-	-	-	-	-	71,065
6											
7		Source of Supply									
8	310.00	Land & Land Rights	261,542	-	(63,719)	-	-	11,225	-	-	209,048
9	311.00	Structures & Improvements	643,073	-	-	-	-	127,873	-	-	770,946
10	312.00	Collecting & Impounding Reservoirs	663,944	-	-	-	-	-	-	-	663,944
11	313.00	Lakes, Rivers, Other Intakes	-	-	-	-	-	-	-	-	-
12	314.00	Wells and Springs	802,320	-	(37,111)	-	-	(11,000)	-	-	754,209
13		Subtotal Source of Supply	2,370,879	-	(100,830)	-	-	128,098	-	-	2,398,147
14											
15		Pumping									
16	320.00	Land & Land Rights	2,361	-	-	-	-	-	-	-	2,361
17	321.00	Structures & Improvements	1,687	-	-	-	-	-	-	-	1,687
18	323.00	Other Power Production	-	-	-	-	-	-	-	-	-
19	325.00	Electric Pumping Equipment	1,708,531	-	-	-	-	146,092	-	-	1,854,623
20	326.00	Diesel Pumping Equipment	-	-	-	-	-	-	-	-	-
21	328.10	Gas Engine Pumping Equipment	-	-	-	-	-	-	-	-	-
22		Subtotal Pumping	1,712,579	-	-	-	-	146,092	-	-	1,858,671
23											
24		Water Treatment									
25	330.00	Land & Land Rights	409,500	-	-	-	-	(12,699)	-	-	396,801
26	331.00	Structures & Improvements	15,157	-	-	-	-	-	-	-	15,157
27	332.00	Water Treatment Equipment	49,196	-	-	-	-	1,674	-	-	50,870
28		Subtotal Water Treatment	473,853	-	-	-	-	(11,025)	-	-	462,828
29											
30		Transmission & Distribution									
31	340.00	Land & Land Rights	9,609	-	-	-	-	-	-	-	9,609
32	341.00	Structures & Improvements	4,583	-	-	-	-	-	-	-	4,583
33	342.00	Distribution Reservoirs & Standpipes	1,189,528	-	(96,020)	-	-	-	-	-	1,093,508
34	343.00	Transmission & Distribution	11,691,493	-	-	-	-	(30,000)	-	-	11,661,493
35	344.00	Fire Mains	-	-	-	-	-	-	-	-	-
36	345.00	Services	2,863,818	-	-	-	-	-	-	-	2,863,818
37	346.00	Meters	1,825,558	-	-	-	-	-	-	-	1,825,558
38	348.00	Hydrants	-	-	-	-	-	-	-	-	-
39	349.00	Other Transmission & Distribution	-	-	-	-	-	-	-	-	-
40		Subtotal Transmission & Distribu.	17,584,589	-	(96,020)	-	-	(30,000)	-	-	17,458,569
41											
42		General - Allocated Common Plant									
43	389.00	Land & Land Rights	293	-	-	-	-	-	-	-	293
44	390.00	Structures & Improvements	89,251	-	(37,142)	-	-	(23,400)	-	-	28,709
45	391.00	Office Furniture and Equipment	313,106	-	-	-	-	(11,960)	-	-	301,146
46	391.10	Computer Equipment	353,433	-	-	-	-	-	-	-	353,433
47	392.00	Transportation Equipment	542,457	-	-	-	-	3,678	-	-	546,135
48	393.00	Stores Equipment	2,865	-	-	-	-	-	-	-	2,865
49	394.00	Tools, Shop, & Garage Equipment	118,742	-	-	-	-	821	-	-	119,563
50	395.00	Laboratory Equipment	7,277	-	-	-	-	-	-	-	7,277
51	396.00	Power Operated Equipment	71,294	-	-	-	-	-	-	-	71,294
52	397.00	Communication Equipment	110,560	-	-	-	-	3,050	-	-	113,610
53	398.00	Miscellaneous Equipment	10,836	-	-	-	-	-	-	-	10,836
54		Subtotal General	1,620,114	-	(37,142)	-	-	(27,811)	-	-	1,555,161
55											
56	Add:										-
57											-
											-
58	Less:										-
59				-	-	-	-	-	-	-	-
60				-	-	-	-	-	-	-	-
61		Total Plant in Service	$ 23,833,079	$ -	$ (233,992)	$ -	$ -	$ 205,354	$ -	$ -	$ 23,804,441
62		Less: Accumulated Depreciation	7,852,645	-	93,363	-	-	-	-	-	7,759,282
63		Net Plant in Service (L59 - L 60)	$ 15,980,434	$ -	$ (140,629)	$ -	$ -	$ 205,354	$ -	$ -	$ 16,045,159
64											
65	*LESS:*										
66		Contributions in Aid of Construction (CIAC)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67		Less: Accumulated Amortization	-	-	-	-	-	-	-	-	-
68		Net CIAC (L25 - L26)	2,825,809	-	-	-	-	-	-	-	2,825,809
69		Advances in Aid of Construction (AIAC)	3,462,178	-	-	-	-	-	-	-	3,462,178
70		Customer Deposits	-	-	-	-	-	-	-	-	-
71		Meter Advances	107,711	-	-	-	-	-	-	-	107,711
72		Deferred Income Tax Credits	-	-	-	-	-	-	-	-	-
73											
74	*ADD:*										
75		Cash Working Capital Allowance	-	-	-	-	-	-	-	-	-
76		Prepayments	-	-	-	-	-	-	-	-	-
77		*Supplies Inventory*	-	-	-	-	-	-	-	-	-
78		Projected Capital Expenditures	-	-	-	-	-	-	-	-	-
79		Deferred Debits	-	-	-	-	-	-	-	-	-
80		Citizens Acquisition Adjustment	6,121,931	-	-	-	-	-	-	(6,121,931)	-
81		Original Cost Rate Base	$ 15,706,667	$ -	$ (140,629)	$ -	$ -	$ 205,354	$ -	$ (6,121,931)	$ 9,649,461

ADJ #		References:
1	Plant - not used & useful	Per Staff Engineering Reports
2	Plant - unidentified	Per Staff Engineering Reports
3	Plant - mis-posted	Per Company Response to Staff Data Request BKB 26-3
4	Plant - removed by previous decision	Per Decision No. 60172
5	Post-Test Year Plant	Per Company Response to Staff Data Request DWC 12-2
6	Remove AFUDC Adj. 3/95	Per Company Response to Staff Data Request DWC 6-10 Amended
7	Remove Acquisition Adjustment	Per Carlson Direct Testimony

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SCHECULE AII-1

OPERATING INCOME STATEMENT - TEST YEAR AND STAFF PROPOSED

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
1	*REVENUES:*					
2	Metered Water Sales	$ 4,286,070	$ -	$ 4,286,070	$ (684,729)	$ 3,601,341
3	Water Sales - Unmetered	-	-	-	-	-
4	Other Operating Revenue	108,705	-	108,705	-	108,705
5	Total Operating Revenues	$ 4,394,775	$ -	$ 4,394,775	$ (684,729)	$ 3,710,046
6						
7	*OPERATING EXPENSES:*					
8	Salaries & Wages	$ 844,087	$ (229,804)	$ 614,283	$ -	$ 614,283
9	Purchased Water	5,040	-	5,040	-	5,040
10	Purchased Pumping Power	294,603	76	294,679	-	294,679
11	Chemicals	8,150	(26,286)	(18,136)	-	(18,136)
12	Repairs & Maintenance	301,313	-	301,313	-	301,313
13	Office Supplies & Expense	249,611	(129,247)	120,364	-	120,364
14	Outside Services	5,177	35,042	40,219	-	40,219
15	Service Company Charges	521,040	(521,040)	-	-	-
16	Water Testing	-	-	-	-	-
17	Rents	18,307	-	18,307	-	18,307
18	Transportation Expense	-	-	-	-	-
19	Insurance - General Liability	27,385	42,838	70,223	-	70,223
20	Insurance - Health and Life	-	-	-	-	-
21	Regulatory Comm. Exp. - Rate Case	29,013	-	29,013	-	29,013
22	Miscellaneous Operating Expense	83,386	339,176	422,562	-	422,562
23	Depreciation Expense	692,199	(21,266)	670,933	-	670,933
24	Taxes Other Than Income	47,563	(9,622)	37,941	-	37,941
25	Property Taxes	272,584	(32,295)	240,289	-	240,289
26	Income Tax	199,240	293,138	492,378	(264,297)	228,081
27						
28	Total Operating Expenses	$ 3,598,698	$ (259,289)	$ 3,339,409	$ (264,297)	$ 3,075,112
29	Operating Income (Loss)	$ 796,077	$ 259,289	$ 1,055,366	$ (420,432)	$ 634,934

References:
Column [A]: Company Schedule C-1
Column [B]: Schedule AII-2
Column [C]: Column [A] + Column [B]
Column [D]: Schedules DWC-1 and DWC-2
Column [E]: Column [C] + Column [D]

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SCHECULE AII-2

SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR

LINE 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] ADJ #7	[I] ADJ #8	[J] STAFF ADJUSTED
1	*REVENUES:*										
2	Metered Water Sales	$ 4,286,070	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,286,070
3	Water Sales - Unmetered	-	-	-	-	-	-	-	-	-	-
4	Other Operating Revenue	108,705	-	-	-	-	-	-	-	-	108,705.0
5	Total Operating Revenues	$ 4,394,775	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,394,775
6											
7	*OPERATING EXPENSES:*										
8	Salaries & Wages	$ 844,087	$ -		$ (270,391)	$ 614,283	$ (573,696)	$ -	$ -	$ -	$ 614,283
9	Purchased Water	5,040	-	-	-	-	-	-	-	-	5,040
10	Purchased Pumping Power	294,603	76	-	-	-	-	-	-	-	294,679
11	Chemicals	8,150	-	-	(26,286)	-	-	-	-	-	(18,136)
12	Repairs & Maintenance	301,313	-	-	-	-	-	-	-	-	301,313
13	Office Supplies & Expense	249,611	18,092	-	(147,339)	-	-	-	-	-	120,364
14	Outside Services	5,177	35,042	-	-	-	-	-	-	-	40,219
15	Service Company Charges	521,040	-	(521,040)		-	-	-	-	-	-
16	Water Testing	-	-	-	-	-	-	-	-	-	-
17	Rents	18,307	-	-	-	-	-	-	-	-	18,307
18	Transportation Expense	-	-	-	-	-	-	-	-	-	-
19	Insurance - General Liability	27,385	42,838	-	-	-	-	-	-	-	70,223
20	Insurance -Health and Life	-	-	-	-	-	-	-	-	-	-
21	Regulatory Comm. Exp. - Rate Case	29,013	-	-	-	-	-	-	-	-	29,013
22	Miscellaneous Operating Expense	83,386	340,594	-	(1,418)	-	-	-	-	-	422,562
23	Depreciation Expense	692,199	-	-	-	-		(21,266)	-	-	670,933
24	Taxes Other Than Income	47,563	-		-	37,941	(47,563)	-	-	-	37,941
25	Property Taxes	272,584	-	-	-	-	-		(32,295)	-	240,289
26	Income Tax	199,240	-	-	-	-	-	-	-	293,138	492,378
27											
28	Total Operating Expenses	$ 3,598,698	$ 436,643	$ (521,040)	$ (445,434)	$ 652,224	$ (621,259)	$ (21,266)	$ (32,295)	$ 293,138	$ 3,339,409
29	Operating Income (Loss)	$ 796,077	$ (436,643)	$ 521,040	$ 445,434	$ (652,224)	$ 621,259	$ 21,266	$ 32,295	$ (293,138)	$ 1,055,366

ADJ #		References:
1	Citizens, Corporate Costs Allocation	Schedule AII-3
2	Service Company Charges	Schedule AII-4
3	Projected additional expenses	Schedule AII-5
4	Test Year Salaries, Wages & Related Expenses	Schedule AII-6
5	Projected Salaries, Wages & Related Expenses	Schedule AII-7
6	Depreciation Expense	Schedule AII-8
7	Property Taxes	Schedule AII-9
8	Income Taxes	Schedule AII-10

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SCHEDULE AII-3

OPERATING INCOME ADJUSTMENT #1 - CITIZEN'S CORPORATE COST

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Taxes Other Than Income	$ -	1a	$ -
2	Purchased Power	$ (76)	1b	$ 76
3	Chemicals	$ -	1c	$ -
4	Repairs & Maintenance	$ -	1d	$ -
5	Office Supplies & Expense	$ (18,092)	1e	$ 18,092
6	Outside Services	$ (35,042)	1f	$ 35,042
7	Rents	$ -	1g	$ -
8	Insurance Expense - General Liability	$ (42,838)	1h	$ 42,838
9	Miscellaneous Expense	$ (340,594)	1i	$ 340,594
10	Total Adjustments	$ (436,643)		$ 436,643

REFERENCES:

Column [A]:
Company, Schedule C-2, page 1
Company, Schedule C-2, page 2
Bourassa, Direct, page 11
Stephenson, Direct, pages 14, 15, and 16

Column [B]:
Testimony, AII

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OPERATING INCOME ADJUSTMENT #2 - SERVICE COMPANY CHARGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT
1	Service Company Charges	$ 521,040	$ (521,040)
2	Total Adjustments	$ 521,040	$ (521,040)

REFERENCES:

Column [A]:
Company, Schedule C-2, page 1
Company, Schedule C-2, page 4
Bourassa, Direct, pages 11 and 12
Stephenson, Direct, pages 15 and 16

Column [B]:
Testimony, AII

ARIZONA-AMERICAN WATER COMPANY, INC. - MOHAVE WATER
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SCHEDULE AII-5

OPERATING ADJUSTMENT #3 - PROJECTED ADDITIONAL EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 270,391	3a	$ (270,391)
2	Office Expense	$ 147,339	3b	$ (147,339)
3	Chemicals	$ 26,286	3c	$ (26,286)
4	Miscellaneous	$ 1,418	3d	$ (1,418)
5	Total Adjustment	$ 445,433		$ (445,434)

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 10
Bourassa, Direct, pages 14 and 15
Stephenson, Direct, pages 17 and 18

Column [B]: Testimony, AII

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SCHEDULE AII-6

OPERATING INCOME ADJUSTMENT #4 - TEST YEAR SALARIES AND WAGES, AND RELATED EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ (614,283)	4a	$ 614,283
2	Payroll Taxes	$ (37,941)	4b	$ 37,941
3	Total Adjustments	$ (652,224)		$ 652,224

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 3
Bourassa, Direct, page 11

Column [B]: Testimony, AII

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SCHEDULE AII-7

OPERATING INCOME ADJUSTMENT #4 - PROJECTED SALARIES AND WAGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 573,696	5a	$ (573,696)
2	Payroll Taxes	$ 47,563	5b	$ (47,563)
3	Total Adjustments	$ 621,259		$ (621,259)

REFERENCES:

Column [A]:
Company, Schedule C-2, page 1
Company, Schedule C-2, page 5
Bourassa, Direct, page 12
Stephenson, Direct, pages 17 and 18

Column [B]:
Testimony, AII

ARIZONA-AMERICAN WATER COMPANY, INC. - MOHAVE WATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

SCHEDULE AII-8

OPERATING ADJUSTMENT #6 - DEPRECIATION EXPENSE

LINE NO.	DESCRIPTION	ORIGINAL COST	RATE	EXPENSE
1	Intangible			
2	Organization	$ 34,004	0.00%	$ -
3	Franchises	$ 37,061	0.00%	$ -
4	Miscellaneous Intangibles	$ -	0.00%	$ -
5	Subtotal Intangible	$ 71,065		$ -
6				
7	Source of Supply			
8	Land and Land Rights	$ 209,048	0.00%	$ -
9	Structures and Improvements	$ 770,946	2.83%	$ 21,818
10	Collecting and Impounding Res.	$ 663,944	2.54%	$ 16,864
11	Lakes, Rivers, Other Intakes	$ -	0.00%	$ -
12	Wells and Springs	$ 754,209	2.70%	$ 20,364
13	Subtotal Source of Supply	$ 2,398,147		$ 59,046
14				
15	Pumping			
16	Land and Land Rights	$ 2,361	0.00%	$ -
17	Structures and Improvements	$ 1,687	2.39%	$ 40
18	Other Power Production	$ -	0.00%	$ -
19	Electric Pumping Equipment	$ 1,854,623	5.12%	$ 94,957
20	Diesel Pumping Equipment	$ -	0.00%	$ -
21	Gas Engine Pumping Equipment	$ -	0.00%	$ -
22	Subtotal Pumping	$ 1,858,671		$ 94,997
23				
24	Water Treatment			
25	Land and Land Rights	$ 396,801	0.00%	$ -
26	Structures and Improvements	$ 15,157	2.50%	$ 379
27	Water Treatment Equipment	$ 50,870	12.00%	$ 6,104
28	Subtotal Water Treatment	$ 462,828		$ 6,483
29				
30	Transmission and Distribution			
31	Land and Land Rights	$ 9,609	0.00%	$ -
32	Structures and Improvements	$ 4,583	1.81%	$ 83
33	Distribution, Reservoirs, & ST	$ 1,093,508	1.81%	$ 19,792
34	Transmission and Distribution	$ 11,661,493	2.61%	$ 304,365
35	Fire Mains	$ -	0.00%	$ -
36	Services	$ 2,863,818	5.41%	$ 154,933
37	Meters	$ 1,825,558	6.53%	$ 119,209
38	Hydrants	$ -	0.00%	$ -
39	Other Transmission & Distribution	$ -	0.00%	$ -
40	Subtotal Transmission and Distribution	$ 17,458,569		$ 598,382
41				
42	General			
43	Land and Land Rights	$ 293	0.00%	$ -
44	Structures and Improvements	$ 28,709	2.03%	$ 583
45	Office Funiture and Equipment	$ 301,146	4.10%	$ 12,342
46	Computer Equipment	$ 353,433	4.10%	$ 14,485
47	Transportation Equipment	$ 546,135	25.00%	$ 136,534
48	Stores Equipment	$ 2,865	3.93%	$ 113
49	Tools, Shop and Garage	$ 119,563	7.55%	$ 9,029
50	Laboratory Equipment	$ 7,277	3.06%	$ 223
51	Power Operated Equipment	$ 71,294	9.23%	$ 6,581
52	Communication Equipment	$ 113,610	4.10%	$ 4,662
53	Miscellaneous Equipment	$ 10,836	6.19%	$ 671
54	Subtotal General	$ 1,555,161		$ 185,222
55				
56	TOTALS	$ 23,804,441		$ 944,130
57	*Amortization of Deferred Regulatory Assets*	$ 234,640	4.00%	$ 9,384
58	Less: Amotization of Contributions	$ 2,825,809	10.00%	$ (282,581)
59	Staff Recommended Depreciation Expense			$ 670,933
60	Company Proposed Depreciatioon Expense			$ 692,199
61	Staff Adjustment			$ (21,266)

ARIZONA-AMERICAN WATER COMPANY, INC. - MOHAVE WATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

SCHEDULE AII-9

OPERATING ADJUSTMENT #7 - PROPERTY TAX EXPENSE

LINE NO.	DESCRIPTION	AMOUNT
1	Staff Adjusted Test Year Revenues - 2001	$ 4,394,775.00
2	Weight Factor	2
3	Subtotal (Line 1 x Line 2)	$ 8,789,550
4	Staff Recommended Revenue	$ 3,710,046
5	Subtotal (Line 4 + Line 5)	$ 12,499,596
6	Number of Years	3
7	Three Year Average (Line 5 / Line 6)	$ 4,166,532
8	Department of Revenue Mutilplier	2
9	Revenue Base Value (Line 7 x Line 8)	$ 8,333,064
10	Plus: 10% of CWIP - 2001	$ -
	Less: Net Book Value of Licensed Vehicles	$ 524,857
11	Less: Net Book Value of Licensed Vehicles - Pro Forma	$ 17,600
12	Full Cash Value (Line 9 + Line 10 - Line 11)	$ 7,790,607
13	Assessment Ratio	25%
14	Assessment Value (Line 12 x Line 13)	$ 1,947,652
15	Composite Property Tax Rate	12.337393%
16	Staff Proposed Property Tax Expense (Line 14 x Line 15)	$ 240,289
17	Company Proposed Property Tax Expense	$ 272,584
18	Staff Adjustment (Line 16 - Line 17)	$ (32,295)

ARIZONA-AMERICAN WATER COMPANY, INC. - MOHAVE WATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

SCHEDULE AII-10

OPERATING ADJUSTMENT #8 - INCOME TAX EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT	[C] STAFF PROPOSED
1	Income Taxes	$ 199,240	$ 293,138	$ 492,378
2	Total	$ 199,240	$ 293,138	$ 492,378

REFERENCES:

Column [A]: Company, Schedule C-1, page 1
Company, Schedule C-2, page 1
Company, Schedule C-3, page 1

Column [B]: Testimony, AII
Schedule DWC-2

Column [C]: Column [A] + Column [B]

MINIMUM MONTHLY CHARGES AND COMMODITY RATES

LINE NO.	CUSTOMER CLASS	PRESENT		COMPANY PROPOSED		STAFF RECOMMENDED		PRESENT RATES			
								TIER ONE		TIER TWO	
		MINIMUM CHARGE	GALLONS INCLUDED	MINIMUM CHARGE (b)	GALLONS INCLUDED	MINIMUM CHARGE	GALLONS INCLUDED	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT
1	Residential 5/8"	$ 8.65	1,000	$ 9.84	1,000	$ 7.27	-	$ 1.48	Infinite		
2	Residential 3/4"	$ 8.65	1,000	$ 9.84	1,000	$ 7.27	-	$ 1.48	Infinite		
3	Residential 1"	$ 15.00	1,000	$ 17.07	1,000	$ 12.61	-	$ 1.48	Infinite		
4	Residential 1.5"	$ 25.00	1,000	$ 28.45	1,000	$ 21.01	-	$ 1.48	Infinite		
5	Residential 2"	$ 30.00	1,000	$ 34.14	1,000	$ 25.21	-	$ 1.48	Infinite		
6	Residential 3"	$ 60.00	1,000	$ 68.28	1,000	$ 50.41	-	$ 1.48	Infinite		
7	Residential 4"	$ 90.00	1,000	$ 102.42	1,000	$ 75.62	-	$ 1.48	Infinite		
8	Residential 6"	$ 200.00	1,000	$ 227.60	1,000	$ 168.05	-	$ 1.48	Infinite		
9	Residential 8"	$ 400.00	1,000	$ 455.20	1,000	$ 336.10	-	$ 1.48	Infinite		
10	Residential 10"	N/A		$ 787.20	1,000	$ 581.23	-	$ 1.48	Infinite		
11	Residential MF 5/8	$8.65 X No. Of Units	1,000 X No. of Units	$9.84 X No. Of Units	1,000 X No. of Units	$7.27 X No. Of Units	-	$ 1.48	Infinite		
12	Residential MF 1"	$8.65 X No. Of Units	1,000 X No. of Units	$9.84 X No. Of Units	1,000 X No. of Units	$7.27 X No. Of Units	-	$ 1.48	Infinite		
13	Residential MF 1.5"	$8.65 X No. Of Units	1,000 X No. of Units	$9.84 X No. Of Units	1,000 X No. of Units	$7.27 X No. Of Units	-	$ 1.48	Infinite		
14	Residential MF 2"	$8.65 X No. Of Units	1,000 X No. of Units	$9.84 X No. Of Units	1,000 X No. of Units	$7.27 X No. Of Units	-	$ 1.48	Infinite		
15	Residential MF 4"	$8.65 X No. Of Units	1,000 X No. of Units	$9.84 X No. Of Units	1,000 X No. of Units	$7.27 X No. Of Units	-	$ 1.48	Infinite		
16	Residential MF 6"	$8.65 X No. Of Units	1,000 X No. of Units	$9.84 X No. Of Units	1,000 X No. of Units	$7.27 X No. Of Units	-	$ 1.48	Infinite		
17	Rio Res 5/8"	$ 7.75	2,000	$ 8.82	2,000	$ 6.51	-	$ 1.75	Infinite		
18	Rio Res 1"	$ 7.75	2,000	$ 8.82	2,000	$ 6.51	-	$ 1.75	Infinite		
19	Rio Res 2"	$ 7.75	2,000	$ 8.82	2,000	$ 6.51	-	$ 1.75	Infinite		
20	Commerical 5/8"	$ 8.65	1,000	$ 9.84	1,000	$ 7.27	-	$ 1.48	Infinite		
21	Commerical 3/4"	N/A		$ 9.84		$ 7.27	-	$ 1.48	Infinite		
22	Commerical 1"	$ 15.00	1,000	$ 17.07	1,000	$ 12.60	-	$ 1.48	Infinite		
23	Commerical 1.5"	$ 25.00	1,000	$ 28.45	1,000	$ 21.00	-	$ 1.48	Infinite		
24	Commerical 2"	$ 30.00	1,000	$ 34.14	1,000	$ 25.21	-	$ 1.48	Infinite		
25	Commerical 3"	$ 60.00	1,000	$ 68.28	1,000	$ 50.42	-	$ 1.48	Infinite		
26	Commerical 4"	$ 90.00	1,000	$ 102.42	1,000	$ 75.62	-	$ 1.48	Infinite		
27	Commerical 6"	$ 200.00	1,000	$ 227.60	1,000	$ 168.05	-	$ 1.48	Infinite		
28	Commerical 8"	$ 400.00	1,000	$ 455.20	1,000	$ 336.10	-	$ 1.48	Infinite		
29	Commerical 10"	N/A		$ 787.20		$ 581.23	-	$ 1.48	Infinite		
30	Comm MU 5/8"	$8.65 X No. Of Units	1,000 X No. of Units	$9.84 X No. Of Units	1,000 X No. of Units	$7.27 X No. Of Units	-	$ 1.48	Infinite		
31	Comm MU 1"	$8.65 X No. Of Units	1,000 X No. of Units	$9.84 X No. Of Units	1,000 X No. of Units	$7.27 X No. Of Units	-	$ 1.48	Infinite		
32	Comm MU 1.5"	$8.65 X No. Of Units	1,000 X No. of Units	$9.84 X No. Of Units	1,000 X No. of Units	$7.27 X No. Of Units	-	$ 1.48	Infinite		
33	Comm MU 2"	$8.65 X No. Of Units	1,000 X No. of Units	$9.84 X No. Of Units	1,000 X No. of Units	$7.27 X No. Of Units	-	$ 1.48	Infinite		
34	PA 5/8"	$ 8.65	1,000	$ 9.84	1,000	$ 7.27	-	$ 1.48	Infinite		
35	PA 1"	$ 15.00	1,000	$ 17.07	1,000	$ 12.60	-	$ 1.48	Infinite		
36	PA 1.5"	$ 25.00	1,000	$ 28.45	1,000	$ 21.01	-	$ 1.48	Infinite		
37	PA 2"	$ 30.00	1,000	$ 34.14	1,000	$ 25.21	-	$ 1.48	Infinite		
38	PA 3"	$ 60.00	1,000	$ 68.28	1,000	$ 50.41	-	$ 1.48	Infinite		
39	PA 4"	$ 90.00	1,000	$ 102.42	1,000	$ 75.62	-	$ 1.48	Infinite		
40	PA 6"	$ 200.00	1,000	$ 227.60	1,000	$ 168.05	-	$ 1.48	Infinite		
41	PF 2"	$ 3.00	-	$ 3.41	-	$ 2.52	-	$ 1.48	Infinite		
42	PF 4"	$ 6.00	-	$ 6.83	-	$ 5.04	-	$ 1.48	Infinite		
43	PF 6"	$ 9.00	-	$ 10.24	-	$ 7.56	-	$ 1.48	Infinite		
44	PF 8"	$ 12.00	-	$ 13.66	-	$ 10.08	-	$ 1.48	Infinite		
45	PF 10"	$ 15.00	-	$ 17.07	-	$ 12.60	-	$ 1.48	Infinite		
46	PF 12"	$ 18.00	-	$ 18.00	-	$ 15.12	-	$ 1.48	Infinite		
47	PF 14"	$ 21.00	-	$ 21.00	-	$ 17.65	-	$ 1.48	Infinite		
48	PF 20"	$ 30.00	-	$ 30.00	-	$ 25.21	-	$ 1.48	Infinite		
49	PF Hydrant	$ 7.64	-	$ 8.69	-	$ 6.42	-	$ 1.48	Infinite		
50	Standby	$ 7.64	-	$ 8.69	-	$ 6.42	-	$ 1.48	Infinite		
51	Intentionally Left Blank	$ -	-	$ -	-	$ -	-				

MINIMUM MONTHLY CHARGES AND COMMODITY RATES

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED RATES				STAFF RECOMMENDED RATES					
		TIER ONE		TIER TWO		TIER ONE		TIER TWO		TIER THREE	
		COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT
52	Residential 5/8"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
53	Residential 3/4"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
54	Residential 1"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
55	Residential 1.5"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
56	Residential 2"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
57	Residential 3"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
58	Residential 4"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
59	Residential 6"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
60	Residential 8"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
61	Residential 10"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
62	Residential MF 5/8	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
63	Residential MF 1"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
64	Residential MF 1.5"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
65	Residential MF 2"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
66	Residential MF 4"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
67	Residential MF 6"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
68	Rio Res 5/8"	$ 1.99	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
69	Rio Res 1"	$ 1.99	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
70	Rio Res 2"	$ 1.99	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
71	Commerical 5/8"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
72	Commerical 3/4"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
73	Commerical 1"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
74	Commerical 1.5"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
75	Commerical 2"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
76	Commerical 3"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
77	Commerical 4"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
78	Commerical 6"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
79	Commerical 8"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
80	Commerical 10"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
81	Comm MU 5/8"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
82	Comm MU 1"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
83	Comm MU 1.5"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
84	Comm MU 2"	$ 1.68	Infinite			$ 0.81	4,000	$ 1.23	100,000	$ 1.47	Infinite
85	PA 5/8"	$ 1.68	Infinite			$ 1.25					
86	PA 1"	$ 1.68	Infinite			$ 1.25					
87	PA 1.5"	$ 1.68	Infinite			$ 1.25					
88	PA 2"	$ 1.68	Infinite			$ 1.25					
89	PA 3"	$ 1.68	Infinite			$ 1.25					
90	PA 4"	$ 1.68	Infinite			$ 1.25					
91	PA 6"	$ 1.68	Infinite			$ 1.25					
92	PF 2"	$ 1.68	Infinite			$ 1.25					
93	PF 4"	$ 1.68	Infinite			$ 1.25					
94	PF 6"	$ 1.68	Infinite			$ 1.25					
95	PF 8"	$ 1.68	Infinite			$ 1.25					
96	PF 10"	$ 1.68	Infinite			$ 1.25					
97	PF 12"	$ 1.68	Infinite			$ 1.25					
98	PF 14"	$ 1.68	Infinite			$ 1.25					
99	PF 20"	$ 1.68	Infinite			$ 1.25					
100	PF Hydrant	$ 1.68	Infinite			$ 1.25					
101	Standby	$ 1.68	Infinite			$ 1.25					
102	Intentionally Left Blank										

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN USAGE AND COSTS

LINE NO.	CUSTOMER CLASS	CURRENT AVERAGE USAGE	CURRENT AVERAGE DOLLARS	CURRENT MEDIAN USAGE	CURRENT MEDIAN DOLLARS
1	Residential 5/8"				
2	RS BCMI 5/8"	8,787	$ 20.18	7,000	$ 17.53
3	RS BRMI 5/8"	7,466	$ 18.22	7,000	$ 17.53
4	RS BRMO 5/8"	11,076	$ 23.56	7,000	$ 17.53
5	Residential MF 5/8				
6	RS B002 5/8"	13,090	$ 33.71	7,000	$ 24.70
7	RS B003 5/8"	12,178	$ 39.53	7,000	$ 31.87
8	RS B004 5/8"	18,231	$ 55.66	7,000	$ 39.04
9	RS B005 5/8"	29,000	$ 78.77	7,000	$ 46.21
10	RS B006 5/8"	28,139	$ 84.67	7,000	$ 53.38
11	RS B007 5/8"	23,917	$ 85.59	7,000	$ 60.55
12	RS B008 5/8"	47,917	$ 128.28	7,000	$ 69.20
13	RS B009 5/8"	15,750	$ 87.84	7,000	$ 77.85
14	RS B010 5/8"	48,750	$ 143.85	7,000	$ 86.50
15	RS B012 5/8"	87,524	$ 215.58	7,000	$ 103.80
16	RS B018 5/8"	74,000	$ 238.58	7,000	$ 155.70
17	RS B019 5/8"	19,833	$ 165.58	7,000	$ 164.35
18	RS B020 5/8"	48,944	$ 215.84	7,000	$ 173.00
19	RS B022 5/8"	63,625	$ 251.91	7,000	$ 190.30
20	RS B060 5/8"	183,750	$ 702.15	7,000	$ 519.00
21	RS B067 5/8"	355,545	$ 1,006.60	7,000	$ 579.55
22	Residential 3/4"	NOT USED			
23	Residential 1"				
24	RS BCMI 1"	37,875	$ 69.58	7,000	$ 23.88
25	RS BIMI 1"	20,334	$ 43.61	7,000	$ 23.88
26	Residential MF 1"				
27	RS B002 1"	14,743	$ 36.16	7,000	$ 24.70
28	RS B003 1"	12,970	$ 40.71	7,000	$ 31.87
29	RS B004 1"	19,350	$ 57.32	7,000	$ 39.04
30	RS B006 1"	38,083	$ 99.38	7,000	$ 53.38
31	RS B008 1"	126,667	$ 244.83	7,000	$ 69.20
32	RS B009 1"	6,833	$ 77.85	7,000	$ 77.85
33	RS B010 1"	46,917	$ 141.14	7,000	$ 86.50
34	RS B012 1"	159,000	$ 321.36	7,000	$ 103.80
35	RS B013 1"	31,708	$ 140.14	7,000	$ 112.45
36	RS B014 1"	72,708	$ 207.99	7,000	$ 121.10
37	RS B018 1"	83,917	$ 253.26	7,000	$ 155.70
38	RS B030 1"	61,000	$ 305.38	7,000	$ 259.50
39	Residential 1.5"	NOT USED			
40	Residential MF 1.5"				
41	RS B004 1.5"	-	$ 34.60	-	$ 34.60
42	RS B026 1.5"	72,833	$ 294.21	7,000	$ 224.90
43	RS B052 1.5"	95,125	$ 513.63	7,000	$ 449.80
44	Residential 2"				
45	RS BCMI 2"	36,152	$ 82.02	7,000	$ 38.88
46	RS BRMI 2"	72,230	$ 135.42	7,000	$ 38.88
47	Residential MF 2"				
48	RS B004 2"	15,924	$ 52.25	7,000	$ 39.04
49	RS B006 2"	103,833	$ 196.69	7,000	$ 53.38
50	RS B008 2"	17,000	$ 82.52	7,000	$ 69.20
51	RS B009 2"	57,958	$ 150.31	7,000	$ 77.85
52	RS B010 2"	23,417	$ 106.36	7,000	$ 86.50
53	RS B011 2"	11,417	$ 95.77	7,000	$ 95.15
54	RS B012 2"	34,304	$ 136.81	7,000	$ 103.80
55	RS B013 2"	9,333	$ 112.45	7,000	$ 112.45
56	RS B015 2"	8,000	$ 129.75	7,000	$ 129.75
57	RS B016 2"	95,359	$ 255.85	7,000	$ 138.40
58	RS B017 2"	6,083	$ 147.05	7,000	$ 147.05
59	RS B018 2"	45,208	$ 195.97	7,000	$ 155.70
60	RS B020 2"	55,750	$ 225.91	7,000	$ 173.00
61	RS B021 2"	11,972	$ 181.65	7,000	$ 181.65
62	RS B023 2"	15,167	$ 198.95	7,000	$ 198.95
63	RS B024 2"	89,083	$ 303.92	7,000	$ 207.60
64	RS B025 2"	24,750	$ 216.25	7,000	$ 216.25
65	RS B028 2"	81,000	$ 320.64	7,000	$ 242.20
66	RS B030 2"	70,917	$ 320.06	7,000	$ 259.50
67	RS B031 2"	184,167	$ 494.84	7,000	$ 268.15
68	RS B040 2"	235,167	$ 634.85	7,000	$ 346.00
69	RS B041 2"	278,208	$ 705.72	7,000	$ 354.65
70	RS B043 2"	164,278	$ 551.44	7,000	$ 371.95

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN USAGE AND COSTS

71	RS B048 2"	255,750	$ 722.67	7,000	$ 415.20
72	RS B052 2"	148,250	$ 592.25	7,000	$ 449.80
73	RS B057 2"	167,167	$ 656.10	7,000	$ 493.05
74	RS B173 2"	631,000	$ 2,174.29	7,000	$ 1,496.45
75	RS B174 2"	17,400	$ 1,505.10	7,000	$ 1,505.10
76	Residential MF 4"				
77	RS B041 4"	404,583	$ 892.75	7,000	$ 354.65
78	RS B066 4"	28,583	$ 570.90	7,000	$ 570.90
79	Residential MF 6"				
80	RS B174 6"	87,600	$ 1,505.10	7,000	$ 1,505.10
81	RS B359 6"	1,192,333	$ 4,338.68	7,000	$ 3,105.35
82	RS B373 6"	1,104,000	$ 4,308.33	7,000	$ 3,226.45
83	RS M695	2,057,083	$ 8,027.63	7,000	$ 6,011.75
84	Rio Verde Res 5/8"	11,942	$ 25.15	7,000	$ 16.50
85	Rio Verde Res 1"	12,501	$ 26.13	8,000	$ 18.25
86	Rio Verde Res 2"	11,000	$ 23.50	7,000	$ 16.50
87	Commerical 5/8"				
88	CM BAMI 5/8"	15,042	$ 29.43	7,000	$ 17.53
89	CM BCMI 5/8"	11,714	$ 24.51	7,000	$ 17.53
90	CM BCMO 5/8"	196,229	$ 297.59	7,000	$ 17.53
91	CM BRNI 5/8"	13,286	$ 26.83	7,000	$ 17.53
92	CM RCMI 5/8"	8,000	$ 19.01	7,000	$ 17.53
93	Comm MU 5/8"				
94	CM B002 5/8"	9,125	$ 27.85	7,000	$ 24.70
95	CM B003 5/8"	27,250	$ 61.84	7,000	$ 31.87
96	CM B004 5/8"	13,000	$ 47.92	7,000	$ 39.04
97	CM B005 5/8"	17,417	$ 61.63	7,000	$ 46.21
98	CM B006 5/8"	14,917	$ 65.10	7,000	$ 53.38
99	CM B007 5/8"	28,250	$ 92.00	7,000	$ 60.55
100	CM B010 5/8"	8,500	$ 86.50	7,000	$ 86.50
101	CM B017 5/8"	365,500	$ 662.83	7,000	$ 147.05
102	Commerical 3/4"	NOT USED			
103	Commerical 1"				
104	CM BCMI 1"	29,461	$ 57.12	7,000	$ 23.88
105	CM BCMO 1"	14,368	$ 34.79	7,000	$ 23.88
106	CM RCMI 1"	20,000	$ 43.12	7,000	$ 23.88
107	CM BCTX 1"	-	$ 15.00	-	$ 15.00
108	Comm MU 1"				
109	CM B003 1"	22,167	$ 54.32	7,000	$ 31.87
110	CM B004 1"	11,174	$ 45.22	7,000	$ 39.04
111	CM B005 1"	7,167	$ 46.46	7,000	$ 46.21
112	CM B006 1"	9,917	$ 57.70	7,000	$ 53.38
113	Commerical 1.5"				
114	CM BCMI 1.5"	85,344	$ 149.83	7,000	$ 33.88
115	Comm MU 1.5"				
116	CM B005 1.5"	123,250	$ 218.26	7,000	$ 46.21
117	Commerical 2"				
118	CM BAMI 2"	39,875	$ 87.54	7,000	$ 38.88
119	CM BCMI 2"	107,010	$ 186.89	7,000	$ 38.88
120	BCMO 2"	62,901	$ 121.61	7,000	$ 38.88
121	CM BCTX 2"	74,194	$ 138.33	7,000	$ 38.88
122	Comm MU 2"				
123	CM B004 2"	118,000	$ 203.32	7,000	$ 39.04
124	CM B006 2"	15,667	$ 66.21	7,000	$ 53.38
125	CM B012 2"	265,083	$ 478.36	7,000	$ 103.80
126	CM B014 2"	183,667	$ 372.21	7,000	$ 121.10
127	CM B044 2"	4,750	$ 380.60	7,000	$ 380.60
128	Commerical 3"				
129	CM BCMI 3"	153,110	$ 285.12	7,000	$ 68.88
130	PA 5/8" BAMI	3,731	$ 12.69	7,000	$ 17.53
131	PA 1" BAMI	27,158	$ 53.71	7,000	$ 23.88
132	PA 1.5" BAMI	27,767	$ 64.61	7,000	$ 33.88
133	PA 2" BAMI	74,826	$ 139.26	7,000	$ 38.88
134	PA 3" BAMI	830,167	$ 1,287.17	7,000	$ 68.88
135	PA 4" BAMI	1,050,083	$ 1,642.64	7,000	$ 98.88
136	PA 6" BAMI	1,740,583	$ 2,774.58	7,000	$ 208.88
137	PF 2"	-	$ 3.00	-	$ 3.00
138	PF 4"	-	$ 6.00	-	$ 6.00
139	PF 6"	-	$ 9.00	-	$ 9.00
140	PF 8"	-	$ 12.00	-	$ 12.00
141	PF 10"	-	$ 15.00	-	$ 15.00
142	PF Hydrant	-	$ 7.64	-	$ 7.64
143	Intentionally left blank				

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN USAGE AND COSTS

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED					
		AVERAGE	INCREASE	PERCENT	MEDIAN	INCREASE	PERCENT
144	Residential 5/8"						
145	RS BCMI 5/8"	$ 22.92	$ 2.75	13.62%	$ 19.92	$ 2.39	13.63%
146	RS BRMI 5/8"	$ 20.70	$ 2.48	13.63%	$ 19.92	$ 2.39	13.63%
147	RS BRMO 5/8"	$ 26.77	$ 3.21	13.60%	$ 19.92	$ 2.39	13.63%
148	Residential MF 5/8						
149	RS B002 5/8"	$ 38.31	$ 4.60	13.64%	$ 28.08	$ 3.38	13.68%
150	RS B003 5/8"	$ 44.94	$ 5.41	13.67%	$ 36.24	$ 4.37	13.71%
151	RS B004 5/8"	$ 63.27	$ 7.61	13.67%	$ 44.40	$ 5.36	13.73%
152	RS B005 5/8"	$ 89.52	$ 10.75	13.65%	$ 52.56	$ 6.35	13.74%
153	RS B006 5/8"	$ 96.23	$ 11.57	13.66%	$ 60.72	$ 7.34	13.75%
154	RS B007 5/8"	$ 97.30	$ 11.71	13.69%	$ 68.88	$ 8.33	13.76%
155	RS B008 5/8"	$ 145.78	$ 17.50	13.64%	$ 78.72	$ 9.52	13.76%
156	RS B009 5/8"	$ 99.90	$ 12.06	13.73%	$ 88.56	$ 10.71	13.76%
157	RS B010 5/8"	$ 163.50	$ 19.65	13.66%	$ 98.40	$ 11.90	13.76%
158	RS B012 5/8"	$ 244.96	$ 29.38	13.63%	$ 118.08	$ 14.28	13.76%
159	RS B018 5/8"	$ 271.20	$ 32.62	13.67%	$ 177.12	$ 21.42	13.76%
160	RS B019 5/8"	$ 188.36	$ 22.78	13.76%	$ 186.96	$ 22.61	13.76%
161	RS B020 5/8"	$ 245.43	$ 29.59	13.71%	$ 196.80	$ 23.80	13.76%
162	RS B022 5/8"	$ 286.41	$ 34.51	13.70%	$ 216.48	$ 26.18	13.76%
163	RS B060 5/8"	$ 798.30	$ 96.15	13.69%	$ 590.40	$ 71.40	13.76%
164	RS B067 5/8"	$ 798.30	$ 96.15	13.69%	$ 590.40	$ 71.40	13.76%
165	Residential 3/4"	NOT USED					
166	Residential 1"						
167	RS BCMI 1"	$ 79.02	$ 9.44	13.58%	$ 27.15	$ 3.27	13.69%
168	RS BIMI 1"	$ 49.55	$ 5.94	13.61%	$ 27.15	$ 3.27	13.69%
169	Residential MF 1"						
170	RS B002 1"	$ 41.09	$ 4.93	13.63%	$ 28.08	$ 3.38	13.68%
171	RS B003 1"	$ 46.27	$ 5.56	13.67%	$ 36.24	$ 4.37	13.71%
172	RS B004 1"	$ 65.15	$ 7.83	13.66%	$ 44.40	$ 5.36	13.73%
173	RS B006 1"	$ 112.94	$ 13.56	13.64%	$ 60.72	$ 7.34	13.75%
174	RS B008 1"	$ 278.08	$ 33.25	13.58%	$ 78.72	$ 9.52	13.76%
175	RS B009 1"	$ 88.56	$ 10.71	13.76%	$ 88.56	$ 10.71	13.76%
176	RS B010 1"	$ 160.42	$ 19.28	13.66%	$ 98.40	$ 11.90	13.76%
177	RS B012 1"	$ 365.04	$ 43.68	13.59%	$ 118.08	$ 14.28	13.76%
178	RS B013 1"	$ 159.35	$ 19.21	13.71%	$ 127.92	$ 15.47	13.76%
179	RS B014 1"	$ 236.39	$ 28.40	13.66%	$ 137.76	$ 16.66	13.76%
180	RS B018 1"	$ 287.86	$ 34.60	13.66%	$ 177.12	$ 21.42	13.76%
181	RS B030 1"	$ 347.28	$ 41.90	13.72%	$ 295.20	$ 35.70	13.76%
182	Residential 1.5"	NOT USED					
183	Residential MF 1.5"						
184	RS B004 1.5"	$ 39.36	$ 4.76	13.76%	$ 39.36	$ 4.76	13.76%
185	RS B026 1.5"	$ 334.52	$ 40.31	13.70%	$ 255.84	$ 30.94	13.76%
186	RS B052 1.5"	$ 584.13	$ 70.51	13.73%	$ 511.68	$ 61.88	13.76%
187	Residential 2"						
188	RS BCMI 2"	$ 93.19	$ 11.17	13.62%	$ 44.22	$ 5.34	13.73%
189	RS BRMI 2"	$ 153.81	$ 18.39	13.58%	$ 44.22	$ 5.34	13.73%
190	Residential MF 2"						
191	RS B004 2"	$ 59.39	$ 7.14	13.67%	$ 44.40	$ 5.36	13.73%
192	RS B006 2"	$ 223.40	$ 26.71	13.58%	$ 60.72	$ 7.34	13.75%
193	RS B008 2"	$ 93.84	$ 11.32	13.72%	$ 78.72	$ 9.52	13.76%
194	RS B009 2"	$ 170.81	$ 20.50	13.64%	$ 88.86	$ 10.71	13.76%
195	RS B010 2"	$ 120.94	$ 14.58	13.71%	$ 98.40	$ 11.90	13.76%
196	RS B011 2"	$ 108.94	$ 13.17	13.76%	$ 108.24	$ 13.09	13.76%
197	RS B012 2"	$ 155.55	$ 18.74	13.70%	$ 118.08	$ 14.28	13.76%
198	RS B013 2"	$ 127.92	$ 15.47	13.76%	$ 127.92	$ 15.47	13.76%
199	RS B015 2"	$ 147.60	$ 17.85	13.76%	$ 147.60	$ 17.85	13.76%
200	RS B016 2"	$ 290.76	$ 34.91	13.65%	$ 157.44	$ 19.04	13.76%
201	RS B017 2"	$ 167.28	$ 20.23	13.76%	$ 167.28	$ 20.23	13.76%
202	RS B018 2"	$ 222.83	$ 26.86	13.71%	$ 177.12	$ 21.42	13.76%
203	RS B020 2"	$ 256.86	$ 30.95	13.70%	$ 196.80	$ 23.80	13.76%
204	RS B021 2"	$ 206.64	$ 24.99	13.76%	$ 206.64	$ 24.99	13.76%
205	RS B023 2"	$ 226.32	$ 27.37	13.76%	$ 226.32	$ 27.37	13.76%
206	RS B024 2"	$ 345.50	$ 41.58	13.68%	$ 236.16	$ 28.56	13.76%
207	RS B025 2"	$ 246.00	$ 29.75	13.76%	$ 246.00	$ 29.75	13.76%
208	RS B028 2"	$ 364.56	$ 43.92	13.70%	$ 275.52	$ 33.32	13.76%
209	RS B030 2"	$ 363.94	$ 43.88	13.71%	$ 295.20	$ 35.70	13.76%
210	RS B031 2"	$ 562.36	$ 67.52	13.65%	$ 305.04	$ 36.89	13.76%
211	RS B040 2"	$ 721.48	$ 86.63	13.65%	$ 393.60	$ 47.60	13.76%
212	RS B041 2"	$ 801.95	$ 96.23	13.64%	$ 403.44	$ 48.79	13.76%
213	RS B043 2"	$ 626.87	$ 75.43	13.68%	$ 423.12	$ 51.17	13.76%
214	RS B048 2"	$ 821.34	$ 98.67	13.65%	$ 472.32	$ 57.12	13.76%
215	RS B052 2"	$ 673.38	$ 81.13	13.70%	$ 511.68	$ 61.88	13.76%

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN USAGE AND COSTS

216	RS B057 2"	$ 745.96	$ 89.86	13.70%	$ 560.88	$ 67.83	13.76%
217	RS B173 2"	$ 2,471.76	$ 297.47	13.68%	$ 1,702.32	$ 205.87	13.76%
218	RS B174 2"	$ 1,712.16	$ 207.06	13.76%	$ 1,712.16	$ 207.06	13.76%
219	Residential MF 4"						
220	RS B041 4"	$ 1,014.26	$ 121.51	13.61%	$ 403.44	$ 48.79	13.76%
221	RS B066 4"	$ 649.44	$ 78.54	13.76%	$ 649.44	$ 78.54	13.76%
222	Residential MF 6"						
223	RS B174 6"	$ 1,712.16	$ 207.06	13.76%	$ 1,712.16	$ 207.06	13.76%
224	RS B359 6"	$ 4,932.56	$ 593.88	13.69%	$ 3,532.56	$ 427.21	13.76%
225	RS B373 6"	$ 4,898.40	$ 590.07	13.70%	$ 3,670.32	$ 443.87	13.76%
226	RS M695	$ 9,127.10	$ 1,099.47	13.70%	$ 6,838.80	$ 827.05	13.76%
227	Rio Verde Res 5/8"	$ 28.60	$ 3.46	13.74%	$ 18.77	$ 2.27	13.76%
228	Rio Verde Res 1"	$ 29.72	$ 3.59	13.74%	$ 20.76	$ 2.51	13.75%
229	Rio Verde Res 2"	$ 26.73	$ 3.23	13.74%	$ 18.77	$ 2.27	13.76%
230	Commerical 5/8"						
231	CM BAMI 5/8"	$ 33.43	$ 4.00	13.59%	$ 19.92	$ 2.39	13.63%
232	CM BCMI 5/8"	$ 27.84	$ 3.33	13.60%	$ 19.92	$ 2.39	13.63%
233	CM BCMO 5/8"	$ 337.83	$ 40.24	13.52%	$ 19.92	$ 2.39	13.63%
234	CM BRNI 5/8"	$ 30.48	$ 3.65	13.59%	$ 19.92	$ 2.39	13.63%
235	CM RCMI 5/8"	$ 21.60	$ 2.59	13.62%	$ 19.92	$ 2.39	13.63%
236	Comm MU 5/8"						
237	CM B002 5/8"	$ 31.65	$ 3.81	13.66%	$ 28.08	$ 3.38	13.68%
238	CM B003 5/8"	$ 70.26	$ 8.42	13.62%	$ 36.24	$ 4.37	13.71%
239	CM B004 5/8"	$ 54.48	$ 6.56	13.69%	$ 44.40	$ 5.36	13.73%
240	CM B005 5/8"	$ 70.06	$ 8.43	13.68%	$ 52.56	$ 6.35	13.74%
241	CM B006 5/8"	$ 74.02	$ 8.92	13.71%	$ 60.72	$ 7.34	13.75%
242	CM B007 5/8"	$ 104.58	$ 12.58	13.67%	$ 68.88	$ 8.33	13.76%
243	CM B010 5/8"	$ 98.40	$ 11.90	13.76%	$ 98.40	$ 11.90	13.76%
244	CM B017 5/8"	$ 752.76	$ 89.93	13.57%	$ 167.28	$ 20.23	13.76%
245	Commerical 3/4"						
246	Commerical 1"						
247	CM BCMI 1"	$ 64.88	$ 7.76	13.59%	$ 27.15	$ 3.27	13.69%
248	CM BCMO 1"	$ 39.53	$ 4.74	13.64%	$ 27.15	$ 3.27	13.69%
249	CM RCMI 1"	$ 48.99	$ 5.87	13.61%	$ 27.15	$ 3.27	13.69%
250	CM BCTX 1"	$ 17.07	$ 2.07	13.80%	$ 17.07	$ 2.07	13.80%
251	Comm MU 1"						
252	CM B003 1"	$ 61.72	$ 7.40	13.63%	$ 36.24	$ 4.37	13.71%
253	CM B004 1"	$ 51.41	$ 6.19	13.70%	$ 44.40	$ 5.36	13.73%
254	CM B005 1"	$ 52.84	$ 6.38	13.74%	$ 52.56	$ 6.35	13.74%
255	CM B006 1"	$ 65.62	$ 7.92	13.73%	$ 60.72	$ 7.34	13.75%
256	Commerical 1.5"						
257	CM BCMI 1.5"	$ 170.15	$ 20.32	13.56%	$ 38.53	$ 4.65	13.72%
258	Comm MU 1.5"						
259	CM B005 1.5"	$ 247.86	$ 29.60	13.56%	$ 52.56	$ 6.35	13.74%
260	Commerical 2"						
261	CM BAMI 2"	$ 99.45	$ 11.92	13.61%	$ 44.22	$ 5.34	13.73%
262	CM BCMI 2"	$ 212.24	$ 25.34	13.56%	$ 44.22	$ 5.34	13.73%
263	BCMO 2"	$ 138.13	$ 16.52	13.58%	$ 44.22	$ 5.34	13.73%
264	CM BCTX 2"	$ 157.11	$ 18.78	13.58%	$ 44.22	$ 5.34	13.73%
265	Comm MU 2"						
266	CM B004 2"	$ 230.88	$ 27.56	13.55%	$ 44.40	$ 5.36	13.73%
267	CM B006 2"	$ 75.28	$ 9.07	13.70%	$ 60.72	$ 7.34	13.75%
268	CM B012 2"	$ 543.26	$ 64.90	13.57%	$ 118.08	$ 14.28	13.76%
269	CM B014 2"	$ 422.80	$ 50.59	13.59%	$ 137.76	$ 16.66	13.76%
270	CM B044 2"	$ 432.96	$ 52.36	13.76%	$ 432.96	$ 52.36	13.76%
271	Commerical 3"						
272	CM BCMI 3"	$ 323.82	$ 38.70	13.57%	$ 78.36	$ 9.48	13.76%
273	PA 5/8" BAMI	$ 14.43	$ 1.74	13.68%	$ 19.92	$ 2.39	13.63%
274	PA 1" BAMI	$ 61.02	$ 7.30	13.59%	$ 27.15	$ 3.27	13.69%
275	PA 1.5" BAMI	$ 73.42	$ 8.80	13.62%	$ 38.53	$ 4.65	13.72%
276	PA 2" BAMI	$ 158.17	$ 18.91	13.58%	$ 44.22	$ 5.34	13.73%
277	PA 3" BAMI	$ 1,461.28	$ 174.11	13.53%	$ 78.36	$ 9.48	13.76%
278	PA 4" BAMI	$ 1,864.88	$ 222.24	13.53%	$ 112.50	$ 13.62	13.77%
279	PA 6" BAMI	$ 3,150.10	$ 375.52	13.53%	$ 237.68	$ 28.80	13.79%
280	PF 2"	$ 3.41	$ 0.41	13.67%	$ 3.41	$ 0.41	13.67%
281	PF 4"	$ 6.83	$ 0.83	13.83%	$ 6.83	$ 0.83	13.83%
282	PF 6"	$ 10.24	$ 1.24	13.78%	$ 10.24	$ 1.24	13.78%
283	PF 8"	$ 13.66	$ 1.66	13.83%	$ 13.66	$ 1.66	13.83%
284	PF 10"	$ 17.07	$ 2.07	13.80%	$ 17.07	$ 2.07	13.80%
285	PF Hydrant	$ 8.69	$ 1.05	13.74%	$ 8.69	$ 1.05	13.74%
286	Intentionally left blank						

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN USAGE AND COSTS

LINE NO.	CUSTOMER CLASS	STAFF RECOMMENDED					
		AVERAGE	INCREASE	PERCENT	MEDIAN	INCREASE	PERCENT
287	Residential 5/8"						
288	RS BCMI 5/8"	$ 16.40	$ (3.78)	-18.74%	$ 15.43	$ (2.10)	-11.98%
289	RS BRMI 5/8"	$ 14.77	$ (3.45)	-18.92%	$ 14.20	$ (3.33)	-19.00%
290	RS BRMO 5/8"	$ 19.21	$ (4.35)	-18.45%	$ 14.20	$ (3.33)	-19.00%
291	Residential MF 5/8						
292	RS B002 5/8"	$ 28.96	$ (4.75)	-14.09%	$ 26.39	$ 1.69	6.84%
293	RS B003 5/8"	$ 35.11	$ (4.42)	-11.18%	$ 32.43	$ 0.56	1.76%
294	RS B004 5/8"	$ 49.82	$ (5.84)	-10.48%	$ 44.62	$ 5.58	14.29%
295	RS B005 5/8"	$ 70.34	$ (8.43)	-10.70%	$ 72.80	$ 26.59	57.54%
296	RS B006 5/8"	$ 76.55	$ (8.12)	-9.59%	$ 72.69	$ 19.31	36.17%
297	RS B007 5/8"	$ 78.63	$ (6.96)	-8.13%	$ 76.27	$ 15.72	25.96%
298	RS B008 5/8"	$ 115.42	$ (12.86)	-10.03%	$ 105.68	$ 36.48	52.72%
299	RS B009 5/8"	$ 83.12	$ (4.72)	-5.37%	$ 65.43	$ (12.42)	-15.95%
300	RS B010 5/8"	$ 130.98	$ (12.87)	-8.95%	$ 118.99	$ 32.49	37.56%
301	RS B012 5/8"	$ 193.21	$ (22.37)	-10.37%	$ 87.24	$ (16.56)	-15.95%
302	RS B018 5/8"	$ 220.20	$ (18.38)	-7.70%	$ 178.38	$ 22.68	14.57%
303	RS B019 5/8"	$ 160.84	$ (4.74)	-2.86%	$ 157.36	$ (6.99)	-4.25%
304	RS B020 5/8"	$ 203.92	$ (11.92)	-5.52%	$ 200.30	$ 27.30	15.78%
305	RS B022 5/8"	$ 236.52	$ (15.39)	-6.11%	$ 205.00	$ 14.70	7.72%
306	RS B060 5/8"	$ 680.63	$ (21.52)	-3.06%	$ 680.63	$ 161.63	31.14%
307	RS B067 5/8"	$ 984.06	$ (22.54)	-2.24%	$ 1,953.46	$ 1,373.91	237.06%
308	Residential 3/4"						
309	Residential 1"						
310	RS BCMI 1"	$ 57.52	$ (12.06)	-17.34%	$ 36.76	$ 12.88	53.94%
311	RS BIMI 1"	$ 35.94	$ (7.67)	-17.59%	$ 22.00	$ (1.88)	-7.87%
312	Residential MF 1"						
313	RS B002 1"	$ 30.99	$ (5.17)	-14.29%	$ 28.85	$ 4.15	16.80%
314	RS B003 1"	$ 35.86	$ (4.85)	-11.91%	$ 37.35	$ 5.48	17.19%
315	RS B004 1"	$ 51.20	$ (6.12)	-10.68%	$ 45.85	$ 6.81	17.44%
316	RS B006 1"	$ 88.78	$ (10.60)	-10.66%	$ 76.38	$ 23.00	43.09%
317	RS B008 1"	$ 218.68	$ (26.15)	-10.68%	$ 201.53	$ 132.33	191.23%
318	RS B009 1"	$ 72.15	$ (5.70)	-7.32%	$ 73.59	$ (4.26)	-5.47%
319	RS B010 1"	$ 128.73	$ (12.41)	-8.79%	$ 126.37	$ 39.87	46.09%
320	RS B012 1"	$ 281.13	$ (40.23)	-12.52%	$ 283.53	$ 179.73	173.15%
321	RS B013 1"	$ 131.83	$ (8.31)	-5.93%	$ 132.19	$ 19.74	17.55%
322	RS B014 1"	$ 189.53	$ (18.46)	-8.88%	$ 181.28	$ 60.18	49.69%
323	RS B018 1"	$ 232.40	$ (20.86)	-8.24%	$ 209.13	$ 53.43	34.32%
324	RS B030 1"	$ 291.45	$ (13.93)	-4.56%	$ 259.47	$ (0.03)	-0.01%
325	Residential 1.5"						
326	Residential MF 1.5"						
327	RS B004 1.5"	$ 29.08	$ (5.52)	-15.95%	$ 29.08	$ (5.52)	-15.95%
328	RS B026 1.5"	$ 276.92	$ (17.29)	-5.88%	$ 279.59	$ 54.69	24.32%
329	RS B052 1.5"	$ 493.36	$ (20.27)	-3.95%	$ 472.30	$ 22.50	5.00%
330	Residential 2"						
331	RS BCMI 2"	$ 68.00	$ (14.02)	-17.10%	$ 44.44	$ 5.56	14.30%
332	RS BRMI 2"	$ 112.37	$ (23.05)	-17.02%	$ 82.57	$ 43.69	112.37%
333	Residential MF 2"						
334	RS B004 2"	$ 46.99	$ (5.26)	-10.07%	$ 42.16	$ 3.12	7.99%
335	RS B006 2"	$ 170.57	$ (26.12)	-13.28%	$ 161.25	$ 107.87	202.08%
336	RS B008 2"	$ 77.39	$ (5.13)	-6.22%	$ 67.55	$ (1.65)	-2.38%
337	RS B009 2"	$ 135.04	$ (15.27)	-10.16%	$ 119.10	$ 41.25	52.99%
338	RS B010 2"	$ 99.82	$ (6.54)	-6.15%	$ 99.31	$ 12.81	14.81%
339	RS B011 2"	$ 92.33	$ (3.44)	-3.59%	$ 91.82	$ (3.33)	-3.50%
340	RS B012 2"	$ 127.75	$ (9.06)	-6.62%	$ 126.15	$ 22.35	21.53%
341	RS B013 2"	$ 104.31	$ (8.14)	-7.24%	$ 100.21	$ (12.24)	-10.88%
342	RS B015 2"	$ 117.21	$ (12.54)	-9.66%	$ 109.05	$ (20.70)	-15.95%
343	RS B016 2"	$ 231.93	$ (23.92)	-9.35%	$ 181.06	$ 42.66	30.82%
344	RS B017 2"	$ 129.39	$ (17.66)	-12.01%	$ 123.59	$ (23.46)	-15.95%
345	RS B018 2"	$ 184.79	$ (11.18)	-5.71%	$ 175.92	$ 20.22	12.99%
346	RS B020 2"	$ 212.29	$ (13.62)	-6.03%	$ 196.61	$ 23.61	13.65%
347	RS B021 2"	$ 165.72	$ (15.93)	-8.77%	$ 152.67	$ (28.98)	-15.95%
348	RS B023 2"	$ 184.19	$ (14.76)	-7.42%	$ 167.21	$ (31.74)	-15.95%
349	RS B024 2"	$ 282.37	$ (21.55)	-7.09%	$ 297.27	$ 89.67	43.19%
350	RS B025 2"	$ 210.51	$ (5.74)	-2.65%	$ 205.90	$ (10.35)	-4.79%
351	RS B028 2"	$ 301.51	$ (19.13)	-5.97%	$ 292.90	$ 50.70	20.93%
352	RS B030 2"	$ 303.65	$ (16.41)	-5.13%	$ 286.53	$ 27.03	10.42%
353	RS B031 2"	$ 470.42	$ (24.42)	-4.94%	$ 405.49	$ 137.34	51.22%
354	RS B040 2"	$ 610.82	$ (24.03)	-3.79%	$ 476.80	$ 130.80	37.80%
355	RS B041 2"	$ 681.36	$ (24.36)	-3.45%	$ 644.30	$ 289.65	81.67%
356	RS B043 2"	$ 528.42	$ (23.02)	-4.17%	$ 523.60	$ 151.65	40.77%
357	RS B048 2"	$ 699.23	$ (23.44)	-3.24%	$ 699.60	$ 284.40	68.50%
358	RS B052 2"	$ 570.29	$ (21.96)	-3.71%	$ 528.76	$ 78.96	17.55%
359	RS B057 2"	$ 634.45	$ (21.65)	-3.30%	$ 684.18	$ 191.13	38.76%

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN USAGE AND COSTS

360	RS B173 2"	$ 2,159.60	$ (14.69)	-0.68%	$ 1,955.27	$ 458.82	30.66%
361	RS B174 2"	$ 1,284.70	$ (220.40)	-14.64%	$ 1,264.98	$ (240.12)	-15.95%
362	Residential MF 4"						
363	RS B041 4"	$ 867.13	$ (25.62)	-2.87%	$ 719.27	$ 364.62	102.81%
364	RS B066 4"	$ 513.30	$ (57.60)	-10.09%	$ 507.66	$ (63.24)	-11.08%
365	Residential MF 6"						
366	RS B174 6"	$ 1,371.05	$ (134.05)	-8.91%	$ 1,425.99	$ (79.11)	-5.26%
367	RS B359 6"	$ 4,336.98	$ (1.70)	-0.04%	$ 4,408.52	$ 1,303.17	41.97%
368	RS B373 6"	$ 4,308.91	$ 0.58	0.01%	$ 4,288.33	$ 1,061.88	32.91%
369	RS M695	$ 8,050.88	$ 23.25	0.29%	$ 7,520.09	$ 1,508.34	25.09%
370	Rio Verde Res 5/8"	$ 19.52	$ (5.63)	-22.39%	$ 15.90	$ (0.60)	-3.64%
371	Rio Verde Res 1"	$ 20.21	$ (5.92)	-22.67%	$ 18.36	$ 0.11	0.60%
372	Rio Verde Res 2"	$ 18.36	$ (5.14)	-21.87%	$ 22.05	$ 5.55	33.64%
373	Commerical 5/8"						
374	CM BAMI 5/8"	$ 24.09	$ (5.34)	-18.14%	$ 21.58	$ 4.05	23.10%
375	CM BCMI 5/8"	$ 20.00	$ (4.51)	-18.41%	$ 10.51	$ (7.02)	-40.05%
376	CM BCMO 5/8"	$ 270.05	$ (27.54)	-9.26%	$ 8.89	$ (8.64)	-49.29%
377	CM BRNI 5/8"	$ 21.93	$ (4.90)	-18.26%	$ 16.66	$ (0.87)	-4.96%
378	CM RCMI 5/8"	$ 15.43	$ (3.58)	-18.83%	$ 15.43	$ (2.10)	-11.98%
379	Comm MU 5/8"						
380	CM B002 5/8"	$ 24.08	$ (3.77)	-13.52%	$ 14.54	$ (10.16)	-41.13%
381	CM B003 5/8"	$ 53.65	$ (8.19)	-13.25%	$ 43.50	$ 11.63	36.49%
382	CM B004 5/8"	$ 43.39	$ (4.53)	-9.45%	$ 40.93	$ 1.89	4.84%
383	CM B005 5/8"	$ 56.09	$ (5.54)	-8.98%	$ 56.81	$ 10.60	22.94%
384	CM B006 5/8"	$ 60.29	$ (4.81)	-7.39%	$ 50.55	$ (2.83)	-5.30%
385	CM B007 5/8"	$ 83.96	$ (8.04)	-8.74%	$ 78.73	$ 18.18	30.02%
386	CM B010 5/8"	$ 81.48	$ (5.02)	-5.81%	$ 80.86	$ (5.64)	-6.52%
387	CM B017 5/8"	$ 635.19	$ (27.64)	-4.17%	$ 644.75	$ 497.70	338.46%
388	Commerical 3/4"						
389	Commerical 1"						
390	CM BCMI 1"	$ 47.16	$ (9.96)	-17.44%	$ 29.37	$ 5.49	22.99%
391	CM BCMO 1"	$ 28.59	$ (6.20)	-17.81%	$ 15.03	$ (8.85)	-37.06%
392	CM RCMI 1"	$ 35.52	$ (7.60)	-17.63%	$ 35.52	$ 11.64	48.74%
393	CM BCTX 1"	$ 12.60	$ (2.40)	-16.00%	$ 12.60	$ (2.40)	-16.00%
394	Comm MU 1"						
395	CM B003 1"	$ 47.40	$ (6.92)	-12.75%	$ 44.73	$ 12.86	40.35%
396	CM B004 1"	$ 41.14	$ (4.08)	-9.01%	$ 38.47	$ (0.57)	-1.46%
397	CM B005 1"	$ 43.49	$ (2.97)	-6.40%	$ 38.78	$ (7.43)	-16.08%
398	CM B006 1"	$ 54.14	$ (3.56)	-6.17%	$ 49.32	$ (4.06)	-7.61%
399	Commerical 1.5"						
400	CM BCMI 1.5"	$ 124.29	$ (25.54)	-17.04%	$ 67.29	$ 33.41	98.61%
401	Comm MU 1.5"						
402	CM B005 1.5"	$ 191.85	$ (26.41)	-12.10%	$ 170.90	$ 124.69	269.83%
403	Commerical 2"						
404	CM BAMI 2"	$ 72.58	$ (14.96)	-17.09%	$ 66.58	$ 27.70	71.24%
405	CM BCMI 2"	$ 156.83	$ (30.06)	-16.08%	$ 80.11	$ 41.23	106.04%
406	BCMO 2"	$ 100.90	$ (20.71)	-17.03%	$ 49.36	$ 10.48	26.95%
407	CM BCTX 2"	$ 114.79	$ (23.54)	-17.02%	$ 98.56	$ 59.68	153.50%
408	Comm MU 2"						
409	CM B004 2"	$ 176.86	$ (26.46)	-13.01%	$ 176.86	$ 137.82	353.02%
410	CM B006 2"	$ 61.21	$ (5.00)	-7.55%	$ 50.55	$ (2.83)	-5.30%
411	CM B012 2"	$ 451.23	$ (27.13)	-5.67%	$ 429.06	$ 325.26	313.35%
412	CM B014 2"	$ 346.09	$ (26.12)	-7.02%	$ 346.09	$ 224.99	185.79%
413	CM B044 2"	$ 324.04	$ (56.56)	-14.86%	$ 322.31	$ (58.29)	-15.32%
414	Commerical 3"						
415	CM BCMI 3"	$ 249.81	$ (35.31)	-12.38%	$ 56.12	$ (12.76)	-18.52%
416	PA 5/8" BAMI	$ 11.93	$ (0.76)	-5.96%	$ 7.27	$ (10.26)	-58.53%
417	PA 1" BAMI	$ 46.55	$ (7.16)	-13.34%	$ 43.85	$ 19.97	83.62%
418	PA 1.5" BAMI	$ 55.72	$ (8.89)	-13.76%	$ 43.51	$ 9.63	28.42%
419	PA 2" BAMI	$ 118.74	$ (20.52)	-14.74%	$ 41.46	$ 2.58	6.63%
420	PA 3" BAMI	$ 1,088.09	$ (199.08)	-15.47%	$ 996.63	$ 927.75	1346.91%
421	PA 4" BAMI	$ 1,388.18	$ (254.46)	-15.49%	$ 1,370.58	$ 1,271.70	1286.10%
422	PA 6" BAMI	$ 2,343.71	$ (430.87)	-15.53%	$ 2,891.71	$ 2,682.83	1284.39%
423	PF 2"	$ 2.52	$ (0.48)	-16.00%	$ 2.52	$ (0.48)	-16.00%
424	PF 4"	$ 5.04	$ (0.96)	-16.00%	$ 5.04	$ (0.96)	-16.00%
425	PF 6"	$ 7.56	$ (1.44)	-16.00%	$ 7.56	$ (1.44)	-16.00%
426	PF 8"	$ 10.08	$ (1.92)	-16.00%	$ 10.08	$ (1.92)	-16.00%
427	PF 10"	$ 12.60	$ (2.40)	-16.00%	$ 12.60	$ (2.40)	-16.00%
428	PF Hydrant	$ 6.42	$ (1.22)	-15.97%	$ 6.42	$ (1.22)	-15.97%
429	Intentionally left blank						

Note: Company's Schedule H-4 indicates a 7,000 gallon median for all classes which does not produce meaningful comparisons.

HAVASU WATER

ARIZONA-AMERICAN WATER COMPANY, INC. - **HAVASU WATER** Schedule DWC-1
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY FAIR VALUE	[B] STAFF ORIGINAL COST	[C] STAFF FAIR VALUE
1	Adjusted Rate Base	$ 1,369,043	$ 822,117	$ 822,117
2	Adjusted Operating Income/(Loss)	$ (16,321)	$ 73,251	$ 73,251
3	Current Rate of Return (L2 / L1)	-1.19%	8.91%	8.91%
4	Required Rate of Return	7.75%	6.6%	6.6%
5	Required Operating Income (L4 x L1)	$ 106,101	$ 54,095	$ 54,095
6	Operating Income Deficiency/(Excess) (L5 - L2)	$ 122,422	$ (19,156)	$ (19,156)
7	Gross Revenue Conversion Factor	1.62860	1.62863	1.62863
8	Required Revenue Increase/(Decrease) (L7 x L6)	$ 199,376	**$ (31,197)**	**$ (31,197)**
9	Adjusted Test Year Revenue	$ 440,924	$ 440,924	$ 440,924
10	Proposed Annual Revenue (L8 + L9)	$ 640,300	$ 409,727	$ 409,727
11	Required Increase/Decrease in Revenue (%)	45.22%	-7.08%	-7.08%
12	Rate of Return on Common Equity (%)	11.50%	9.7%	9.7%

References:
Column [A]: Company Schedules A-1, A-2, & D-1
Columns [B] & [C]: Staff Schedules AII-1, DWC-2, DWC-3, & JMR-9

ARIZONA-AMERICAN WATER COMPANY, INC. - HAVASU WATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

Schedule DWC-2

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	[A]	[B]	[C]	[D]
	Calculation of Gross Revenue Conversion Factor:				
1	Billings	100.0000%			
2	Uncollecible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Tax Rate (Line 17)	38.5989%			
5	Subtotal (L3 - L4)	61.4011%			
6	Revenue Conversion Factor (L1 / L5)	1.628635			
	Calculation of Uncollecttible Factor:				
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	38.5989%			
9	One Minus Combined Income Tax Rate (L7 - L8)	61.4011%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 x L10)	0.0000%			
	Calculation of Effective Tax Rate:				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L12 - L13)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 40)	34.0000%			
16	Effective Federal Income Tax Rate (L14 x L15)	31.6309%			
17	Combined Federal and State Income Tax Rate (L13 + L16)	38.5989%			
18	Required Operating Income (Schedule DWC-1, Col. [B], Line 5)	$ 54,095			
19	Adjusted Test Year Operating Income (Loss) (Sch. All-1, Col. [C], Line 28)	$ 73,251			
20	Required Increase in Operating Income (L18 - L19)		$ (19,156)		
21	Income Taxes on Recommended Revenue (Col. [D], L39)	$ 19,432			
22	Income Taxes on Test Year Revenue (Col. [B], L39)	$ 31,474			
23	Required Increase in Revenue to Provide for Income Taxes (L21 - L22)		$ (12,042)		
24	Recommended Revenue Requirement (Schedule DWC-1, Col. [B], Line 10)	$ 409,727			
25	Uncollectible Rate (Line 10)	0.0000%			
26	Uncollectible Expense on Recommended Revenue (L24 x L25)	$ -			
27	Adjusted Test Year Uncollectible Expense	$ -			
28	Required Increase in Revenue to Provide for Uncollectible Exp. (L26 - L27)		$ -		
29	Total Required Increase in Revenue (L20 + L23 + L28)		$ (31,197)		

	Calculation of Income Tax:	Test Year		STAFF Recommended	
30	Revenue (Schedule All-1, Col. [C], Line 5 & Sch. DWC-1, Col. [B], Line 10)	$ 440,924		$ 409,727	
31	Operating Expenses Excluding Income Taxes	$ 336,199	$ -	$ 336,199	
32	Synchronized Interest (L43)	$ 23,184		$ 23,184	
33	Arizona Taxable Income (L30 - L31 - L32)	$ 81,541		$ 50,344	
34	Arizona State Income Tax Rate	6.9680%		6.9680%	
35	Arizona Income Tax (L33 x L34)		$ 5,682		$ 3,508
36	Federal Taxable Income (L33 - L35)	$ 75,859		$ 46,836	
37	Federal Income Tax Rate	34.0000%		34.0000%	
38	Federal Income Tax (L36 x L37)		$ 25,792		$ 15,924
39	Combined Federal and State Income Tax (L35 + L38)		$ 31,474		$ 19,432
40	Applicable Federal Income Tax Rate (Col. [D], L38 - Col. [B], L38) / (Col. [C], L36 - Col. [A], L36)				34.0000%
	Calculation of Interest Synchronization:				
41	Rate Base (Schedule DWC-3, Col. [C], Line 17)	$ 822,117			
42	Weighted Average Cost of Debt	2.82%			
43	Synchronized Interest (L41 x L42)	$ 23,184			

ARIZONA-AMERICAN WATER COMPANY, INC. - HAVASU WATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

Schedule DWC-3

RATE BASE - ORIGINAL COST

LINE NO.		[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	ADJ	[C] STAFF AS ADJUSTED
1	Plant in Service	$ 2,165,406	$ (95,241)	A	$ 2,070,165
2	Less: Accumulated Depreciation	555,531	(18,120)	B	537,411
3	Net Plant in Service	$ 1,609,875	$ (77,121)		$ 1,532,754
	LESS:				
4	Contributions in Aid of Construction (CIAC)	$ -	$ -		$ -
5	Less: Accumulated Amortization	-	-		-
6	Net CIAC	280,867	-		280,867
7	Advances in Aid of Construction (AIAC)	418,704	-		418,704
8	Customer Deposits	-	-		-
9	Meter Advances	11,066	-		11,066
10	Deferred Income Tax Credits	-	-		-
	ADD:				
11	Cash Working Capital	-	-		-
12	Prepayments	-	-		-
13	Supplies Inventory	-	-		-
14	Projected Capital Expenditures	-	-		-
15	Deferred Debits	-	-		-
16	Citizens Acquisition Adjustment	523,302	(523,302)	C	-
17	Original Cost Rate Base	$ 1,422,540	$ (600,423)		$ 822,117

Adjustments:
A. Per plant adjustments on Schedule DWC-4
B. Per accumulated depreciation adjustments on Schedule DWC-4
C. Per acquisition adjustment on Schedule DWC-4

References:
Column [A]: Company Schedule B-1
Column [B]: Staff Schedule DWC-4
Column [C]: Column [A] + Column [B]

IZONA-AMERICAN WATER COMPANY, INC. - HAVASU WATER
cket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

Schedule DWC-4

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] Plant-not used ADJ #1	[C] Plant-unidentified ADJ #2	[D] Plant Mis-Posted ADJ #3	[E] Plant Prev. Dec. ADJ #4	[F] Post-TY Pl. ADJ #5	[G] AFUDC Adj. ADJ #6	[H] Acquisition Adj ADJ #7	[I] STAFF ADJUSTED
		PLANT IN SERVICE:			Leave Blank	Leave Blank	Leave Blank		Leave Blank		
1		Intangible									
2	301.00	Organization	$ 10,144	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,144
3	302.00	Franchises	-	-	-	-	-	-	-	-	-
4	303.00	Miscellaneous Intangibles	-	-	-	-	-	-	-	-	-
5		Subtotal Intangible	10,144	-	-	-	-	-	-	-	10,144
6											
7		Source of Supply									
8	310.00	Land & Land Rights	12,245	(5,746)	-	-	-	1,272	-	-	7,771
9	311.00	Structures & Improvements	53,877	(401)	-	-	-	10,287	-	-	63,763
10	312.00	Collecting & Impounding Reservoirs	148,253	-	-	-	-	-	-	-	148,253
11	313.00	Lakes, Rivers, Other Intakes	-	-	-	-	-	-	-	-	-
12	314.00	Wells and Springs	107,017	(70,928)	-	-	-	-	-	-	36,089
13		Subtotal Source of Supply	321,392	(77,075)	-	-	-	11,559	-	-	255,876
14											
15		Pumping									
16	320.00	Land & Land Rights	-	-	-	-	-	-	-	-	-
17	321.00	Structures & Improvements	-	-	-	-	-	-	-	-	-
18	323.00	Other Power Production	22,738	-	-	-	-	-	-	-	22,738
19	325.00	Electric Pumping Equipment	254,974	(244)	-	-	-	-	-	-	254,730
20	326.00	Diesel Pumping Equipment	-	-	-	-	-	-	-	-	-
21	328.10	Gas Engine Pumping Equipment	-	-	-	-	-	-	-	-	-
22		Subtotal Pumping	277,712	(244)	-	-	-	-	-	-	277,468
23											
24		Water Treatment									
25	330.00	Land & Land Rights	-	-	-	-	-	-	-	-	-
26	331.00	Structures & Improvements	-	-	-	-	-	-	-	-	-
27	332.00	Water Treatment Equipment	25,315	-	-	-	-	-	-	-	25,315
28		Subtotal Water Treatment	25,315	-	-	-	-	-	-	-	25,315
29											
30		Transmission & Distribution									
31	340.00	Land & Land Rights	-	-	-	-	-	-	-	-	-
32	341.00	Structures & Improvements	-	-	-	-	-	-	-	-	-
33	342.00	Distribution Reservoirs & Standpipes	270,085	-	-	-	-	(44,214)	-	-	225,871
34	343.00	Transmission & Distribution	752,886	-	-	-	-	21,141	-	-	774,027
35	344.00	Fire Mains	-	-	-	-	-	-	-	-	-
36	345.00	Services	182,275	-	-	-	-	-	-	-	182,275
37	346.00	Meters	176,386	-	-	-	-	-	-	-	176,386
38	348.00	Hydrants	-	-	-	-	-	-	-	-	-
39	349.00	Other Transmission & Distribution	-	-	-	-	-	-	-	-	-
40		Subtotal Transmission & Distribu.	1,381,632	-	-	-	-	(23,073)	-	-	1,358,559
41											
42		*General - Allocated Common Plant*									
43	389.00	Land & Land Rights	25	-	-	-	-	-	-	-	25
44	390.00	Structures & Improvements	10,577	-	-	-	-	-	-	-	10,577
45	391.00	Office Furniture and Equipment	31,793	-	-	-	-	(9,348)	-	-	22,445
46	391.10	Computer Equipment	33,449	-	-	-	-	-	-	-	33,449
47	392.00	Transportation Equipment	45,234	-	-	-	-	-	-	-	45,234
48	393.00	Stores Equipment	247	-	-	-	-	-	-	-	247
49	394.00	Tools, Shop, & Garage Equipment	10,104	-	-	-	-	-	-	-	10,104
50	395.00	Laboratory Equipment	627	-	-	-	-	-	-	-	627
51	396.00	Power Operated Equipment	8,744	-	-	-	-	2,940	-	-	11,684
52	397.00	Communication Equipment	7,477	-	-	-	-	-	-	-	7,477
53	398.00	Miscellaneous Equipment	934	-	-	-	-	-	-	-	934
54		Subtotal General	149,211	-	-	-	-	(6,408)	-	-	142,803
55											
56		Add:									-
57											-
											-
58		Less:									-
59				-	-	-	-	-	-	-	-
60				-	-	-	-	-	-	-	-
61		Total Plant in Service	$ 2,165,406	$ (77,319)	$ -	$ -	$ -	$ (17,922)	$ -	$ -	$ 2,070,165
62		Less: Accumulated Depreciation	555,531	18,120	-	-	-	-	-	-	537,411
63		Net Plant in Service (L59 - L 60)	$ 1,609,875	$ (59,199)	$ -	$ -	$ -	$ (17,922)	$ -	$ -	$ 1,532,754
64											
65		*LESS:*									
66		Contributions in Aid of Construction (CIAC)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67		Less: Accumulated Amortization	-	-	-	-	-	-	-	-	-
68		Net CIAC (L25 - L26)	280,867	-	-	-	-	-	-	-	280,867
69		Advances in Aid of Construction (AIAC)	418,704	-	-	-	-	-	-	-	418,704
70		Customer Deposits	-	-	-	-	-	-	-	-	-
71		Meter Advances	11,066	-	-	-	-	-	-	-	11,066
72		Deferred Income Tax Credits	-	-	-	-	-	-	-	-	-
73											
74		*ADD:*									
75		Cash Working Capital Allowance	-	-	-	-	-	-	-	-	-
76		Prepayments	-	-	-	-	-	-	-	-	-
77		Supplies Inventory	-	-	-	-	-	-	-	-	-
78		Projected Capital Expenditures	-	-	-	-	-	-	-	-	-
79		Deferred Debits	-	-	-	-	-	-	-	-	-
80		Citizens Acquisition Adjustment	523,302	-	-	-	-	-	-	(523,302)	-
81		Original Cost Rate Base	$ 1,422,540	$ (59,199)	$ -	$ -	$ -	$ (17,922)	$ -	$ (523,302)	$ 822,117

ADJ #		References:
1	Plant - not used & useful	Per Staff Engineering Reports
2	Plant - unidentified	Per Staff Engineering Reports
3	Plant - mis-posted	Per Company Response to Staff Data Request BKB 26-3
4	Plant - removed by previous decision	Per Decision No. 60172
5	Post-Test Year Plant	Per Company Response to Staff Data Request DWC 12-2
6	Remove AFUDC Adj. 3/95	Per Company Response to Staff Data Request DWC 6-10 Amended
7	Remove Acquisition Adjustment	Per Carlson Direct Testimony

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SCHEDULE AII-1

OPERATING INCOME STATEMENT - TEST YEAR AND STAFF PROPOSED

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
1	*REVENUES:*					
2	Metered Water Sales	$ 430,392	$ -	$ 430,392	$ (31,197)	$ 399,195
3	Water Sales - Unmetered	-	-	-	-	-
4	Other Operating Revenue	10,532	-	10,532	-	10,532
5	Total Operating Revenues	$ 440,924	$ -	$ 440,924	$ (31,197)	$ 409,727
6	*OPERATING EXPENSES:*					
7	Salaries & Wages	$ 171,419	(111,573)	$ 59,846	$ -	$ 59,846
8	Purchased Water	806	-	806	-	806
9	Purchased Pumping Power	47,018	120	47,138	-	47,138
10	Chemicals	1,266	(2,365)	(1,099)	-	(1,099)
11	Repairs & Maintenance	75,805	-	75,805	-	75,805
12	Office Supplies & Expense	21,243	(11,350)	9,893	-	9,893
13	Outside Services	2,462	11,247	13,709	-	13,709
14	Service Company Charges	75,244	(75,244)	-	-	-
15	Water Testing	-	-	-	-	-
16	Rents	1,837	-	1,837	-	1,837
17	Transportation Expense	-	-	-	-	-
18	Insurance - General Liability	2,365	4,514	6,879	-	6,879
19	Insurance - Health and Life	-	-	-	-	-
20	Regulatory Comm. Exp. - Rate Case	2,910	-	2,910	-	2,910
21	Miscellaneous Operating Expense	1,977	45,525	47,502	-	47,502
22	Depreciation Expense	46,650	(8,203)	38,447	-	38,447
23	Taxes Other Than Income	9,712	(1,763)	7,949	-	7,949
24	Property Taxes	28,682	(4,104)	24,578	-	24,578
25	Income Tax	(32,151)	63,625	31,474	(12,042)	19,432
26						
27	Total Operating Expenses	$ 457,245	$ (89,572)	$ 367,673	$ (12,042)	$ 355,631
28	Operating Income (Loss)	$ (16,321)	$ 89,572	$ 73,251	$ (19,155)	$ 54,096

References:
Column [A]: Company Schedule C-1
Column [B]: Schedule AII-2
Column [C]: Column [A] + Column [B]
Column [D]: Schedules DWC-1 and DWC-2
Column [E]: Column [C] + Column [D]

SCHEDULE AII-2

ARIZONA-AMERICAN WATER COMPANY, INC. - HAVASU WATER
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SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR

LINE 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] ADJ #7	[I] ADJ #8	[J] STAFF ADJUSTED
1	*REVENUES:*										
2	Metered Water Sales	$ 430,392	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 430,392
3	Water Sales - Unmetered	-	-	-	-	-	-	-	-	-	-
4	Other Operating Revenue	10,532	-	-	-	-	-	-	-	-	10,532.0
5	Total Operating Revenues	$ 440,924	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 440,924
6	*OPERATING EXPENSES:*										
7	Salaries & Wages	$ 171,419	$ -	$ -	$ (54,078)	$ 59,846	$ (117,341)	$ -	$ -	$ -	$ 59,846
8	Purchased Water	806	-	-	-	-	-	-	-	-	$ 806
9	Purchased Pumping Power	47,018	120	-	-	-	-	-	-	-	$ 47,138
10	Chemicals	1,266	-	-	(2,365)	-	-	-	-	-	$ (1,099)
11	Repairs & Maintenance	75,805	-	-	-	-	-	-	-	-	$ 75,805
12	Office Supplies & Expense	21,243	2,045	-	(13,395)	-	-	-	-	-	$ 9,893
13	Outside Services	2,462	11,247	-	-	-	-	-	-	-	$ 13,709
14	Service Company Charges	75,244	-	(75,244)	-	-	-	-	-	-	$ -
15	Water Testing	-	-	-	-	-	-	-	-	-	$ -
16	Rents	1,837	-	-	-	-	-	-	-	-	$ 1,837
17	Transportation Expense	-	-	-	-	-	-	-	-	-	$ -
18	Insurance - General Liability	2,365	4,514	-	-	-	-	-	-	-	$ 6,879
19	Insurance -Health and Life	-	-	-	-	-	-	-	-	-	$ -
20	Regulatory Comm. Exp. - Rate Case	2,910	-	-	-	-	-	-	-	-	$ 2,910
21	Miscellaneous Operating Expense	1,977	46,568	-	(1,043)	-	-	-	-	-	$ 47,502
22	Depreciation Expense	46,650	-	-	-	-	-	(8,203)	-	-	$ 38,447
23	Taxes Other Than Income	9,712	-		-	7,949	(9,712)	-	-	-	$ 7,949
24	Property Taxes	28,682	-	-	-	-	-		(4,104)	-	$ 24,578
25	Income Tax	(32,151)	-	-	-	-	-	-		63,625	$ 31,474
26											
27	Total Operating Expenses	$ 457,245	$ 64,494	$ (75,244)	$ (70,882)	$ 67,795	$ (127,053)	$ (8,203)	$ (4,104)	$ 63,625	$ 367,673
28	Operating Income (Loss)	$ (16,321)	$ (64,494)	$ 75,244	$ 70,882	$ (67,795)	$ 127,053	$ 8,203	$ 4,104	$ (63,625)	$ 73,251

ADJ #		References:
1	Citizens, Corporate Costs Allocation	Schedule AII-3
2	Service Company Charges	Schedule AII-4
3	Projected additional expenses	Schedule AII-5
4	Test Year Salaries, Wages & Related Expenses	Schedule AII-6
5	Projected Salaries, Wages & Related Expenses	Schedule AII-7
6	Depreciation Expense	Schedule AII-8
7	Property Taxes	Schedule AII-9
8	Income Taxes	Schedule AII-10

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SCHEDULE AII-3

OPERATING INCOME ADJUSTMENT #1 - CITIZEN'S CORPORATE COST

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Taxes Other Than Income	$ -	1a	$ -
2	Purchased Power	$ (120)	1b	$ 120
3	Chemicals	$ -	1c	$ -
4	Repairs & Maintenance	$ -	1d	$ -
5	Office Supplies	$ (2,045)	1e	$ 2,045
6	Outside Services	$ (11,247)	1f	$ 11,247
7	Rents	$ -	1g	$ -
8	Insurance Expense	$ (4,514)	1h	$ 4,514
9	Miscellaneous Expense	$ (46,568)	1i	$ 46,568
10	Total Adjustments	$ (64,494)		$ 64,494

REFERENCES:

Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 2
Bourassa, Direct, page 11
Stephenson, Direct, pages 14, 15, and 16

Column [B]: Testimony, All

ARIZONA-AMERICAN WATER COMPANY, INC. - HAVASU WATER
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SCHEDULE AII-4

OPERATING INCOME ADJUSTMENT #2 - SERVICE COMPANY CHARGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT
1	Service Company Charges	$ 75,244	$ (75,244)
2	Total Adjustments	$ 75,244	$ (75,244)

REFERENCES:

Column [A]:
Company, Schedule C-2, page 1
Company, Schedule C-2, page 4
Bourassa, Direct, pages 11 and 12
Stephenson, Direct, pages 15 and 16

Column [B]:
Testimony, AII

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SCHEDULE AII-5

OPERATING ADJUSTMENT #3 - PROJECTED ADDITIONAL EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 54,078	3a	$ (54,078)
2	Office Expense	$ 13,395	3b	$ (13,395)
3	Chemicals	$ 2,365	3c	$ (2,365)
4	Miscellaneous	$ 1,043	3d	$ (1,043)
5	Total Adjustment	$ 70,882		$ (70,882)

REFERENCES:

Column [A]:
Company, Schedule C-2, page 1
Company, Schedule C-2, page 10
Bourassa, Direct, pages 14 and 15
Stephenson, Direct, pages 17 and 18

Column [B]:
Testimony, All

ARIZONA-AMERICAN WATER COMPANY, INC. - HAVASU WATER
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SCHEDULE AII-6

OPERATING INCOME ADJUSTMENT #4 - TEST YEAR SALARIES AND WAGES, AND RELATED EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ (59,846)	4a	$ 59,846
2	Payroll Taxes	$ (7,949)	4b	$ 7,949
3	Total Adjustments	$ (67,795)		$ 67,795

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 3
Bourassa, Direct, page 11

Column [B]: Testimony, AII

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SCHEDULE AII-7

OPERATING INCOME ADJUSTMENT #5 - PROJECTED SALARIES AND WAGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 117,341	5a	$ (117,341)
2	Payroll Taxes	$ 9,712	5b	$ (9,712)
3	Total Adjustments	$ 127,053		$ (127,053)

REFERENCES:

Column [A]:
Company, Schedule C-2, page 1
Company, Schedule C-2, page 5
Bourassa, Direct, page 12
Stephenson, Direct, pages 17 and 18

Column [B]:
Testimony, AII

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SCHEDULE AII-8

OPERATING ADJUSTMENT #6 - DEPRECIATION EXPENSE

LINE NO.	DESCRIPTION	ORIGINAL COST	RATE	EXPENSE
4				
5	Intangible			
6	Organization	$ 10,144	0.00%	$ -
7	Franchises	$ -	0.00%	$ -
8	Miscellaneous Intangibles	$ -	0.00%	$ -
9	Subtotal Intangible	$ 10,144		$ -
10				
11	Source of Supply			
12	Land and Land Rights	$ 7,771	0.00%	$ -
13	Structures and Improvements	$ 63,763	2.79%	$ 714
14	Collecting and Impounding Res.	$ 148,253	2.54%	$ 3,766
15	Lakes, Rivers, Other Intakes	$ -	0.00%	$ -
16	Wells and Springs	$ 36,089	2.54%	$ 2,718
17	Subtotal Source of Supply	$ 255,876		$ 7,197
18				
19	Pumping			
20	Land and Land Rights	$ -	0.00%	$ -
21	Structures and Improvements	$ -	0.00%	$ -
22	Other Power Production	$ 22,738	5.12%	$ 1,164
23	Electric Pumping Equipment	$ 254,730	3.71%	$ 9,460
24	Diesel Pumping Equipment	$ -	0.00%	$ -
25	Gas Engine Pumping Equipment	$ -	0.00%	$ -
26	Subtotal Pumping	$ 277,468		$ 10,624
27				
28	Water Treatment			
29	Land and Land Rights	$ -	0.00%	$ -
30	Structures and Improvements	$ -	0.00%	$ -
31	Water Treatment Equipment	$ 25,315	12.00%	$ 3,038
32	Subtotal Water Treatment	$ 25,315		$ 3,038
33				
34	Transmission and Distribution			
35	Land and Land Rights	$ -	0.00%	$ -
36	Structures and Improvements	$ -	0.00%	$ -
37	Distribution, Reservoirs, & ST	$ 225,871	2.33%	$ 3,520
38	Transmission and Distribution	$ 774,027	2.10%	$ 15,158
39	Fire Mains	$ -	0.00%	$ -
40	Services	$ 182,275	2.89%	$ 5,268
41	Meters	$ 176,386	3.52%	$ 6,209
42	Hydrants	$ -	0.00%	$ -
43	Other Transmission & Distribution	$ -	0.00%	$ -
44	Subtotal Transmission and Distribution	$ 1,358,559		$ 30,155
45				
46	General			
47	Land and Land Rights	$ 25	0.00%	$ -
48	Structures and Improvements	$ 10,577	2.03%	$ 215
49	Office Funiture and Equipment	$ 22,445	4.10%	$ 414
50	Computer Equipment	$ 33,449	4.10%	$ 1,025
51	Transportation Equipment	$ 45,234	25.00%	$ 11,309
52	Stores Equipment	$ 247	3.93%	$ 10
53	Tools, Shop and Garage	$ 10,104	7.55%	$ 763
54	Laboratory Equipment	$ 627	3.06%	$ 19
55	Power Operated Equipment	$ 11,684	9.23%	$ 567
56	Communication Equipment	$ 7,477	4.10%	$ 307
57	Miscellaneous Equipment	$ 934	6.19%	$ 58
58	Subtotal General	$ 142,803		$ 14,686
59				
63	TOTALS	$ 2,070,165		$ 65,699
69	Amortization of Deferred Regulatory Assets	$ 24,785	3.36%	$ 834
71	Less: Amotization of Contributions	$ 280,867	10.00%	$ (28,087)
72	Staff Recommended Depreciation Expense			$ 38,447
73	Company Proposed Depreciation Expense			$ 46,650
74	Staff Adjustment			$ (8,203)

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SCHEDULE AII-9

OPERATING ADJUSTMENT #7 - PROPERTY TAX EXPENSE

LINE NO.	DESCRIPTION	AMOUNT
1	Staff Adjusted Test Year Revenues - 2001	$ 440,924.00
2	Weight Factor	2
3	Subtotal (Line 1 x Line 2)	$ 881,848
4	Staff Recommended Revenue	$ 409,727
5	Subtotal (Line 4 + Line 5)	$ 1,291,575
6	Number of Years	3
7	Three Year Average (Line 5 / Line 6)	$ 430,525
8	Department of Revenue Mutilplier	2
9	Revenue Base Value (Line 7 x Line 8)	$ 861,050
10	Plus: 10% of CWIP - 2001	-
11	Less: Net Book Value of Licensed Vehicles	$ 30,000
12	Full Cash Value (Line 9 + Line 10 - Line 11)	$ 831,050
13	Assessment Ratio	25%
14	Assessment Value (Line 12 x Line 13)	$ 207,763
15	Composite Property Tax Rate	11.83%
16	Staff Proposed Property Tax Expense (Line 14 x Line 15)	$ 24,578
17	Company Proposed Property Tax Expense	$ 28,682
18	Staff Adjustment (Line 16 - Line 17)	$ (4,104)

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SCHEDULE AII-10

OPERATING ADJUSTMENT #8 - INCOME TAX EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT	[C] STAFF PROPOSED
1	Income Taxes	$ (32,151)	$ 63,625	$ 31,474
2	Total	$ (32,151)	$ 63,625	$ 31,474

REFERENCES:

Column [A]: Company, Schedule C-1, page 1
Company, Schedule C-2, page 1
Company, Schedule C-3, page 1

Column [B]: Testimony, AII
Schedule DWC-2

Column [C]: Column [A] + Column[B]

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Schedule DRR-1

MINIMUM MONTHLY CHARGES

LINE NO.	CUSTOMER CLASS	PRESENT		COMPANY PROPOSED		STAFF RECOMMENDED		PRESENT RATES					
								TIER ONE			TIER TWO		
		MINIMUM CHARGE	GALLONS INCLUDED	MINIMUM CHARGE	GALLONS INCLUDED	MINIMUM CHARGE	GALLONS INCLUDED	COMMODITY SUMMER	COMMODITY WINTER	UPPER LIMIT	COMMODITY SUMMER	COMMODITY WINTER	UPPER LIMIT
1	Residential 5/8"	$ 10.00	1.00	$ 14.61	1.00	$ 9.24	-	$ 1.42	$ 1.31	Infinite			
2	Residential 1"	$ 17.10	1.00	$ 24.98	1.00	$ 15.80	-	$ 1.42	$ 1.31	Infinite			
3	Residential 2"	$ 33.60	1.00	$ 49.09	1.00	$ 31.04	-	$ 1.42	$ 1.31	Infinite			
4	Residential 4"	$ 57.60	1.00	$ 84.15	1.00	$ 53.21	-	$ 1.42	$ 1.31	Infinite			
5	Commerical 5/8"	$ 10.00	1.00	$ 14.61	1.00	$ 9.24	-	$ 1.42	$ 1.31	Infinite			
6	Commerical 1"	$ 17.10	1.00	$ 24.98	1.00	$ 15.80	-	$ 1.42	$ 1.31	Infinite			
7	Commerical 2"	$ 33.60	1.00	$ 49.09	1.00	$ 31.04	-	$ 1.42	$ 1.31	Infinite			
8	Commerical 3"	$ 45.60	1.00	$ 66.62	1.00	$ 42.13	-	$ 1.42	$ 1.31	Infinite			
9	Commerical 4"	$ 57.60	1.00	$ 84.15	1.00	$ 53.21	-	$ 1.42	$ 1.31	Infinite			
10	Multi-family 044 1"	$ 440.00	44.00	$ 642.84	44.00	$ 406.49	-	$ 1.42	$ 1.31	Infinite			
11	Multi-family 056 2"	$ 560.00	56.00	$ 818.16	56.00	$ 517.35	-	$ 1.42	$ 1.31	Infinite			
12	Multi-family 064 4"	$ 640.00	64.00	$ 935.04	64.00	$ 591.26	-	$ 1.42	$ 1.31	Infinite			
13	Multi-family 065 2"	$ 650.00	65.00	$ 949.65	65.00	$ 600.50	-	$ 1.42	$ 1.31	Infinite			
14	Multi-family 067 4"	$ 670.00	67.00	$ 978.87	67.00	$ 618.98	-	$ 1.42	$ 1.31	Infinite			
15	Multi-family 089 1"	$ 890.00	89.00	$ 1,300.29	89.00	$ 822.22	-	$ 1.42	$ 1.31	Infinite			
16	Multi-family 102 2"	$ 1,020.00	102.00	$ 1,490.22	102.00	$ 942.32	-	$ 1.42	$ 1.31	Infinite			
17	Multi-family 129 4"	$ 1,290.00	129.00	$ 1,884.69	129.00	$ 1,191.76	-	$ 1.42	$ 1.31	Infinite			
18	Multi-family 153 4"	$ 1,530.00	153.00	$ 2,235.33	153.00	$ 1,413.48	-	$ 1.42	$ 1.31	Infinite			
19	Intentionally left blank												

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED RATES						STAFF RECOMMENDED RATES					
		TIER ONE			TIER TWO			TIER ONE		TIER TWO		TIER THREE	
		COMMODITY SUMMER	COMMODITY WINTER	UPPER LIMIT	COMMODITY SUMMER	COMMODITY WINTER	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT
20	Residential 5/8"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
21	Residential 1"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
22	Residential 2"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
23	Residential 4"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
24	Commerical 5/8"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
25	Commerical 1"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
26	Commerical 2"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
27	Commerical 3"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
28	Commerical 4"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
29	Multi-family 044 1"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
30	Multi-family 056 2"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
31	Multi-family 064 4"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
32	Multi-family 065 2"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
33	Multi-family 067 4"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
34	Multi-family 089 1"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
35	Multi-family 102 2"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
36	Multi-family 129 4"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
37	Multi-family 153 4"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
38	Intentionally left blank												

ARIZONA-AMERICAN WATER CCOMPANY, INC. - HAVASU WATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

Schedule DRR-1

MINIMUM MONTHLY CHARGES

LINE NO.	CUSTOMER CLASS	PRESENT		COMPANY PROPOSED		STAFF RECOMMENDED		PRESENT RATES					
								TIER ONE			TIER TWO		
		MINIMUM CHARGE	GALLONS INCLUDED	MINIMUM CHARGE	GALLONS INCLUDED	MINIMUM CHARGE	GALLONS INCLUDED	COMMODITY SUMMER	COMMODITY WINTER	UPPER LIMIT	COMMODITY SUMMER	COMMODITY WINTER	UPPER LIMIT
1	Residential 5/8"	$ 10.00	1.00	$ 14.61	1.00	$ 9.24	-	$ 1.42	$ 1.31	Infinite			
2	Residential 1"	$ 17.10	1.00	$ 24.98	1.00	$ 15.80	-	$ 1.42	$ 1.31	Infinite			
3	Residential 2"	$ 33.60	1.00	$ 49.09	1.00	$ 31.04	-	$ 1.42	$ 1.31	Infinite			
4	Residential 4"	$ 57.60	1.00	$ 84.15	1.00	$ 53.21	-	$ 1.42	$ 1.31	Infinite			
5	Commerical 5/8"	$ 10.00	1.00	$ 14.61	1.00	$ 9.24	-	$ 1.42	$ 1.31	Infinite			
6	Commerical 1"	$ 17.10	1.00	$ 24.98	1.00	$ 15.80	-	$ 1.42	$ 1.31	Infinite			
7	Commerical 2"	$ 33.60	1.00	$ 49.09	1.00	$ 31.04	-	$ 1.42	$ 1.31	Infinite			
8	Commerical 3"	$ 45.60	1.00	$ 66.62	1.00	$ 42.13	-	$ 1.42	$ 1.31	Infinite			
9	Commerical 4"	$ 57.60	1.00	$ 84.15	1.00	$ 53.21	-	$ 1.42	$ 1.31	Infinite			
10	Multi-family 044 1"	$ 440.00	44.00	$ 642.84	44.00	$ 406.49	-	$ 1.42	$ 1.31	Infinite			
11	Multi-family 056 2"	$ 560.00	56.00	$ 818.16	56.00	$ 517.35	-	$ 1.42	$ 1.31	Infinite			
12	Multi-family 064 4"	$ 640.00	64.00	$ 935.04	64.00	$ 591.26	-	$ 1.42	$ 1.31	Infinite			
13	Multi-family 065 2"	$ 650.00	65.00	$ 949.65	65.00	$ 600.50	-	$ 1.42	$ 1.31	Infinite			
14	Multi-family 067 4"	$ 670.00	67.00	$ 978.87	67.00	$ 618.98	-	$ 1.42	$ 1.31	Infinite			
15	Multi-family 089 1"	$ 890.00	89.00	$ 1,300.29	89.00	$ 822.22	-	$ 1.42	$ 1.31	Infinite			
16	Multi-family 102 2"	$ 1,020.00	102.00	$ 1,490.22	102.00	$ 942.32	-	$ 1.42	$ 1.31	Infinite			
17	Multi-family 129 4"	$ 1,290.00	129.00	$ 1,884.69	129.00	$ 1,191.76	-	$ 1.42	$ 1.31	Infinite			
18	Multi-family 153 4"	$ 1,530.00	153.00	$ 2,235.33	153.00	$ 1,413.48	-	$ 1.42	$ 1.31	Infinite			
19	Intentionally left blank												

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED RATES						STAFF RECOMMENDED RATES					
		TIER ONE			TIER TWO			TIER ONE		TIER TWO		TIER THREE	
		COMMODITY SUMMER	COMMODITY WINTER	UPPER LIMIT	COMMODITY SUMMER	COMMODITY WINTER	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT
20	Residential 5/8"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
21	Residential 1"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
22	Residential 2"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
23	Residential 4"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
24	Commerical 5/8"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
25	Commerical 1"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
26	Commerical 2"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
27	Commerical 3"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
28	Commerical 4"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
29	Multi-family 044 1"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
30	Multi-family 056 2"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
31	Multi-family 064 4"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
32	Multi-family 065 2"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
33	Multi-family 067 4"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
34	Multi-family 089 1"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
35	Multi-family 102 2"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
36	Multi-family 129 4"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
37	Multi-family 153 4"	$ 2.07	$ 1.91	Infinite				$ 0.81	4,000	$ 1.21	100,000	$ 1.45	Infinite
38	Intentionally left blank												

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN COST COMPARISONS

LINE NO.	CUSTOMER CLASS	CURRENT SUMMER AVERAGE USAGE	SUMMER AVERAGE DOLLARS	SUMMER MEDIAN USAGE	SUMMER MEDIAN DOLLARS	WINTER AVERAGE USAGE	WINTER AVERAGE DOLLARS	WINTER MEDIAN USAGE	WINTER MEDIAN DOLLARS
1	Residential 5/8"	7,659	$ 19.46	5,000	$ 15.68	7,659	$ 18.72	5,000	$ 15.24
2	Residential 1"	569,250	$ 824.02	516,500	$ 749.11	569,250	$ 761.51	516,500	$ 692.41
3	Residential 2"	166,833	$ 269.08	154,500	$ 251.57	166,833	$ 250.84	154,500	$ 234.69
4	Residential 4"	291,500	$ 470.11	331,000	$ 526.20	291,500	$ 438.16	331,000	$ 489.90
5	Commerical 5/8"	22,384	$ 40.37	9,000	$ 21.36	22,384	$ 38.01	9,000	$ 20.48
6	Commerical 1"	68,625	$ 113.13	57,000	$ 96.62	68,625	$ 105.69	57,000	$ 90.46
7	Commerical 2"	76,793	$ 141.23	57,500	$ 113.83	76,793	$ 132.89	57,500	$ 107.62
8	Commerical 3"	489,810	$ 739.71	-	$ 45.60	489,810	$ 687.25	-	$ 45.60
9	Commerical 4"	192,833	$ 330.00	125,000	$ 233.68	192,833	$ 308.90	125,000	$ 220.04
10	Multi-family 044 1"	160,250	$ 605.08	154,000	$ 596.20	160,250	$ 592.29	154,000	$ 584.10
11	Multi-family 056 2"	117,917	$ 647.92	117,000	$ 646.62	117,917	$ 641.11	117,000	$ 639.91
12	Multi-family 064 4"	208,583	$ 845.31	183,500	$ 809.69	208,583	$ 829.40	183,500	$ 796.55
13	Multi-family 065 2"	161,083	$ 786.44	135,000	$ 749.40	161,083	$ 775.87	135,000	$ 741.70
14	Multi-family 067 4"	305,250	$ 1,008.32	345,000	$ 1,064.76	305,250	$ 982.11	345,000	$ 1,034.18
15	Multi-family 089 1"	256,000	$ 1,127.14	241,500	$ 1,106.55	256,000	$ 1,108.77	241,500	$ 1,089.78
16	Multi-family 102 2"	134,167	$ 1,065.68	131,000	$ 1,061.18	134,167	$ 1,062.14	131,000	$ 1,057.99
17	Multi-family 129 4"	170,500	$ 1,348.93	182,500	$ 1,365.97	170,500	$ 1,344.37	182,500	$ 1,360.09
18	Multi-family 153 4"	192,500	$ 1,585.38	192,000	$ 1,585.38	192,000	$ 1,581.09	192,000	$ 1,581.09
19	Intentionally left blank								

LINE NO.	CUSTOMER CLASS	SUMMER AVERAGE USAGE	SUMMER AVERAGE DOLLARS	SUMMER MEDIAN USAGE	SUMMER MEDIAN DOLLARS	SUMMER PERCENT	WINTER AVERAGE USAGE	WINTER AVERAGE DOLLARS	WINTER MEDIAN USAGE	WINTER MEDIAN DOLLARS	WINTER PERCENT
20	Residential 5/8"	7,659	$ 28.39	5,000	$ 22.89	45.93%	7,659	$ 27.33	5,000	$ 22.25	46.00%
21	Residential 1"	569,250	$ 1,201.26	516,500	$ 1,092.07	45.78%	569,250	$ 1,110.34	516,500	$ 1,009.59	45.81%
22	Residential 2"	166,833	$ 392.37	154,500	$ 366.84	45.82%	166,833	$ 365.83	154,500	$ 342.28	45.84%
23	Residential 4"	291,500	$ 685.49	331,000	$ 767.25	45.81%	291,500	$ 639.01	331,000	$ 714.45	45.84%
24	Commerical 5/8"	22,384	$ 58.88	9,000	$ 31.17	45.88%	22,384	$ 55.45	9,000	$ 29.89	45.91%
25	Commerical 1"	68,625	$ 164.96	57,000	$ 140.90	45.82%	68,625	$ 154.14	57,000	$ 131.94	45.85%
26	Commerical 2"	76,793	$ 205.98	57,500	$ 166.05	45.86%	76,793	$ 193.85	57,500	$ 157.01	45.88%
27	Commerical 3"	489,810	$ 1,078.46	-	$ 66.62	45.81%	489,810	$ 1,000.25	-	$ 66.62	45.58%
28	Commerical 4"	192,833	$ 481.25	125,000	$ 340.83	45.84%	192,833	$ 450.55	125,000	$ 320.99	45.87%
29	Multi-family 044 1"	160,250	$ 883.48	154,000	$ 870.54	46.01%	160,250	$ 864.88	154,000	$ 852.94	46.02%
30	Multi-family 056 2"	117,917	$ 946.33	117,000	$ 944.43	46.06%	117,917	$ 936.42	117,000	$ 934.67	46.06%
31	Multi-family 064 4"	208,583	$ 1,234.33	183,500	$ 1,182.41	46.03%	208,583	$ 1,211.19	183,500	$ 1,163.29	46.04%
32	Multi-family 065 2"	161,083	$ 1,148.54	135,000	$ 1,094.55	46.05%	161,083	$ 1,133.17	135,000	$ 1,083.35	46.06%
33	Multi-family 067 4"	305,250	$ 1,472.05	345,000	$ 1,554.33	45.98%	305,250	$ 1,433.93	345,000	$ 1,509.85	46.00%
34	Multi-family 089 1"	256,000	$ 1,645.98	241,500	$ 1,615.97	46.03%	256,000	$ 1,619.26	241,500	$ 1,591.57	46.04%
35	Multi-family 102 2"	134,167	$ 1,556.81	131,000	$ 1,550.25	46.09%	134,167	$ 1,551.66	131,000	$ 1,545.61	46.09%
36	Multi-family 129 4"	170,500	$ 1,970.60	182,500	$ 1,995.44	46.08%	170,500	$ 1,963.96	182,500	$ 1,986.88	46.09%
37	Multi-family 153 4"	192,500	$ 2,316.06	192,000	$ 2,316.06	46.09%	192,000	$ 2,309.82	192,000	$ 2,309.82	46.09%
38	Intentionally left blank										

LINE NO.	CUSTOMER CLASS	STAFF RECOMMENDED AVERAGE	CHANGE	PERCENT	MEDIAN	INCREASE	PERCENT
39	Residential 5/8"	$ 16.91	$ (2.55)	-13.12%	$ 13.69	$ (1.99)	-12.69%
40	Residential 1"	$ 815.61	$ (8.41)	-1.02%	$ 739.12	$ (9.99)	-1.33%
41	Residential 2"	$ 247.35	$ (21.73)	-8.08%	$ 229.47	$ (22.10)	-8.79%
42	Residential 4"	$ 450.29	$ (19.82)	-4.22%	$ 507.56	$ (18.64)	-3.54%
43	Commerical 5/8"	$ 34.72	$ (5.65)	-13.98%	$ 18.53	$ (2.83)	-13.25%
44	Commerical 1"	$ 97.24	$ (15.89)	-14.05%	$ 83.17	$ (13.45)	-13.92%
45	Commerical 2"	$ 122.36	$ (18.87)	-13.36%	$ 99.02	$ (14.81)	-13.01%
46	Commerical 3"	$ 726.75	$ (12.96)	-1.75%	$ 42.13	$ (3.47)	-7.61%
47	Commerical 4"	$ 307.22	$ (22.78)	-6.90%	$ 208.86	$ (24.82)	-10.62%
48	Multi-family 044 1"	$ 613.25	$ 8.17	1.35%	$ 604.19	$ 7.99	1.34%
49	Multi-family 056 2"	$ 662.73	$ 14.81	2.29%	$ 661.40	$ 14.78	2.29%
50	Multi-family 064 4"	$ 868.11	$ 22.80	2.70%	$ 831.73	$ 22.04	2.72%
51	Multi-family 065 2"	$ 809.51	$ 23.07	2.93%	$ 770.65	$ 21.25	2.84%
52	Multi-family 067 4"	$ 1,035.99	$ 27.67	2.74%	$ 1,093.63	$ 28.87	2.71%
53	Multi-family 089 1"	$ 1,167.82	$ 40.68	3.61%	$ 1,146.79	$ 40.24	3.64%
54	Multi-family 102 2"	$ 1,111.26	$ 45.58	4.28%	$ 1,106.67	$ 45.49	4.29%
55	Multi-family 129 4"	$ 1,413.38	$ 64.45	4.78%	$ 1,430.78	$ 64.81	4.74%
56	Multi-family 153 4"	$ 1,667.01	$ 81.63	5.15%	$ 1,666.28	$ 80.90	5.10%
57	Intentionally left blank						

AGUA FRIA WATER

ARIZONA-AMERICAN WATER COMPANY, INC. - **AGUA FRIA WATER** Schedule DWC-1
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY FAIR VALUE	[B] STAFF ORIGINAL COST	[C] STAFF FAIR VALUE
1	Adjusted Rate Base	$ 19,019,625	$ 16,742,164	$ 16,742,164
2	Adjusted Operating Income/(Loss)	$ 1,215,779	$ 1,637,250	$ 1,637,250
3	Current Rate of Return (L2 / L1)	6.39%	9.78%	9.78%
4	Required Rate of Return	7.75%	6.6%	6.6%
5	Required Operating Income (L4 x L1)	$ 1,474,021	$ 1,101,634	$ 1,101,634
6	Operating Income Deficiency/(Excess) (L5 - L2)	$ 258,242	$ (535,616)	$ (535,616)
7	Gross Revenue Conversion Factor	1.62860	1.62863	1.62863
8	Required Revenue Increase/(Decrease) (L7 x L6)	$ 420,573	**$ (872,322)**	**$ (872,322)**
9	Adjusted Test Year Revenue	$ 6,186,037	$ 6,186,037	$ 6,186,037
10	Proposed Annual Revenue (L8 + L9)	$ 6,606,610	$ 5,313,715	$ 5,313,715
11	Required Increase/Decrease in Revenue (%)	6.80%	-14.10%	-14.10%
12	Rate of Return on Common Equity (%)	11.50%	9.7%	9.7%

References:
Column [A]: Company Schedules A-1, A-2, & D-1
Columns [B] & [C]: Staff Schedules AII-1, DWC-2, DWC-3, & JMR-9

ARIZONA-AMERICAN WATER COMPANY, INC. - AGUA FRIA WATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

Schedule DWC-2

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	[A]	[B]	[C]	[D]
	Calculation of Gross Revenue Conversion Factor:				
1	Billings	100.0000%			
2	Uncollecible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Tax Rate (Line 17)	38.5989%			
5	Subtotal (L3 - L4)	61.4011%			
6	Revenue Conversion Factor (L1 / L5)	1.628635			
	Calculation of Uncollecttible Factor:				
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	38.5989%			
9	One Minus Combined Income Tax Rate (L7 - L8)	61.4011%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 x L10)	0.0000%			
	Calculation of Effective Tax Rate:				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L12 - L13)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 40)	34.0000%			
16	Effective Federal Income Tax Rate (L14 x L15)	31.6309%			
17	Combined Federal and State Income Tax Rate (L13 + L16)	38.5989%			
18	Required Operating Income (Schedule DWC-1, Col. [B], Line 5)	$ 1,101,634			
19	Adjusted Test Year Operating Income (Loss) (Sch. AII-1, Col. [C], Line 28)	$ 1,637,250			
20	Required Increase in Operating Income (L18 - L19)		$ (535,616)		
21	Income Taxes on Recommended Revenue (Col. [D], L39)	$ 395,729			
22	Income Taxes on Test Year Revenue (Col. [B], L39)	$ 732,435			
23	Required Increase in Revenue to Provide for Income Taxes (L21 - L22)		$ (336,707)		
24	Recommended Revenue Requirement (Schedule DWC-1, Col. [B], Line 10)	$ 5,313,715			
25	Uncollectible Rate (Line 10)	0.0000%			
26	Uncollectible Expense on Recommended Revenue (L24 x L25)	$ -			
27	Adjusted Test Year Uncollectible Expense	$ -			
28	Required Increase in Revenue to Provide for Uncollectible Exp. (L26 - L27)		$ -		
29	Total Required Increase in Revenue (L20 + L23 + L28)		$ (872,322)		
	Calculation of Income Tax:	Test Year		STAFF Recommended	
30	Revenue (Schedule AII-1, Col. [C], Line 5 & Sch. DWC-1, Col. [B], Line 10)	$ 6,186,037		$ 5,313,715	
31	Operating Expenses Excluding Income Taxes	$ 3,816,352	$ -	$ 3,816,352	
32	Synchronized Interest (L43)	$ 472,129		$ 472,129	
33	Arizona Taxable Income (L30 - L31 - L32)	$ 1,897,555.91		$ 1,025,233.91	
34	Arizona State Income Tax Rate	6.9680%		6.9680%	
35	Arizona Income Tax (L33 x L34)		$ 132,222		$ 71,438
36	Federal Taxable Income (L33 - L35)	$ 1,765,334		$ 953,796	
37	Federal Income Tax Rate	34.0000%		34.0000%	
38	Federal Income Tax (L36 x L37)		$ 600,214		$ 324,291
39	Combined Federal and State Income Tax (L35 + L38)		$ 732,435		$ 395,729
40	Applicable Federal Income Tax Rate (Col. [D], L38 - Col. [B], L38) / (Col. [C], L36 - Col. [A], L36)				34.0000%
	Calculation of Interest Synchronization:				
41	Rate Base (Schedule DWC-3, Col. [C], Line 17)	$ 16,742,164			
42	Weighted Average Cost of Debt	2.82%			
43	Synchronized Interest (L41 x L42)	$ 472,129			

ARIZONA-AMERICAN WATER COMPANY, INC. - AGUA FRIA WATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

Schedule DWC-3

RATE BASE - ORIGINAL COST

LINE NO.		[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	ADJ	[C] STAFF AS ADJUSTED
1	Plant in Service	$ 50,919,880	$ 224,901	A	$ 51,144,781
2	Less: Accumulated Depreciation	4,993,698	32,822	B	5,026,520
3	Net Plant in Service	$ 45,926,182	$ 192,079		$ 46,118,261
	LESS:				
4	Contributions in Aid of Construction (CIAC)	$ -	$ -		$ -
5	Less: Accumulated Amortization	-	-		-
6	Net CIAC	1,973,438	-		1,973,438
7	Advances in Aid of Construction (AIAC)	27,385,370	-		27,385,370
8	Customer Deposits	-	-		-
9	Meter Advances	17,289	-		17,289
10	Deferred Income Tax Credits	-	-		-
	ADD:				
11	Cash Working Capital	-	-		-
12	Prepayments	-	-		-
13	Supplies Inventory	-	-		-
14	Projected Capital Expenditures	-	-		-
15	Deferred Debits	-	-		-
16	Citizens Acquisition Adjustment	13,305,699	(13,305,699)	C	-
17	Original Cost Rate Base	$ 29,855,784	$ (13,113,620)		$ 16,742,164

Adjustments:
A. See plant adjustments on Schedule DWC-4
B. See accumulated depreciation adjustments on Schedule DWC-4
C. See acquisition adjustment on Schedule DWC-4

References:
Column [A]: Company Schedule B-1
Column [B]: Staff Schedule DWC-4
Column [C]: Column [A] + Column [B]

RIZONA-AMERICAN WATER COMPANY, INC. - AGUA FRIA WATER
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Schedule DWC-4

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] Plant-not used ADJ #1	[C] Plant-unidentified ADJ #2	[D] Plant Mis-Posted ADJ #3	[E] Plant Prev. Dec. ADJ #4	[F] Post-TY Pl. ADJ #5	[G] AFUDC Adj. ADJ #6	[H] Acquisition Adj ADJ #7	[I] STAFF ADJUSTED
		PLANT IN SERVICE:			Leave Blank	Leave Blank	Leave Blank				
1		Intangible									
2	301.00	Organization	$ 1,229	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,229
3	302.00	Franchises	78,887	-	-	-	-	-	-	-	78,887
4	303.00	Miscellaneous Intangibles	115,264	-	-	-	-	-	-	-	115,264
5		*Subtotal Intangible*	195,380	-	-	-	-	-	-	-	195,380
6											
7		Source of Supply									
8	310.00	Land & Land Rights	217,682	(4,619)	-	-	-	-	-	-	213,063
9	311.00	Structures & Improvements	1,150,072	(11,196)	-	-	-	50,631	-	-	1,189,507
10	312.00	Collecting & Impounding Reservoirs	-	-	-	-	-	-	-	-	-
11	313.00	Lakes, Rivers, Other Intakes	-	-	-	-	-	-	-	-	-
12	314.00	Wells and Springs	4,081,994	-	-	-	-	(29,586)	-	-	4,052,408
13		Subtotal Source of Supply	5,449,748	(15,815)	-	-	-	21,045	-	-	5,454,978
14											
15		Pumping									
16	320.00	Land & Land Rights	47,681	-	-	-	-	-	-	-	47,681
17	321.00	Structures & Improvements	1,246,735	-	-	-	-	-	-	-	1,246,735
18	323.00	Other Power Production	-	-	-	-	-	-	-	-	-
19	325.00	Electric Pumping Equipment	14,538,913	(15,122)	-	-	-	90,551	-	-	14,614,342
20	326.00	Diesel Pumping Equipment	25,799	-	-	-	-	-	-	-	25,799
21	328.10	Gas Engine Pumping Equipment	697	-	-	-	-	-	-	-	697
22		Subtotal Pumping	15,859,825	(15,122)	-	-	-	90,551	-	-	15,935,254
23											
24		Water Treatment									
25	330.00	Land & Land Rights	-	-	-	-	-	-	-	-	-
26	331.00	Structures & Improvements	39,917	-	-	-	-	-	-	-	39,917
27	332.00	Water Treatment Equipment	387,757	(3,442)	-	-	-	(10,260)	-	-	374,055
28		Subtotal Water Treatment	427,674	(3,442)	-	-	-	(10,260)	-	-	413,972
29											
30		Transmission & Distribution									
31	340.00	Land & Land Rights	225	-	-	-	-	-	-	-	225
32	341.00	Structures & Improvements	-	-	-	-	-	-	-	-	-
33	342.00	Distribution Reservoirs & Standpipes	3,145,746	(34,414)	-	-	-	(20,687)	-	-	3,090,645
34	343.00	Transmission & Distribution	21,475,529	(7,710)	-	-	-	(8,345)	-	-	21,459,474
35	344.00	Fire Mains	-	-	-	-	-	-	-	-	-
36	345.00	Services	2,694,167	-	-	-	-	-	-	-	2,694,167
37	346.00	Meters	1,744,305	-	-	-	-	-	-	-	1,744,305
38	348.00	Hydrants	2,799,956	-	-	-	-	5,229	-	-	2,805,185
39	349.00	Other Transmission & Distribution	-	-	-	-	-	-	-	-	-
40		Subtotal Transmission & Distribu.	31,859,928	(42,124)	-	-	-	(23,803)	-	-	31,794,001
41											
42		General - Allocated Common Plant									
43	389.00	Land & Land Rights	681	-	-	-	-	-	-	-	681
44	390.00	Structures & Improvements	467,707	-	-	-	-	-	-	-	467,707
45	391.00	Office Furniture and Equipment	238,820	-	-	-	-	(8,514)	-	-	230,306
46	391.10	Computer Equipment	272,602	-	-	-	-	-	-	-	272,602
47	392.00	Transportation Equipment	251,004	-	-	-	-	-	-	-	251,004
48	393.00	Stores Equipment	4,012	-	-	-	-	-	-	-	4,012
49	394.00	Tools, Shop, & Garage Equipment	66,402	-	-	-	-	(9,000)	-	-	57,402
50	395.00	Laboratory Equipment	18,183	-	-	-	-	-	-	-	18,183
51	396.00	Power Operated Equipment	16,803	-	-	-	-	-	-	-	16,803
52	397.00	Communication Equipment	98,945	-	-	-	-	23,584	-	-	122,529
53	398.00	Miscellaneous Equipment	36,697	-	-	-	-	-	-	-	38,697
54		Subtotal General	1,473,856	-	-	-	-	6,070	-	-	1,479,926
55											
56	Add:										-
57											-
58	Less:	Remove Double-Booked Advances	(4,128,730)								(4,128,730)
59		AFUDC Adjustment 3/95**	(217,801)	-	-	-	-	-	217,801	-	-
60				-	-	-	-	-	-	-	-
61	Total Plant in Service		$ 50,919,880	$ (76,503)	$ -	$ -	$ -	$ 83,603	$ 217,801	$ -	$ 51,144,781
62	Less: Accumulated Depreciation		4,993,698	19,638	-	-	-	-	52,460	-	5,026,520
63	Net Plant in Service (L59 - L 60)		$ 45,926,182	$ (56,865)	$ -	$ -	$ -	$ 83,603	$ 165,341	$ -	$ 46,118,261
64											
65	*LESS:*										
66	Contributions in Aid of Construction (CIAC)		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67	Less: Accumulated Amortization		-	-	-	-	-	-	-	-	-
68	Net CIAC (L25 - L26)		1,973,438	-	-	-	-	-	-	-	1,973,438
69	Advances in Aid of Construction (AIAC)		27,385,370	-	-	-	-	-	-	-	27,385,370
70	Customer Deposits		-	-	-	-	-	-	-	-	-
71	Meter Advances		17,289	-	-	-	-	-	-	-	17,289
72	Deferred Income Tax Credits		-	-	-	-	-	-	-	-	-
73											
74	*ADD:*										
75	Cash Working Capital Allowance		-	-	-	-	-	-	-	-	-
76	Prepayments		-	-	-	-	-	-	-	-	-
77	Supplies Inventory		-	-	-	-	-	-	-	-	-
78	Projected Capital Expenditures		-	-	-	-	-	-	-	-	-
79	Deferred Debits		-	-	-	-	-	-	-	-	-
80	Citizens Acquisition Adjustment		13,305,699	-	-	-	-	-	-	(13,305,699)	-
81	Original Cost Rate Base		$ 29,855,784	$ (56,865)	$ -	$ -	$ -	$ 83,603	$ 165,341	$ (13,305,699)	$ 16,742,164

ADJ #		References:
1	Plant - not used & useful	Per Staff Engineering Reports.
2	Plant - unidentified	Per Staff Engineering Reports.
3	Plant - mis-posted	Per Company Response to Staff Data Request BKB 26-3.
4	Plant - removed by previous decision	Per Decision No. 60172.
5	Post-Test Year Plant	Per Company Response to Staff Data Request DWC 12-2
6	Remove AFUDC Adj. 3/95	Per Company Response to Staff Data Request DWC 6-10 Amended
7	Remove Acquisition Adjustment	Per Carlson Direct Testimony

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SCHEDULE AII-1

OPERATING INCOME STATEMENT - TEST YEAR AND STAFF PROPOSED

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
1	*REVENUES:*					
2	Metered Water Sales	$ 5,846,076	$ -	$ 5,846,076	$ (872,322)	$ 4,973,754
3	Water Sales - Unmetered	-	-	-	-	-
4	Other Operating Revenue	339,961	-	339,961	-	339,961
5	Total Operating Revenues	$ 6,186,037	$ -	$ 6,186,037	$ (872,322)	$ 5,313,715
6	*OPERATING EXPENSES:*					
7	Salaries & Wages	$ 632,324	$ (216,798)	$ 415,526	$ -	$ 415,526
8	Purchased Water	382,700	(97,900)	284,800	-	284,800
9	Purchased Pumping Power	601,814	73	601,887	-	601,887
10	Chemicals	10,523	-	10,523	-	10,523
11	Repairs & Maintenance	198,956	8,729	207,685	-	207,685
12	Office Supplies & Expense	164,777	(127,984)	36,793	-	36,793
13	Outside Services	35,465	30,666	66,131	-	66,131
14	Service Company Charges	713,274	(713,274)	-	-	-
15	Water Testing	8,614	-	8,614	-	8,614
16	Rents	25,840	-	25,840	-	25,840
17	Transportation Expense	-	-	-	-	-
18	Insurance - General Liability	33,390	16,342	49,732	-	49,732
19	Insurance - Health and Life	-	-	-	-	-
20	Regulatory Comm. Exp. - Rate Case	43,906	-	43,906	-	43,906
21	Miscellaneous Operating Expense	188,009	259,615	447,624	-	447,624
22	Depreciation Expense	1,187,079	92,633	1,279,712	-	1,279,712
23	Taxes Other Than Income	40,435	3,225	43,660	-	43,660
24	Property Taxes	315,444	(21,524)	293,920	-	293,920
25	Income Tax	387,708	344,727	732,435	(336,706)	395,729
26						
27	Total Operating Expenses	$ 4,970,258	$ (421,471)	$ 4,548,787	$ (336,706)	$ 4,212,081
28	Operating Income (Loss)	$ 1,215,779	$ 421,471	$ 1,637,250	$ (535,616)	$ 1,101,634

References:
Column [A]: Company Schedule C-1
Column [B]: Schedule AII-2
Column [C]: Column [A] + Column [B]
Column [D]: Schedules DWC-1 and DWC-2
Column [E]: Column [C] + Column [D]

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SCHEDULE AII-2

SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR

LINE 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] ADJ #7	[I] ADJ #8	[J] ADJ #9	[K] STAFF ADJUSTED
1	*REVENUES:*											
2	Metered Water Sales	$ 5,846,076	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,846,076
3	Water Sales - Unmetered	-	-	-	-	-	-	-	-	-	-	-
4	Other Operating Revenue	339,961	-	-	-	-	-	-	-	-	-	339,961.0
5	Total Operating Revenues	$ 6,186,037	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,186,037
6	*OPERATING EXPENSES:*											
7	Salaries & Wages	$ 632,324	$ -	$ (126,182)	$ -	$ 415,526	$ (506,142)	$ -	$ -	$ -	$ -	$ 415,526
8	Purchased Water	382,700	-	-	-	-	-	-	-	-	(97,900)	$ 284,800
9	Purchased Pumping Power	601,814	73	-	-	-	-	-	-	-	-	$ 601,887
10	Chemicals	10,523	-	-	-	-	-	-	-	-	-	$ 10,523
11	Repairs & Maintenance	198,956	8,729	-	-	-	-	-	-	-	-	$ 207,685
12	Office Supplies & Expense	164,777	32,612	(160,596)	-	-	-	-	-	-	-	$ 36,793
13	Outside Services	35,465	30,666	-	-	-	-	-	-	-	-	$ 66,131
14	Service Company Charges	713,274	-	-	(713,274)	-	-	-	-	-	-	$ -
15	Water Testing	8,614	-	-	-	-	-	-	-	-	-	$ 8,614
16	Rents	25,840	-	-	-	-	-	-	-	-	-	$ 25,840
17	Transportation Expense	-	-	-	-	-	-	-	-	-	-	$ -
18	Insurance - General Liability	33,390	49,205	(32,863)	-	-	-	-	-	-	-	$ 49,732
19	Insurance -Health and Life	-	-	-	-	-	-	-	-	-	-	$ -
20	Regulatory Comm. Exp. - Rate Case	43,906	-	-	-	-	-	-	-	-	-	$ 43,906
21	Miscellaneous Operating Expense	188,009	264,612	(4,997)	-	-	-	-	-	-	-	$ 447,624
22	Depreciation Expense	1,187,079	-	-	-	-	-	92,633	-	-	-	$ 1,279,712
23	Taxes Other Than Income	40,435	-	-	-	43,660	(40,435)	-	-	-	-	$ 43,660
24	Property Taxes	315,444	-	-	-	-	-		(21,524)	-	-	$ 293,920
25	Income Tax	387,708	-	-	-	-	-	-	-	344,727		$ 732,435
26												
27	Total Operating Expenses	$ 4,970,258	$ 385,897	$ (324,638)	$ (713,274)	$ 459,186	$ (546,577)	$ 92,633	$ (21,524)	$ 344,727	$ (97,900)	$ 4,548,787
28	Operating Income (Loss)	$ 1,215,779	$ (385,897)	$ 324,638	$ 713,274	$ (459,186)	$ 546,577	$ (92,633)	$ 21,524	$ (344,727)	$ 97,900	$ 1,637,250

ADJ #		References:
1	Citizens, Corporate Costs Allocation	Schedule AII-3
2	Service Company Charges	Schedule AII-4
3	Projected additional expenses	Schedule AII-5
4	Test Year Salaries, Wages & Related Expenses	Schedule AII-6
5	Projected Salaries, Wages & Related Expenses	Schedule AII-7
6	Property Taxes	Schedule AII-8
7	Depreciation Expense	Schedule AII-9
8	Income Taxes	Schedule AII-10
9	Purchased Water Expense	Schedule AII-11

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SCHEDULE AII-3

OPERATING INCOME ADJUSTMENT #1 - CITIZEN'S CORPORATE COST

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Taxes Other Than Income	$ -	1a	$ -
2	Purchased Power	$ (73)	1b	$ 73
3	Chemicals	$ -	1c	$ -
4	Repairs & Miantenance	$ (8,729)	1d	$ 8,729
5	Office Supplies	$ (32,612)	1e	$ 32,612
6	Outside Services	$ (30,666)	1f	$ 30,666
7	Rents	$ -	1g	$ -
8	Insurance Expense	$ (49,205)	1h	$ 49,205
9	Miscellaneous Expense	$ (264,612)	1i	$ 264,612
10	Total Adjustments	$ (385,897)		$ 385,897

REFERENCES:

Column [A]: Company Schedule C-2, page 1
Company Schedule C-2, page 2
Bourassa, Direct, page 12
Stephenson, Direct, pages 15 and 16

Columns [B]: Testimony, AII

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SCHEDULE AII-4

OPERATING INCOME ADJUSTMENT #2 - SERVICE COMPANY CHARGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT
1	Service Company Charges	$ 713,274	$ (713,274)
2	Total Adjustments	$ 713,274	$ (713,274)

REFERENCES:

Column [A]:
Company, Schedule C-2, page 1
Company, Schedule C-2, page 4
Bourassa, Direct, pages 12 and 13
Stephenson, Direct, page 16

Column [B]:
Testimony, AII

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SCHEDULE AII-5

OPERATING ADJUSTMENT #3 - PROJECTED ADDITIONAL EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 126,182	3a	$ (126,182)
2	Office Expense	$ 160,596	3b	$ (160,596)
3	Insurance	$ 32,863	3c	$ (32,863)
4	Miscellaneous	$ 4,997	3d	$ (4,997)
5	Total Adjustment	$ 324,638		$ (324,638)

REFERENCES:

Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 4
Bourassa, Direct, pages 15 and 16
Stephenson, Direct, pages 17 and 18

Column [B]: Testimony, AII

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SCHEDULE AII-6

OPERATING INCOME ADJUSTMENT #4 - TEST YEAR SALARIES AND WAGES, AND RELATED EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ (415,526)	4a	$ 415,526
2	Payroll Taxes	$ (43,660)	4b	$ 43,660
3	Total Adjustments	$ (459,186)		$ 459,186
4	Chemicals			

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 3
Bourassa, Direct, page 13

Column [B]: Testimony, AII

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SCHEDULE AII-7

OPERATING INCOME ADJUSTMENT #5 - PROJECTED SALARIES AND WAGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 506,142	5a	$ (506,142)
2	Payroll Taxes	$ 40,435	5b	$ (40,435)
3	Total Adjustments	$ 546,577		$ (546,577)

REFERENCES:

Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 5
Bourassa, Direct, pages 15 and 16
Stephenson, Direct, pages 17 and 18

Column [B]: Testimony, AII

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SCHEDULE AII-8

OPERATING ADJUSTMENT #6 - DEPRECIATION EXPENSE

LINE NO.	DESCRIPTION	ORIGINAL COST	RATE	EXPENSE
1	Intangible			
2	Organization	$ 1,229	0.00%	$ -
3	Franchises	$ 78,887	0.00%	$ -
4	Miscellaneous Intangibles	$ 115,264	0.00%	$ -
5	Subtotal Intangible	$ 195,380		$ -
6				
7	Source of Supply			
8	Land and Land Rights	$ 213,063	0.00%	$ -
9	Structures and Improvements	$ 1,189,507	2.50%	$ 29,738
10	Collecting and Impounding Res.	$ -	0.00%	$ -
11	Lakes, Rivers, Other Intakes	$ -	0.00%	$ -
12	Wells and Springs	$ 4,052,408	2.52%	$ 102,121
13	Subtotal Source of Supply	$ 5,454,978		$ 131,858
14				
15	Pumping			
16	Land and Land Rights	$ 47,681	0.00%	$ -
17	Structures and Improvements	$ 1,246,735	1.67%	$ 20,820
18	Other Power Production	$ -	0.00%	$ -
19	Electric Pumping Equipment	$ 14,614,342	4.42%	$ 645,954
20	Diesel Pumping Equipment	$ 25,799	4.42%	$ 1,140
21	Gas Engine Pumping Equipment	$ 697	4.42%	$ 31
22	Subtotal Pumping	$ 15,935,254		$ 667,946
23				
24	Water Treatment			
25	Land and Land Rights	$ -	0.00%	$ -
26	Structures and Improvements	$ 39,917	1.67%	$ 667
27	Water Treatment Equipment	$ 374,055	4.00%	$ 14,962
28	Subtotal Water Treatment	$ 413,972		$ 15,629
29				
30	Transmission and Distribution			
31	Land and Land Rights	$ 225	0.00%	$ -
32	Structures and Improvements	$ -	0.00%	$ -
33	Distribution, Reservoirs, & ST	$ 3,090,645	1.67%	$ 51,614
34	Transmission and Distribution	$ 21,459,474	1.53%	$ 328,330
35	Fire Mains	$ -	0.00%	$ -
36	Services	$ 2,694,167	2.48%	$ 66,815
37	Meters	$ 1,744,305	2.51%	$ 43,782
38	Hydrants	$ 2,805,185	2.00%	$ 56,104
39	Other Transmission & Distribution	$ -	0.00%	$ -
40	Subtotal Transmission and Distribution	$ 31,794,001		$ 546,645
41				
42	General			
43	Land and Land Rights	$ 681	0.00%	$ -
44	Structures and Improvements	$ 467,707	1.68%	$ 7,861
45	Office Funiture and Equipment	$ 230,306	4.55%	$ 10,468
46	Computer Equipment	$ 272,602	4.55%	$ 12,390
47	Transportation Equipment	$ 251,004	25.00%	$ 62,751
48	Stores Equipment	$ 4,012	3.92%	$ 157
49	Tools, Shop and Garage	$ 57,402	4.14%	$ 2,374
50	Laboratory Equipment	$ 18,183	3.71%	$ 675
51	Power Operated Equipment	$ 16,803	5.14%	$ 864
52	Communication Equipment	$ 122,529	10.28%	$ 12,593
53	Miscellaneous Equipment	$ 38,697	4.98%	$ 1,927
54	Subtotal General	$ 1,479,926		$ 112,060
55	Post closing plant adjustment	$ (4,128,730)	2.67%	$ (110,226)
56	AFUDC adjustment 3/95	$ -	2.67%	$ -
57	Total	$ 51,144,781		$ 1,474,138
62	Amortization of Deferred Regulatory Assets	$ 109,279	2.67%	$ 2,918
64	Less: Amortization of Contributions	$ 1,973,438	10.00%	$ (197,344)
65	Staff Recommended Depreciation Expense			$ 1,279,712
66	Company proposed depreciation expense			$ 1,187,079
67	Staff Adjustment			$ 92,633

ARIZONA-AMERICAN WATER COMPANY, INC. - AGUA FRIA WATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

SCHEDULE AII-9

OPERATING ADJUSTMENT #7 - PROPERTY TAX EXPENSE

LINE NO.	DESCRIPTION	AMOUNT
1	Staff Adjusted Test Year Revenues - 2001	$ 6,186,037
2	Weight Factor	2
3	Subtotal (Line 1 x Line 2)	12,372,074
4	Staff Recommended Revenue	5,313,715
5	Subtotal (Line 4 + Line 5)	17,685,789
6	Number of Years	3
7	Three Year Average (Line 5 / Line 6)	5,895,263
8	Department of Revenue Mutilplier	2
9	Revenue Base Value (Line 7 x Line 8)	11,790,526
10	Plus: 10% of CWIP - 2001	-
11	Less: Net Book Value of Licensed Vehicles	251,004
12	Full Cash Value (Line 9 + Line 10 - Line 11)	11,539,522
13	Assessment Ratio	25%
14	Assessment Value (Line 12 x Line 13)	$ 2,884,881
15	Composite Property Tax Rate	10.18827%
16	Staff Proposed Property Tax Expense (Line 14 x Line 15)	$ 293,920
17	Company Proposed Property Tax Expense	$ 315,444
18	Staff Adjustment (Line 16 - Line 17)	$ (21,524)

ARIZONA-AMERICAN WATER COMPANY, INC. - AGUA FRIA WATER SCHEDULE AII-10
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

OPERATING ADJUSTMENT #8 - INCOME TAX EXPENSE

LINE NO.	DESCRIPTION	COMPANY AS FILED	STAFF ADJUSTMENT	STAFF PROPOSED
1	Income Taxes	$ 387,708	$ 344,727	$ 732,435
2	Total	$ 387,708	$ 344,727	$ 732,435

REFERENCES:

Column [A]: Company, Schedule C-1, page 1
Company, Schedule C-2, page 1
Company, Schedule C-3, page 1

Column [B]: Testimony, All
Schedule DWC-2

Column [C]: Column [A] + Column [B]

ARIZONA-AMERICAN WATER COMPANY, INC. - AGUA FRIA WATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

SCHEDULE AII-11

OPERATING ADJUSTMENT #9 - PURCHASE WATER EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENT	[C] STAFF PROPOSED
1	Purchase Water Expense	$ 382,700	$ (97,900)	$ 284,800
2	Total	$ 382,700	$ (97,900)	$ 284,800
3				
4				
5	CALCULATION OF ANNUALIZED PURCHASE WATER EXPENSE			
6	Quantity Ordered - 2001 (Acre Foot)		3,200	
7				
8	Cost/Acre Foot - Capital	$ 62		
9	Cost/Acre Foot - Delivery	$ 43		
10	Cost/Acre Foot - Maricopa Water District credit	$ (16)		
11	Total Cost/Acre Foot (Line 8 + Line 9 +Line 10)		$ 89.00	
12	Annualized Purchase Water Expense (Line 6 x Line 11)		$ 284,800	

REFERENCES:

Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 5
Bourassa, Direct, page 17

Column [B]: Testimony, AII

Column [C]: Column [A] + Column [B]

MINIMUM MONTHLY CHARGES AND COMMODITY RATES

LINE NO.	CUSTOMER CLASS	PRESENT		COMPANY PROPOSED		STAFF RECOMMENDED		PRESENT RATES			
								TIER ONE		TIER TWO	
		MINIMUM CHARGE	GALLONS INCLUDED	MINIMUM CHARGE (b)	GALLONS INCLUDED	MINIMUM CHARGE	GALLONS INCLUDED	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT
1	Residential 5/8"	$ 10.00	8,000	$ 10.76	8,000	$ 8.52	-	$ 1.78	8,000	$ 2.24	Infinite
2	Residential 3/4"	$ 15.00	8,000	$ 16.14	8,000	$ 12.78	-	$ 1.78	8,000	$ 2.24	Infinite
3	Residential 1"	$ 25.00	8,000	$ 26.90	8,000	$ 21.30	-	$ 1.78	8,000	$ 2.24	Infinite
4	Residential 1.5"	$ 53.00	8,000	$ 57.02	8,000	$ 45.15	-	$ 1.78	8,000	$ 2.24	Infinite
5	Residential 2"	$ 80.00	8,000	$ 86.07	8,000	$ 68.16	-	$ 1.78	8,000	$ 2.24	Infinite
6	Residential 3"	$ 155.00	8,000	$ 166.76	8,000	$ 132.06	-	$ 1.78	8,000	$ 2.24	Infinite
7	Residential 4"	$ 200.00	8,000	$ 215.17	8,000	$ 170.41	-	$ 1.78	8,000	$ 2.24	Infinite
8	Residential 6"	$ 400.00	8,000	$ 430.34	8,000	$ 340.82	-	$ 1.78	8,000	$ 2.24	Infinite
9	Residential 8"	$ 800.00	8,000	$ 860.67	8,000	$ 681.64	-	$ 1.78	8,000	$ 2.24	Infinite
10	Commerical 5/8"	$ 10.00	8,000	$ 10.76	8,000	$ 8.52	-	$ 1.78	8,000	$ 2.24	Infinite
11	Commerical 3/4"	$ 15.00	8,000	$ 16.14	8,000	$ 12.78	-	$ 1.78	8,000	$ 2.24	Infinite
12	Commerical 1"	$ 25.00	8,000	$ 26.90	8,000	$ 21.30	-	$ 1.78	8,000	$ 2.24	Infinite
13	Commerical 1.5"	$ 53.00	8,000	$ 57.02	8,000	$ 45.15	-	$ 1.78	8,000	$ 2.24	Infinite
14	Commerical 2"	$ 80.00	8,000	$ 86.07	8,000	$ 68.16	-	$ 1.78	8,000	$ 2.24	Infinite
15	Commerical 3"	$ 155.00	8,000	$ 166.76	8,000	$ 132.06	-	$ 1.78	8,000	$ 2.24	Infinite
16	Commerical 4"	$ 200.00	8,000	$ 215.17	8,000	$ 170.41	-	$ 1.78	8,000	$ 2.24	Infinite
17	Commerical 6"	$ 400.00	8,000	$ 430.34	8,000	$ 340.81	-	$ 1.78	8,000	$ 2.24	Infinite
18	Commerical 8"	$ 800.00	8,000	$ 860.67	8,000	$ 681.64	-	$ 1.78	8,000	$ 2.24	Infinite
19	Pub. Interrupt 2"	$ -	-	$ -	-	-	-	$ 1.00	Infinite		
20	Pub. Interrupt 3"	$ -	-	$ -	-	-	-	$ 1.00	Infinite		
21	Pub. Interrupt 6"	$ -	-	$ -	-	-	-	$ 1.00	Infinite		
22	Pub. Interrupt 8"	$ -	-	$ -	-	-	-	$ 1.00	Infinite		
23	Pub. Interrupt 10"	$ -	-	$ -	-	-	-	$ 1.00	Infinite		
24	Prison 4"	$ 200.00	-	$ 215.17	-	$ 170.41	-	$ 2.02	Infinite		
25	PF 4"	$ 30.00	-	$ 32.28	-	$ 25.56	-	$ 1.78	Infinite		
26	PF 6"	$ 45.00	-	$ 48.41	-	$ 38.34	-	$ 1.78	Infinite		
27	PF 8"	$ 60.00	-	$ 64.55	-	$ 51.12	-	$ 1.78	Infinite		
28	PF 10"	$ 120.00	-	$ 129.10	-	$ 102.25	-	$ 1.78	Infinite		
29	PF 12"	$ 180.00	-	$ 193.65		$ 153.37	-	$ 1.78	Infinite		
30	Construction	$ -	-	$ -	-	-	-	$ 1.00	Infinite		
31	Construction/Untreated CAP	$ -	-	$ -	-	$ -	-	$ 0.50	Infinite		

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED RATES				STAFF RECOMMENDED RATES					
		TIER ONE		TIER TWO		TIER ONE		TIER TWO		TIER THREE	
		COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT
32	Residential 5/8"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
33	Residential 3/4"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
34	Residential 1"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
35	Residential 1.5"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
36	Residential 2"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
37	Residential 3"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
38	Residential 4"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
39	Residential 6"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
40	Residential 8"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
41	Commerical 5/8"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
42	Commerical 3/4"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
43	Commerical 1"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
44	Commerical 1.5"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
45	Commerical 2"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
46	Commerical 3"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
47	Commerical 4"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
48	Commerical 6"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
49	Commerical 8"	$ 1.91	8,000	$ 2.41	Infinite	$ 1.20	4,000	$ 1.80	100,000	$ 2.15	Infinite
50	Pub. Interrupt 2"	$ 1.00	Infinite			$ 1.00	Infinite				
51	Pub. Interrupt 3"	$ 1.00	Infinite			$ 1.00	Infinite				
52	Pub. Interrupt 6"	$ 1.00	Infinite			$ 1.00	Infinite				
53	Pub. Interrupt 8"	$ 1.00	Infinite			$ 1.00	Infinite				
54	Pub. Interrupt 10"	$ 1.00	Infinite			$ 1.00	Infinite				
55	Prison 4"	$ 2.17	Infinite			$ 1.72	Infinite				
56	PF 4"	$ 1.91	Infinite			$ 1.20	Infinite				
57	PF 6"	$ 1.91	Infinite			$ 1.20	Infinite				
58	PF 8"	$ 1.91	Infinite			$ 1.20	Infinite				
59	PF 10"	$ 1.91	Infinite			$ 1.20	Infinite				
60	PF 12"	$ 1.91	Infinite			$ 1.20	Infinite				
61	Construction	$ 1.00	Infinite			$ 1.00	Infinite				
62	Construction/Untreated CAP	Cancelled				Cancelled					

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN USAGE AND COSTS

LINE NO.	CUSTOMER CLASS	CURRENT AVERAGE USAGE	CURRENT AVERAGE DOLLARS	CURRENT MEDIAN USAGE	CURRENT MEDIAN DOLLARS
1	Residential 5/8"	7,002	$ 22.46	5,000	$ 18.90
2	Residential 3/4"	10,027	$ 33.78	8,000	$ 29.24
3	Residential 1"	17,634	$ 60.82	12,000	$ 48.20
4	Residential 1.5"	102,940	$ 279.90	26,000	$ 107.56
5	Residential 2"	175,037	$ 468.40	66,500	$ 225.28
6	Residential 3"	15,667	$ 186.41	12,000	$ 178.20
7	Residential 4"	N/A			
8	Residential 6"	N/A			
9	Residential 8"	N/A			
10	Commerical 5/8"	4,561	$ 18.12	-	$ 10.00
11	Commerical 3/4"	14,989	$ 44.90	2,000	$ 18.56
12	Commerical 1"	22,823	$ 72.44	9,000	$ 41.48
13	Commerical 1.5"	89,393	$ 249.56	62,000	$ 188.20
14	Commerical 2"	125,151	$ 356.66	34,000	$ 152.48
15	Commerical 3"	188,454	$ 573.46	18,000	$ 191.64
16	Commerical 4"	N/A			
17	Commerical 6"	1,816,455	$ 4,465.18	1,763,000	$ 4,345.44
18	Commerical 8"	N/A			
19	Pub. Interrupt 2"	N/A			
20	Pub. Interrupt 3"	1,612,667	$ 1,612.67	2,468,500	$ 2,468.50
21	Pub. Interrupt 6"	8,319,765	$ 8,319.76	7,000	$ 7.00
22	Pub. Interrupt 8"	1,995,250	$ 1,995.25	157,500	$ 157.50
23	Pub. Interrupt 10"	755,400	$ 755.40	711,000	$ 711.00
24	Prison 4"	10,170,500	$ 20,744.41	10,072,500	$ 20,546.45
25	PF 4"	-	$ 30.00	-	$ 30.00
26	PF 6"	-	$ 45.00	-	$ 45.00
27	PF 8"	-	$ 60.00	-	$ 60.00
28	PF 10"	N/A			
29	PF 12"	N/A			
30	Construction				
31	Construction/Untreated CAP				

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED AVERAGE	INCREASE	PERCENT	MEDIAN	INCREASE	PERCENT
32	Residential 5/8"	$ 24.13	$ 1.67	7.44%	$ 20.31	$ 1.41	7.46%
33	Residential 3/4"	$ 36.30	$ 2.52	7.47%	$ 31.42	$ 2.18	7.46%
34	Residential 1"	$ 65.40	$ 4.58	7.53%	$ 51.82	$ 3.62	7.51%
35	Residential 1.5"	$ 301.10	$ 21.20	7.57%	$ 115.68	$ 8.12	7.55%
36	Residential 2"	$ 503.91	$ 35.51	7.58%	$ 242.34	$ 17.06	7.57%
37	Residential 3"	$ 200.52	$ 14.10	7.57%	$ 191.68	$ 13.48	7.56%
38	Residential 4"	N/A					
39	Residential 6"	N/A					
40	Residential 8"	N/A					
41	Commerical 5/8"	$ 19.47	$ 1.35	7.47%	$ 10.76	$ 0.08	7.60%
42	Commerical 3/4"	$ 48.26	$ 3.37	7.50%	$ 19.96	$ 1.40	7.54%
43	Commerical 1"	$ 77.90	$ 5.46	7.54%	$ 44.59	$ 3.11	7.50%
44	Commerical 1.5"	$ 268.46	$ 18.90	7.57%	$ 202.44	$ 14.24	7.57%
45	Commerical 2"	$ 383.68	$ 27.03	7.58%	$ 164.01	$ 11.53	7.56%
46	Commerical 3"	$ 616.94	$ 43.48	7.58%	$ 206.14	$ 14.50	7.57%
47	Commerical 4"	N/A					
48	Commerical 6"	$ 4,804.00	$ 338.82	7.59%	$ 4,675.17	$ 329.73	7.59%
49	Commerical 8"	N/A					
50	Pub. Interrupt 2"	$ -	$ -	0.00%	$ -	$ -	0.00%
51	Pub. Interrupt 3"	$ 1,612.67	$ -	0.00%	$ 2,468.50	$ -	0.00%
52	Pub. Interrupt 6"	$ 8,319.76	$ -	0.00%	$ 7.00	$ -	0.00%
53	Pub. Interrupt 8"	$ 1,995.25	$ -	0.00%	$ 157.50	$ -	0.00%
54	Pub. Interrupt 10"	$ 755.40	$ -	0.00%	$ 711.00	$ -	0.00%
55	Prison 4"	$ 22,285.16	$ 1,540.75	7.43%	$ 22,072.50	$ 1,526.05	7.43%
56	PF 4"	$ 32.28	$ 2.28	7.60%	$ 32.28	$ 2.28	7.60%
57	PF 6"	$ 48.41	$ 3.41	7.58%	$ 48.41	$ 3.41	7.58%
58	PF 8"	$ 64.55	$ 4.55	7.58%	$ 64.55	$ 4.55	7.58%
59	PF 10"	N/A					
60	PF 12"	N/A					
61	Construction						
62	Construction/Untreated CAP						

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN USAGE AND COSTS

LINE NO.	CUSTOMER CLASS	STAFF RECOMMENDED					
		AVERAGE	INCREASE	PERCENT	MEDIAN	INCREASE	PERCENT
63	Residential 5/8"	$ 18.72	$ (3.74)	-16.64%	$ 15.12	$ (3.78)	-20.00%
64	Residential 3/4"	$ 28.43	$ (5.35)	-15.84%	$ 24.78	$ (4.46)	-15.25%
65	Residential 1"	$ 50.64	$ (10.18)	-16.74%	$ 40.50	$ (7.70)	-15.98%
66	Residential 1.5"	$ 229.07	$ (50.83)	-18.16%	$ 89.55	$ (18.01)	-16.74%
67	Residential 2"	$ 407.09	$ (61.31)	-13.09%	$ 185.46	$ (39.82)	-17.68%
68	Residential 3"	$ 157.86	$ (28.55)	-15.32%	$ 151.26	$ (26.94)	-15.12%
69	Residential 4"	N/A					
70	Residential 6"	N/A					
71	Residential 8"	N/A					
72	Commerical 5/8"	$ 14.33	$ (3.79)	-20.92%	$ 8.52	$ (1.48)	-14.80%
73	Commerical 3/4"	$ 37.36	$ (7.54)	-16.79%	$ 15.18	$ (3.38)	-18.21%
74	Commerical 1"	$ 59.98	$ (12.46)	-17.20%	$ 35.10	$ (6.38)	-15.38%
75	Commerical 1.5"	$ 203.66	$ (45.90)	-18.39%	$ 154.35	$ (33.85)	-17.99%
76	Commerical 2"	$ 299.83	$ (56.83)	-15.93%	$ 126.96	$ (25.52)	-16.74%
77	Commerical 3"	$ 499.84	$ (73.62)	-12.84%	$ 162.06	$ (29.58)	-15.44%
78	Commerical 4"	N/A					
79	Commerical 6"	$ 4,208.79	$ (256.39)	-5.74%	$ 4,093.86	$ (251.58)	-5.79%
80	Commerical 8"	N/A					
81	Pub. Interrupt 2"	N/A					
82	Pub. Interrupt 3"	$ 1,612.67	$ -	0.00%	$ 2,468.50	$ -	0.00%
83	Pub. Interrupt 6"	$ 8,319.76	$ -	0.00%	$ 7.00	$ -	0.00%
84	Pub. Interrupt 8"	$ 1,995.25	$ -	0.00%	$ 157.50	$ -	0.00%
85	Pub. Interrupt 10"	$ 755.40	$ -	0.00%	$ 711.00	$ -	0.00%
86	Prison 4"	$ 17,667.11	$ (3,077.30)	-14.83%	$ 17,495.11	$ (3,051.34)	-14.85%
87	PF 4"	$ 25.56	$ (4.44)	-14.80%	$ 25.56	$ (4.44)	-14.80%
88	PF 6"	$ 38.34	$ (6.66)	-14.80%	$ 38.34	$ (6.66)	-14.80%
89	PF 8"	$ 51.12	$ (8.88)	-14.80%	$ 51.12	$ (8.88)	-14.80%
90	PF 10"	$ 102.25	$ -	0.00%	$ 102.25	$ -	0.00%
91	PF 12"	$ 153.37	$ -	0.00%	$ 153.37	$ -	0.00%
92	Construction						
93	Construction/Untreated CAP	Cancelled					

ANTHEM WATER

ARIZONA-AMERICAN WATER COMPANY, INC. - **ANTHEM WATER** Schedule DWC-1
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY FAIR VALUE	[B] STAFF ORIGINAL COST	[C] STAFF FAIR VALUE
1	Adjusted Rate Base	$ 9,837,109	$ 9,288,446	$ 9,288,446
2	Adjusted Operating Income/(Loss)	$ 577,577	$ 972,534	$ 972,534
3	Current Rate of Return (L2 / L1)	5.87%	10.47%	10.47%
4	Required Rate of Return	7.75%	6.6%	6.6%
5	Required Operating Income (L4 x L1)	$ 762,376	$ 611,180	$ 611,180
6	Operating Income Deficiency/(Excess) (L5 - L2)	$ 184,799	$ (361,354)	$ (361,354)
7	Gross Revenue Conversion Factor	1.62860	1.62863	1.62863
8	Required Revenue Increase/(Decrease) (L7 x L6)	$ 300,964	**$ (588,514)**	**$ (588,514)**
9	Adjusted Test Year Revenue	$ 4,010,805	$ 4,010,805	$ 4,010,805
10	Proposed Annual Revenue (L8 + L9)	$ 4,311,769	$ 3,422,291	$ 3,422,291
11	Required Increase/Decrease in Revenue (%)	7.50%	-14.67%	-14.67%
12	Rate of Return on Common Equity (%)	11.50%	9.7%	9.7%

References:
Column [A]: Company Schedules A-1, A-2, & D-1
Columns [B] & [C]: Staff Schedules AII-1, DWC-2, DWC-3, & JMR-9

ARIZONA-AMERICAN WATER COMPANY, INC. - ANTHEM WATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

Schedule DWC-2

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	[A]	[B]	[C]	[D]
	Calculation of Gross Revenue Conversion Factor:				
1	Billings	100.0000%			
2	Uncollecible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Tax Rate (Line 17)	38.5989%			
5	Subtotal (L3 - L4)	61.4011%			
6	Revenue Conversion Factor (L1 / L5)	1.628635			
	Calculation of Uncollecttible Factor:				
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	38.5989%			
9	One Minus Combined Income Tax Rate (L7 - L8)	61.4011%			
10	Uncollectible Rate	0.0000%			
11	*Uncollectible Factor* (L9 x L10)	0.0000%			
	Calculation of Effective Tax Rate:				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L12 - L13)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 40)	34.0000%			
16	Effective Federal Income Tax Rate (L14 x L15)	31.6309%			
17	Combined Federal and State Income Tax Rate (L13 + L16)	38.5989%			
18	Required Operating Income (Schedule DWC-1, Col. [B], Line 5)	$ 611,180			
19	Adjusted Test Year Operating Income (Loss) (Sch. AII-1, Col. [C], Line 28)	$ 972,534			
20	Required Increase in Operating Income (L18 - L19)		$ (361,354)		
21	Income Taxes on Recommended Revenue (Col. [D], L39)	$ 219,548			
22	Income Taxes on Test Year Revenue (Col. [B], L39)	$ 446,707			
23	Required Increase in Revenue to Provide for Income Taxes (L21 - L22)		$ (227,160)		
24	Recommended Revenue Requirement (Schedule DWC-1, Col. [B], Line 10)	$ 3,422,291			
25	Uncollectible Rate (Line 10)	0.0000%			
26	Uncollectible Expense on Recommended Revenue (L24 x L25)	$ -			
27	Adjusted Test Year Uncollectible Expense	$ -			
28	Required Increase in Revenue to Provide for Uncollectible Exp. (L26 - L27)		$ -		
29	*Total Required Increase in Revenue* (L20 + L23 + L28)		$ (588,514)		
	Calculation of Income Tax:	Test Year		STAFF Recommended	
30	Revenue (Schedule AII-1, Col. [C], Line 5 & Sch. DWC-1, Col. [B], Line 10)	$ 4,010,805		$ 3,422,291	
31	Operating Expenses Excluding Income Taxes	$ 2,591,564	$ -	$ 2,591,564	
32	Synchronized Interest (L43)	$ 261,934		$ 261,934	
33	Arizona Taxable Income (L30 - L31 - L32)	$ 1,157,306		$ 568,792	
34	Arizona State Income Tax Rate	6.9680%		6.9680%	
35	Arizona Income Tax (L33 x L34)		$ 80,641		$ 39,633
36	Federal Taxable Income (L33 - L35)	$ 1,076,665		$ 529,159	
37	Federal Income Tax Rate	34.0000%		34.0000%	
38	Federal Income Tax (L36 x L37)		$ 366,066		$ 179,914
39	Combined Federal and State Income Tax (L35 + L38)		$ 446,707		$ 219,548
40	Applicable Federal Income Tax Rate (Col. [D], L38 - Col. [B], L38) / (Col. [C], L36 - Col. [A], L36)				34.0000%
	Calculation of Interest Synchronization:				
41	Rate Base (Schedule DWC-3, Col. [C], Line 17)	$ 9,288,446			
42	Weighted Average Cost of Debt	2.82%			
43	Synchronized Interest (L41 x L42)	$ 261,934			

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Schedule DWC-3

RATE BASE - ORIGINAL COST

LINE NO.		[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	ADJ	[C] STAFF AS ADJUSTED
1	Plant in Service	$ 41,428,654	$ 120,074	A	$ 41,548,728
2	Less: Accumulated Depreciation	2,087,919	-		2,087,919
3	Net Plant in Service	$ 39,340,735	$ 120,074		$ 39,460,809
	LESS:				
4	Contributions in Aid of Construction (CIAC)	$ -	$ -		$ -
5	Less: Accumulated Amortization	-	-		-
6	Net CIAC	1,075,425	-		1,075,425
7	Advances in Aid of Construction (AIAC)	29,093,642	-		29,093,642
8	Customer Deposits	-	-		-
9	Meter Advances	3,296	-		3,296
10	Deferred Income Tax Credits	-	-		-
	ADD:				
11	Cash Working Capital	-	-		-
12	Prepayments	-	-		-
13	Supplies Inventory	-	-		-
14	Projected Capital Expenditures	-	-		-
15	Deferred Debits	-	-		-
16	Citizens Acquisition Adjustment	11,045,860	(11,045,860)	C	-
17	Original Cost Rate Base	$ 20,214,232	$ (10,925,786)		$ 9,288,446

Adjustments:
A. Per plant adjustments on Schedule DWC-4

C. Per acquisition adjustment on Schedule DWC-4

References:
Column [A]): Company Schedule B-1
Column [B]: Staff Schedule DWC-4
Column [C]: Column [A] + Column [B]

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Schedule DWC-4

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] Plant-not used ADJ #1	[C] Plant-unidentified ADJ #2	[D] Plant Mis-Posted ADJ #3	[E] Plant Prev. Dec. ADJ #4	[F] Post-TY Pl. ADJ #5	[G] AFUDC Adj. ADJ #6	[H] Acquisition Adj ADJ #7	[I] STAFF ADJUSTED
		PLANT IN SERVICE:		Leave Blank	Leave Blank	Leave Blank	Leave Blank		Leave Blank		
1		Intangible									
2	301.00	Organization	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	302.00	*Franchises*	3,827,476	-	-	-	-	-	-	-	3,827,476
4	303.00	Miscellaneous Intangibles	-	-	-	-	-	-	-	-	-
5		Subtotal Intangible	3,827,476	-	-	-	-	-	-	-	3,827,476
6											
7		Source of Supply									
8	310.00	Land & Land Rights	5,000	-	-	-	-	-	-	-	5,000
9	311.00	Structures & Improvements	93,281	-	-	-	-	118,894	-	-	212,175
10	312.00	Collecting & Impounding Reservoirs	370,979	-	-	-	-	-	-	-	370,979
11	313.00	Lakes, Rivers, Other Intakes	394,971	-	-	-	-	-	-	-	394,971
12	314.00	Wells and Springs	461,497	-	-	-	-	-	-	-	461,497
13		Subtotal Source of Supply	1,325,728	-	-	-	-	118,894	-	-	1,444,622
14											
15		Pumping									
16	320.00	Land & Land Rights	20,000	-	-	-	-	-	-	-	20,000
17	321.00	Structures & Improvements	2,067,878	-	-	-	-	(10,000)	-	-	2,057,878
18	323.00	Other Power Production	-	-	-	-	-	-	-	-	-
19	325.00	Electric Pumping Equipment	9,609,435	-	-	-	-	(998)	-	-	9,608,437
20	326.00	Diesel Pumping Equipment	-	-	-	-	-	-	-	-	-
21	328.10	Gas Engine Pumping Equipment	1,476	-	-	-	-	-	-	-	1,476
22		Subtotal Pumping	11,698,789	-	-	-	-	(10,998)	-	-	11,687,791
23											
24		Water Treatment									
25	330.00	Land & Land Rights	-	-	-	-	-	-	-	-	-
26	331.00	Structures & Improvements	634,556	-	-	-	-	-	-	-	634,556
27	332.00	Water Treatment Equipment	4,375,605	-	-	-	-	2,944	-	-	4,378,549
28		Subtotal Water Treatment	5,010,161	-	-	-	-	2,944	-	-	5,013,105
29											
30		Transmission & Distribution									
31	340.00	Land & Land Rights	-	-	-	-	-	-	-	-	18,469
32	341.00	Structures & Improvements	18,469	-	-	-	-	-	-	-	1,868,969
33	342.00	Distribution Reservoirs & Standpipes	1,866,969	-	-	-	-	15,364	-	-	15,471,434
34	343.00	Transmission & Distribution	15,456,070	-	-	-	-	-	-	-	-
35	344.00	Fire Mains	-	-	-	-	-	-	-	-	773,445
36	345.00	Services	773,445	-	-	-	-	-	-	-	411,258
37	346.00	Meters	411,258	-	-	-	-	-	-	-	618,693
38	348.00	Hydrants	618,693	-	-	-	-	-	-	-	-
39	349.00	Other Transmission & Distribution	-	-	-	-	-	-	-	-	-
40		Subtotal Transmission & Distribu.	19,144,904	-	-	-	-	15,364	-	-	19,160,268
41											
42		General - Allocated Common Plant									
43	389.00	Land & Land Rights	171	-	-	-	-	-	-	-	171
44	390.00	Structures & Improvements	117,575	-	-	-	-	-	-	-	117,575
45	391.00	Office Furniture and Equipment	60,022	-	-	-	-	(2,147)	-	-	57,875
46	391.10	Computer Equipment	81,095	-	-	-	-	-	-	-	81,095
47	392.00	Transportation Equipment	91,298	-	-	-	-	(1,028)	-	-	90,270
48	393.00	Stores Equipment	1,009	-	-	-	-	-	-	-	1,009
49	394.00	Tools, Shop, & Garage Equipment	19,430	-	-	-	-	(5,000)	-	-	14,430
50	395.00	Laboratory Equipment	7,071	-	-	-	-	(450)	-	-	6,621
51	396.00	Power Operated Equipment	6,724	-	-	-	-	(2,500)	-	-	4,224
52	397.00	Communication Equipment	27,473	-	-	-	-	4,995	-	-	32,468
53	398.00	Miscellaneous Equipment	9,728	-	-	-	-	-	-	-	9,728
54		Subtotal General	421,596	-	-	-	-	(6,130)	-	-	415,466
55											
56		Add:									-
57											-
											-
58		Less:									-
59				-	-	-	-	-	-	-	-
60				-	-	-	-	-	-	-	-
61		Total Plant in Service	$ 41,428,654	$ -	$ -	$ -	$ -	$ 120,074	$ -	$ -	$ 41,548,728
62		Less: Accumulated Depreciation	2,087,919	-	-	-	-	-	-	-	2,087,919
63		Net Plant in Service (L59 - L 60)	$ 39,340,735	$ -	$ -	$ -	$ -	$ 120,074	$ -	$ -	$ 39,460,809
64											
65		*LESS:*									
66		Contributions in Aid of Construction (CIAC)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67		Less: Accumulated Amortization	-	-	-	-	-	-	-	-	-
68		Net CIAC (L25 - L26)	1,075,425	-	-	-	-	-	-	-	1,075,425
69		Advances in Aid of Construction (AIAC)	29,093,642	-	-	-	-	-	-	-	29,093,642
70		Customer Deposits	-	-	-	-	-	-	-	-	-
71		Meter Advances	3,296	-	-	-	-	-	-	-	3,296
72		Deferred Income Tax Credits	-	-	-	-	-	-	-	-	-
73											
74		*ADD:*									
75		Cash Working Capital Allowance	-	-	-	-	-	-	-	-	-
76		Prepayments	-	-	-	-	-	-	-	-	-
77		Supplies Inventory	-	-	-	-	-	-	-	-	-
78		Projected Capital Expenditures	-	-	-	-	-	-	-	-	-
79		Deferred Debits	-	-	-	-	-	-	-	-	-
80		Citizens Acquisition Adjustment	11,045,860	-	-	-	-	-	-	(11,045,860)	-
81		Original Cost Rate Base	$ 20,214,232	$ -	$ -	$ -	$ -	$ 120,074	$ -	$ (11,045,860)	$ 9,288,446

ADJ #		References:
1	Plant - not used & useful	Per Staff Engineering Reports
2	Plant - unidentified	Per Staff Engineering Reports
3	Plant - mis-posted	Per Company Response to Staff Data Request BKB 26-3
4	Plant - removed by previous decision	Per Decision No. 60172
5	Post-Test Year Plant	Per Company Response to Staff Data Request DWC 12-2
6	Remove AFUDC Adj. 3/95	Per Company Response to Staff Data Request DWC 6-10 Amended
7	Remove Acquisition Adjustment	Per Carlson Direct Testimony

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SCHEDULE AII-1

OPERATING INCOME STATEMENT - TEST YEAR AND STAFF PROPOSED

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
1	*REVENUES:*					
2	Metered Water Sales	$ 2,060,418	$ -	$ 2,060,418	$ (588,514)	$ 1,471,904
3	Water Sales - Unmetered	-	-	-	-	-
4	Other Operating Revenue	1,950,387	-	1,950,387	-	1,950,387
5	Total Operating Revenues	$ 4,010,805	$ -	$ 4,010,805	$ (588,514)	$ 3,422,291
6	*OPERATING EXPENSES:*					
7	Salaries & Wages	$ 585,309	$ (213,100)	$ 372,209	$ -	$ 372,209
8	Purchased Water	211,055	(49,725)	161,330	-	161,330
9	Purchased Pumping Power	264,489	(2)	264,487	-	264,487
10	Chemicals	95,282	(16,997)	78,285	-	78,285
11	Repairs & Maintenance	130,909	-	130,909	-	130,909
12	Office Supplies & Expense	74,576	(59,408)	15,168	-	15,168
13	Outside Services	27,139	(7,309)	19,830	-	19,830
14	Service Company Charges	472,080	(472,080)	-	-	-
15	Water Testing	1,193	-	1,193	-	1,193
16	Rents	18,568	-	18,568	-	18,568
17	Transportation Expense	-	-	-	-	-
18	Insurance - General Liability	17,095	35,851	52,946	-	52,946
19	Insurance - Health and Life	-	-	-	-	-
20	Regulatory Comm. Exp. - Rate Case	26,471	-	26,471	-	26,471
21	Miscellaneous Operating Expense	172,138	151,989	324,127	-	324,127
22	Depreciation Expense	912,306	(38,169)	874,137	-	874,137
23	Taxes Other Than Income	31,169	47,302	78,471	-	78,471
24	Property Taxes	225,131	(51,698)	173,433	-	173,433
25	Income Tax	168,318	278,389	446,707	(227,159)	219,548
26						
27	Total Operating Expenses	$ 3,433,228	$ (394,957)	$ 3,038,271	$ (227,159)	$ 2,811,112
28	Operating Income (Loss)	$ 577,577	$ 394,957	$ 972,534	$ (361,355)	$ 611,179

References:
Column [A]: Company Schedule C-1
Column [B]: Schedule AII-2
Column [C]: Column [A] + Column [B]
Column [D]: Schedules DWC-1 and DWC-2
Column [E]: Column [C] + Column [D]

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SCHEDULE AII-2

SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR

LINE 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] ADJ #7	[I] ADJ #8	[J] ADJ #9	[K] STAFF ADJUSTED
1	*REVENUES:*											
2	Metered Water Sales	$ 2,060,418	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,060,418
3	Water Sales - Unmetered	-	-	-	-	-	-	-	-	-	-	-
4	Other Operating Revenue	1,950,387	-	-	-	-	-	-	-	-	-	1,950,387
5	Total Operating Revenues	$ 4,010,805	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,010,805
6	*OPERATING EXPENSES:*											
7	Salaries & Wages	$ 585,309	$ -		$ (216,313)	$ 372,209	$ (368,996)	$ -	$ -	$ -	$ -	$ 372,209
8	Purchased Water	211,055	-	-	-	-	-	-	-	-	(49,725)	$ 161,330
9	Purchased Pumping Power	264,489	(2)	-	-	-	-	-	-	-	-	$ 264,487
10	Chemicals	95,282	-	-	(16,997)	-	-	-	-	-	-	$ 78,285
11	Repairs & Maintenance	130,909	-	-	-	-	-	-	-	-	-	$ 130,909
12	Office Supplies & Expense	74,576	3,977	-	(63,385)	-	-	-	-	-	-	$ 15,168
13	Outside Services	27,139	(7,309)	-	-	-	-	-	-	-	-	$ 19,830
14	Service Company Charges	472,080	-	(472,080)	-	-	-	-	-	-	-	$ -
15	Water Testing	1,193	-	-	-	-	-	-	-	-	-	$ 1,193
16	Rents	18,568	-	-	-	-	-	-	-	-	-	$ 18,568
17	Transportation Expense	-	-	-	-	-	-	-	-	-	-	$ -
18	Insurance - General Liability	17,095	35,851	-	-	-	-	-	-	-	-	$ 52,946
19	Insurance -Health and Life	-	-	-	-	-	-	-	-	-	-	$ -
20	Regulatory Comm. Exp. - Rate Case	26,471	-	-	-	-	-	-	-	-	-	$ 26,471
21	Miscellaneous Operating Expense	172,138	156,289	-	(4,300)	-	-	-	-	-	-	$ 324,127
22	Depreciation Expense	912,306	-	-	-	-		(38,169)	-	-	-	$ 874,137
23	Taxes Other Than Income	31,169	-		-	78,471	(31,169)	-	-	-	-	$ 78,471
24	Property Taxes	225,131	-	-	-	-	-		(51,698)	-	-	$ 173,433
25	Income Tax	168,318	-	-	-	-	-	-	-	278,389	-	$ 446,707
26												
27	Total Operating Expenses	$ 3,433,228	$ 188,806	$ (472,080)	$ (300,995)	$ 450,680	$ (400,165)	$ (38,169)	$ (51,698)	$ 278,389	$ (49,725)	# $ 3,038,271
28	Operating Income (Loss)	$ 577,577	$ (188,806)	$ 472,080	$ 300,995	$ (450,680)	$ 400,165	$ 38,169	$ 51,698	$ (278,389)	$ 49,725	# $ 972,534

ADJ #		References:
1	Citizens. Corporate Costs Allocation	Schedule AII-3
2	Service Company Charges	Schedule AII-4
3	Projected additional expenses	Schedule AII-5
4	Test Year Salaries, Wages & Related Expenses	Schedule AII-6
5	Projected Salaries, Wages & Related Expenses	Schedule AII-7
6	Depreciation Expense	Schedule AII-8
7	Property Taxes	Schedule AII-9
8	Income Taxes	Schedule AII-10
9	Purchased Water (Ak-Chin)	Schedule AII-11

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SCHEDULE AII-3

OPERATING INCOME ADJUSTMENT #1 - CITIZENS' CORPORATE COST

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Taxes Other Than Income	$ -	1a	$ -
2	Purchased Power	$ 2	1b	$ (2)
3	Chemicals	$ -	1c	$ -
4	Repairs & Miantenance	$ -	1d	$ -
5	Office Supplies & Expense	$ (3,977)	1e	$ 3,977
6	Outside Services	$ 7,309	1f	$ (7,309)
7	Rents	$ -	1g	$ -
8	Insurance Expense	$ (35,851)	1h	$ 35,851
9	Miscellaneous Expense	$ (156,289)	1i	$ 156,289
10	Total Adjustments	$ (188,806)		$ 188,806

REFERENCES:

Column [A]:
Company, Schedule C-2, page 1
Company, Schedule C-2, page 2
Bourassa, Direct, page 12
Stephenson, Direct, pages 15 and 16

Column [B]:
Testimony, AII

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SCHEDULE AII-4

OPERATING INCOME ADJUSTMENT #2 - SERVICE COMPANY CHARGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT
1	Service Company Charges	$ 472,080	$ (472,080)
2	Total Adjustments	$ 472,080	$ (472,080)

REFERENCES:

Column [A]:
- Company, Schedule C-2, page 1
- Company, Schedule C-2, page 4
- Bourassa, Direct, pages 12 and 13
- Stephenson, Direct, page 16

Column [B]:
- Testimony, AII

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SCHEDULE AII-5

OPERATING ADJUSTMENT #3 - PROJECTED ADDITIONAL EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 216,313	3a	$ (216,313)
2	Office Expense	$ 63,385	3b	$ (63,385)
3	Chemicals	$ 16,997	3c	$ (16,997)
4	Miscellaneous	$ 4,300	3d	$ (4,300)
5	Total Adjustment	$ 300,995		$ (300,995)

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 10
Bourassa, Direct, pages 15 and 16
Stephenson, Direct, pages 17 and 18

Column [B]: Testimony, AII

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SCHEDULE AII-6

OPERATING INCOME ADJUSTMENT #4 - TEST YEAR SALARIES AND WAGES, AND RELATED EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ (372,209)	4a	$ 372,209
2	Payroll Taxes	$ (78,471)	4b	$ 78,471
3	Total Adjustments	$ (450,680)		$ 450,680
4	Chemicals			

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 3
Bourassa, Direct, page 13

Column [B]: Testimony, AII

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SCHEDULE AII-7

OPERATING INCOME ADJUSTMENT #5 - PROJECTED SALARIES AND WAGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 368,996	5a	$ (368,996)
2	Payroll Taxes	$ 31,169	5b	$ (31,169)
3	Total Adjustments	$ 400,165		$ (400,165)

REFERENCES:

Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 5
Bourassa, Direct, pages 15 and 16
Stephenson, Direct, pages 17 and 18

Column [B]: Testimony, AII

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SCHEDULE AII-8

OPERATING ADJUSTMENT #6 - DEPRECIATION EXPENSE

LINE NO.	DESCRIPTION	ORIGINAL COST	RATE	EXPENSE
1	Intangible			
2	Organization	$ -	0.00%	$ -
3	Franchises	$ 3,827,476	0.00%	$ -
4	Miscellaneous Intangibles	$ -	0.00%	$ -
5	Subtotal Intangible	$ 3,827,476		$ -
6				
7	Source of Supply			
8	Land and Land Rights	$ 5,000	0.00%	$ -
9	Structures and Improvements	$ 212,175	2.50%	$ 5,304
10	Collecting and Impounding Res.	$ 370,979	2.50%	$ -
11	Lakes, Rivers, Other Intakes	$ 394,971	2.50%	$ -
12	Wells and Springs	$ 461,497	2.52%	$ 11,630
13	Subtotal Source of Supply	$ 1,444,622		$ 16,934
14				
15	Pumping			
16	Land and Land Rights	$ 20,000	0.00%	$ -
17	Structures and Improvements	$ 2,057,878	1.67%	$ 34,367
18	Other Power Production	$ -	0.00%	$ -
19	Electric Pumping Equipment	$ 9,608,437	4.42%	$ 424,693
20	Diesel Pumping Equipment	$ -	4.42%	$ -
21	Gas Engine Pumping Equipment	$ 1,476	4.42%	$ 65
22	Subtotal Pumping	$ 11,687,791		$ 459,125
23				
24	Water Treatment			
25	Land and Land Rights	$ -	0.00%	$ -
26	Structures and Improvements	$ 634,556	1.67%	$ 10,597
27	Water Treatment Equipment	$ 4,378,549	4.00%	$ 175,142
28	Subtotal Water Treatment	$ 5,013,105		$ 185,739
29				
30	Transmission and Distribution			
31	Land and Land Rights	$ 18,469	0.00%	$ -
32	Structures and Improvements	$ 1,866,969	0.00%	$ -
33	Distribution, Reservoirs, & ST	$ 15,471,434	1.67%	$ 258,373
34	Transmission and Distribution	$ -	1.53%	$ -
35	Fire Mains	$ 773,445	0.00%	$ -
36	Services	$ 411,258	2.48%	$ 10,199
37	Meters	$ 618,693	2.51%	$ 15,529
38	Hydrants	$ -	2.00%	$ -
39	Other Transmission & Distribution	$ -	0.00%	$ -
40	Subtotal Transmission and Distribution	$ 19,160,268		$ 284,101
41				
42	General			
43	Land and Land Rights	$ 171	0.00%	$ -
44	Structures and Improvements	$ 117,575	1.68%	$ 1,976
45	Office Funiture and Equipment	$ 57,875	4.55%	$ 2,631
46	Computer Equipment	$ 81,095	4.55%	$ 3,686
47	Transportation Equipment	$ 90,270	25.00%	$ 22,568
48	Stores Equipment	$ 1,009	3.92%	$ 40
49	Tools, Shop and Garage	$ 14,430	4.14%	$ 597
50	Laboratory Equipment	$ 6,621	3.71%	$ 246
51	Power Operated Equipment	$ 4,224	5.14%	$ 217
52	Communication Equipment	$ 32,468	10.28%	$ 3,337
53	Miscellaneous Equipment	$ 9,728	4.98%	$ 484
54	Subtotal General	$ 415,466		$ 35,781
55				
56	TOTALS	$ 41,548,728		$ 981,680
59	Amortization of Deferred Regulatory Assets	$ -	2.45%	$ -
60	Less: Amotization of Contributions	$ 1,075,425	10.00%	$ (107,542)
61	Staff Recommended Depreciation Expense			$ 874,137
62	Company Proposed depreciation Expense			$ 912,306
63	Staff Adjustment			$ (38,169)

ARIZONA-AMERICAN WATER COMPANY, INC. - ANTHEM WATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

SCHEDULE AII-9

OPERATING ADJUSTMENT #7 - PROPERTY TAX EXPENSE

LINE NO.	DESCRIPTION	AMOUNT
1	Staff Adjusted Test Year Revenues - 2001	$ 4,010,805
2	Weight Factor	2
3	Subtotal (Line 1 x Line 2)	$ 8,021,610
4	Staff Recommended Revenue	$ 3,422,291
5	Subtotal (Line 4 + Line 5)	$ 11,443,901
6	Number of Years	3
7	Three Year Average (Line 5 / Line 6)	$ 3,814,634
8	Department of Revenue Mutilplier	2
9	Revenue Base Value (Line 7 x Line 8)	$ 7,629,267
10	Plus: 10% of CWIP - 2001	$ -
11	Less: Net Book Value of Licensed Vehicles	$ 63,098
	Less: Net Book Value of Licensed Vehicles - Pro Forma	$ 10,600
12	Full Cash Value (Line 9 + Line 10 - Line 11)	$ 7,555,569.33
13	Assessment Ratio	25%
14	Assessment Value (Line 12 x Line 13)	$ 1,888,892
15	Composite Property Tax Rate	5.57724%
16	Staff Proposed Property Tax Expense (Line 14 x Line 15)	$ 105,348
17	Company Proposed Property Tax Expense	$ 157,046
18	Staff Adjustment (Line 16 - Line 17)	$ (51,698)

ARIZONA-AMERICAN WATER COMPANY, INC. - ANTHEM WATER SCHEDULE AII-10
Docket No. WS-01303A-02-0867 et al.
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OPERATING ADJUSTMENT #8 - INCOME TAX EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT	[C] STAFF PROPOSED
1	Income Taxes	$ 168,318	$ 278,389	$ 446,707
2	Total	$ 168,318	$ 278,389	$ 446,707

REFERENCES:
Column [A]: Company, Schedule C-1, page 1
Company, Schedule C-2, page 1
Company, Schedule C-3, page 1

Column [B]: Testimony, AII
Schedule DWC-2

Column [C]: Column [A] + Column [B]

SCHEDULE AII-11

OPERATING ADJUSTMENT #9 - PURCHASED WATER (AK-CHIN)

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT	[C] STAFF PROPOSED
1	Water Purchase Expense	$ 211,055	$ (49,725)	$ 161,330
2	Total	$ 211,055	$ (49,725)	$ 161,330
3				
4				
5	CALCULATION OF ANNUALIZED PURCHASE WATER EXPENSE - 2001			
6	Quantity Ordered (Acre Foot)	3,810		
7	Less 4th quarter Change	(394)		
8	Less Del Webb Portion	(934)		
9	Actual Used in 2001	2,482		
10	Cost /Acre Foot - 2002	$ 65		
11	Annualized Purchase Water Expense	$ 161,330		

REFERENCES:

Column [A]:	Company, Schedule C-2, page 1 Company, Schedule C-2, page 18 Bourassa, Direct, page 17
Column [B]:	Testimony, AII
Column [C]	Column [A] + Column [B]

MINIMUM MONTHLY CHARGES AND COMMODITY RATES

LINE NO.	CUSTOMER CLASS	PRESENT		COMPANY PROPOSED		STAFF RECOMMENDED		PRESENT RATES			
								TIER ONE		TIER TWO	
		MINIMUM CHARGE	GALLONS INCLUDED	MINIMUM CHARGE	GALLONS INCLUDED	MINIMUM CHARGE	GALLONS INCLUDED	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT
1	Residential 5/8"	$ 16.00	-	$ 18.70	-	$ 11.45	-	$ 2.00	Infinite		
2	Residential 3/4"	$ 16.00	-	$ 18.70	-	$ 11.45	-	$ 2.00	Infinite		
3	Residential 1"	$ 32.00	-	$ 37.41	-	$ 22.91	-	$ 2.00	Infinite		
4	Residential 1.5"	$ 64.00	-	$ 74.82	-	$ 45.81	-	$ 2.00	Infinite		
5	Residential 2"	$ 80.00	-	$ 93.52	-	$ 57.27	-	$ 2.00	Infinite		
6	Commerical 3/4"	$ 16.00	-	$ 18.70	-	$ 11.45	-	$ 2.00	Infinite		
7	Commerical 1"	$ 32.00	-	$ 37.41	-	$ 22.91	-	$ 2.00	Infinite		
8	Commerical 1.5"	$ 64.00	-	$ 74.82	-	$ 45.81	-	$ 2.00	Infinite		
9	Commerical 2"	$ 80.00	-	$ 93.52	-	$ 57.27	-	$ 2.00	Infinite		
10	Commerical 3"	$ 160.00	-	$ 187.04	-	$ 114.54	-	$ 2.00	Infinite		
11	Commerical 4"	$ 200.00	-	$ 233.80	-	$ 143.17	-	$ 2.00	Infinite		
12	Commerical 6"	$ 250.00	-	$ 292.25	-	$ 178.96	-	$ 2.00	Infinite		
13	Commerical 8"	$ -	-	$ 1,496.00	-	$ 1,070.91	-	$ 2.00	Infinite		
14	Irrigation 1.5"	$ -	-	$ -	-	$ -	-	$ 0.62	Infinite		
15	Irrigation 2"	$ -	-	$ -	-	$ -	-	$ 0.62	Infinite		
16	Irrigation 3"	$ -	-	$ -	-	$ -	-	$ 0.62	Infinite		
17	Irrigation 4"	$ -	-	$ -	-	$ -	-	$ 0.62	Infinite		
18	Irrigation 8"	$ -	-	$ -	-	$ -	-	$ 0.62	Infinite		
19	Pub. Interrupt 2"	$ -	-	$ -	-	$ -	-	$ 2.16	Infinite		
20	Pub. Interrupt 3"	$ -	-	$ -	-	$ -	-	$ 2.16	Infinite		
21	Pub. Interrupt 6"	$ -	-	$ -	-	$ -	-	$ 2.16	Infinite		
22	Pub. Interrupt 10"	$ -	-	$ -	-	$ -	-	$ 2.16	Infinite		
23	PF 3"	$ 70.00	-	$ 81.83	-	$ 50.11	-	Flat Rates	Infinite		
24	PF 4"	$ 90.00	-	$ 105.21	-	$ 64.43	-	Flat Rates	Infinite		
25	PF 6"	$ 135.00	-	$ 157.82	-	$ 96.64	-	Flat Rates	Infinite		
26	PF 8"	$ 180.00	-	$ 210.42	-	$ 128.85	-	Flat Rates	Infinite		
27	PF 10"	$ 360.00	-	$ 420.84	-	$ 257.71	-	Flat Rates	Infinite		

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED RATES				STAFF RECOMMENDED RATES					
		TIER ONE		TIER TWO		TIER ONE		TIER TWO		TIER THREE	
		COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT
28	Residential 5/8"	$ 2.34	Infinite			$ 0.88	4,000	$ 1.32	100,000	$ 1.57	Infinite
29	Residential 3/4"	$ 2.34	Infinite			$ 0.88	4,000	$ 1.32	100,000	$ 1.57	Infinite
30	Residential 1"	$ 2.34	Infinite			$ 0.88	4,000	$ 1.32	100,000	$ 1.57	Infinite
31	Residential 1.5"	$ 2.34	Infinite			$ 0.88	4,000	$ 1.32	100,000	$ 1.57	Infinite
32	Residential 2"	$ 2.34	Infinite			$ 0.88	4,000	$ 1.32	100,000	$ 1.57	Infinite
33	Commerical 3/4"	$ 2.34	Infinite			$ 0.88	4,000	$ 1.32	100,000	$ 1.57	Infinite
34	Commerical 1"	$ 2.34	Infinite			$ 0.88	4,000	$ 1.32	100,000	$ 1.57	Infinite
35	Commerical 1.5"	$ 2.34	Infinite			$ 0.88	4,000	$ 1.32	100,000	$ 1.57	Infinite
36	Commerical 2"	$ 2.34	Infinite			$ 0.88	4,000	$ 1.32	100,000	$ 1.57	Infinite
37	Commerical 3"	$ 2.34	Infinite			$ 0.88	4,000	$ 1.32	100,000	$ 1.57	Infinite
38	Commerical 4"	$ 2.34	Infinite			$ 0.88	4,000	$ 1.32	100,000	$ 1.57	Infinite
39	Commerical 6"	$ 2.34	Infinite			$ 0.88	4,000	$ 1.32	100,000	$ 1.57	Infinite
40	Commerical 8"	$ 2.34	Infinite			$ 0.88	4,000	$ 1.32	100,000	$ 1.57	Infinite
41	Irrigation 1.5"	$ 0.62	Infinite			$ 0.62	Infinite				
42	Irrigation 2"	$ 0.62	Infinite			$ 0.62	Infinite				
43	Irrigation 3"	$ 0.62	Infinite			$ 0.62	Infinite				
44	Irrigation 4"	$ 0.62	Infinite			$ 0.62	Infinite				
45	Irrigation 8"	$ 0.62	Infinite			$ 0.62	Infinite				
46	Pub. Interrupt 2"	$ 2.16	Infinite			$ 2.16	Infinite				
47	Pub. Interrupt 3"	$ 2.16	Infinite			$ 2.16	Infinite				
48	Pub. Interrupt 6"	$ 2.16	Infinite			$ 2.16	Infinite				
49	Pub. Interrupt 10"	$ 2.16	Infinite			$ 2.16	Infinite				
50	PF 3"	Flat Rates	Infinite			Flat Rates	Infinite				
51	PF 4"	Flat Rates	Infinite			Flat Rates	Infinite				
52	PF 6"	Flat Rates	Infinite			Flat Rates	Infinite				
53	PF 8"	Flat Rates	Infinite			Flat Rates	Infinite				
54	PF 10"	Flat Rates	Infinite			Flat Rates	Infinite				

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN USAGE AND COSTS

LINE NO.	CUSTOMER CLASS	CURRENT			
		AVERAGE		MEDIAN	
		USAGE	DOLLARS	USAGE	DOLLARS
1	Residential 5/8"	10,212	$ 36.42	7,000	$ 30.00
2	Residential 3/4"	7,753	$ 31.51	7,000	$ 30.00
3	Residential 1"	8,719	$ 49.44	7,000	$ 46.00
4	Residential 1.5"	7,361	$ 78.72	5,000	$ 74.00
5	Residential 2"	168,705	$ 417.41	83,000	$ 246.00
6	Commerical 3/4"	3,727	$ 23.45	-	$ 16.00
7	Commerical 1"	107,951	$ 247.90	-	$ 32.00
8	Commerical 1.5"	263,879	$ 591.76	170,000	$ 404.00
9	Commerical 2"	130,084	$ 340.17	50,000	$ 180.00
10	Commerical 3"	201,964	$ 563.93	-	$ 160.00
11	Commerical 4"	N/A			
12	Commerical 6"	N/A			
13	Commerical 8"	N/A			
14	Irrigation 1.5"		$ 4,521		
15	Irrigation 2"		$ 54,500		
16	Irrigation 3"		$ 29,730		
17	Irrigation 4"		$ 54,962		
18	Irrigation 8"		$ 64,899		
19	Pub. Interrupt 2"	-	$ -	-	$ -
20	Pub. Interrupt 3"	1,103,200	$ 2,382.91	-	$ -
21	Pub. Interrupt 6"	2,364	$ 5.11	1,000	$ 2.16
22	Pub. Interrupt 10"	776,818	$ 1,677.93	822,000	$ 1,775.52
23	PF 3"				
24	PF 4"	-	$ 90.00	-	$ 90.00
25	PF 6"	-	$ 135.00	-	$ 135.00
26	PF 8"				
27	PF 10"				
28	Intentionally left blank				

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED					
		AVERAGE	INCREASE	PERCENT	MEDIAN	INCREASE	PERCENT
29	Residential 5/8"	$ 42.58	$ 6.15	16.89%	$ 35.07	$ 5.07	16.89%
30	Residential 3/4"	$ 36.83	$ 5.32	16.89%	$ 35.07	$ 5.07	16.89%
31	Residential 1"	$ 57.80	$ 8.36	16.90%	$ 53.78	$ 7.78	16.90%
32	Residential 1.5"	$ 92.03	$ 13.31	16.91%	$ 86.51	$ 12.51	16.91%
33	Residential 2"	$ 487.95	$ 70.54	16.90%	$ 287.57	$ 41.57	16.90%
34	Commerical 3/4"	$ 27.41	$ 3.96	16.88%	$ 18.70	$ 2.70	16.88%
35	Commerical 1"	$ 289.90	$ 41.90	16.90%	$ 37.41	$ 5.41	16.91%
36	Commerical 1.5"	$ 691.77	$ 100.01	16.90%	$ 472.28	$ 68.28	16.90%
37	Commerical 2"	$ 397.66	$ 57.49	16.90%	$ 210.42	$ 30.42	16.90%
38	Commerical 3"	$ 659.23	$ 95.30	16.90%	$ 187.04	$ 27.04	16.90%
39	Commerical 4"	N/A					
40	Commerical 6"	N/A					
41	Commerical 8"	N/A					
42	Irrigation 1.5"	$ 4,521			$ -	$ -	0.00%
43	Irrigation 2"	$ 54,500			$ -	$ -	0.00%
44	Irrigation 3"	$ 29,730			$ -	$ -	0.00%
45	Irrigation 4"	$ 54,962			$ -	$ -	0.00%
46	Irrigation 8"	$ 64,899			$ -	$ -	0.00%
47	Pub. Interrupt 2"	$ -	$ -	0.00%	$ -	$ -	0.00%
48	Pub. Interrupt 3"	$ 2,382.91	$ -	0.00%	$ -	$ -	0.00%
49	Pub. Interrupt 6"	$ 5.11	$ -	0.00%	$ 2.16	$ -	0.00%
50	Pub. Interrupt 10"	$ 1,677.93	$ -	0.00%	$ 1,775.52	$ -	0.00%
51	PF 3"	N/A					
52	PF 4"	$ 105.21	$ 15.21	16.90%	$ 105.21	$ 15.21	16.90%
53	PF 6"	$ 157.82	$ 22.82	16.90%	$ 157.82	$ 22.82	16.90%
54	PF 8"	N/A					
55	PF 10"	N/A					
56	Intentionally left blank						

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN USAGE AND COSTS

LINE NO.	CUSTOMER CLASS	STAFF RECOMMENDED					
		AVERAGE	INCREASE	PERCENT	MEDIAN	INCREASE	PERCENT
57	Residential 5/8"	$ 23.17	$ (13.25)	-36.38%	$ 18.93	$ (11.07)	-36.90%
58	Residential 3/4"	$ 19.92	$ (11.59)	-36.77%	$ 18.93	$ (11.07)	-36.90%
59	Residential 1"	$ 32.66	$ (16.78)	-33.94%	$ 30.39	$ (15.61)	-33.94%
60	Residential 1.5"	$ 53.77	$ (24.95)	-31.70%	$ 50.65	$ (23.35)	-31.55%
61	Residential 2"	$ 295.38	$ (122.03)	-29.24%	$ 165.07	$ (80.93)	-32.90%
62	Commerical 3/4"	$ 14.73	$ (8.72)	-37.19%	$ 11.45	$ (4.55)	-28.44%
63	Commerical 1"	$ 165.63	$ (82.27)	-33.19%	$ 22.91	$ (9.09)	-28.41%
64	Commerical 1.5"	$ 433.34	$ (158.42)	-26.77%	$ 285.95	$ (118.05)	-29.22%
65	Commerical 2"	$ 234.74	$ (105.43)	-30.99%	$ 121.51	$ (58.49)	-32.49%
66	Commerical 3"	$ 404.86	$ (159.07)	-28.21%	$ 114.54	$ (45.46)	-28.41%
67	Commerical 4"	NOT USED					
68	Commerical 6"	NOT USED					
69	Commerical 8"	NOT USED					
70	Irrigation 1.5" (RWGN)	$ 4,521	-				
71	Irrigation 2" (RWGN)	$ 54,500	-				
72	Irrigation 3" (RWGN)	$ 29,730	-				
73	Irrigation 4" (RWCN)	$ 54,962	-				
74	Irrigation 8" (RWGN)	$ 64,899	-				
75	Pub. Interrupt 2" (DWPI)	NOT USED					
76	Pub. Interrupt 3" (DWPI)	$ 56,644	-	0.00%			
77	Pub. Interrupt 6" (DWPI)	$ 56.16	-	0.00%			
78	Pub. Interrupt 10" (DWPI)	$ 20,233	-	0.00%			
79	PF 3" (DFL)	NOT USED					
80	PF 4" (DFL)	$ 64.43	$ (25.57)	-28.42%	$ -	-	0.00%
81	PF 6" (DFL)	$ 96.64	$ (38.36)	-28.42%	$ -	-	0.00%
82	PF 8" (DFL)	NOT USED					
83	PF 10" (DFL)	NOT USED					
84	*Intentionally left blank*						

ANTHEM AGUA FRIA WATER

ARIZONA-AMERICAN WATER COMPANY, INC. - **ANTHEM/AGUA FRIA WASTEWATER** Schedule DWC-1
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY FAIR VALUE	[B] STAFF ORIGINAL COST	[C] STAFF FAIR VALUE
1	Adjusted Rate Base	$ 2,853,742	$ 2,746,928	$ 2,746,928
2	Adjusted Operating Income/(Loss)	$ (48,855)	$ 225,868	$ 225,868
3	Current Rate of Return (L2 / L1)	-1.71%	8.22%	8.22%
4	Required Rate of Return	7.75%	6.6%	6.6%
5	Required Operating Income (L4 x L1)	$ 221,165	$ 180,748	$ 180,748
6	Operating Income Deficiency/(Excess) (L5 - L2)	$ 270,020	$ (45,120)	$ (45,120)
7	Gross Revenue Conversion Factor	1.62860	1.62863	1.62863
8	Required Revenue Increase/(Decrease) (L7 x L6)	$ 439,755	**$ (73,485)**	**$ (73,485)**
9	Adjusted Test Year Revenue	$ 1,866,546	$ 1,866,546	$ 1,866,546
10	Proposed Annual Revenue (L8 + L9)	$ 2,306,301	$ 1,793,061	$ 1,793,061
11	Required Increase/Decrease in Revenue (%)	23.56%	-3.94%	-3.94%
12	Rate of Return on Common Equity (%)	11.50%	9.7%	9.7%

References:
Column [A]: Company Schedules A-1, A-2, & D-1
Columns [B] & [C]: Staff Schedules AII-1, DWC-2, DWC-3, & JMR-9

ARIZONA-AMERICAN WATER COMPANY, INC. - ANTHEM/AGUA FRIA WASTEWATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

Schedule DWC-2

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	[A]	[B]	[C]	[D]
	Calculation of Gross Revenue Conversion Factor:				
1	Billings	100.0000%			
2	Uncollecible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Tax Rate (Line 17)	38.5989%			
5	Subtotal (L3 - L4)	61.4011%			
6	Revenue Conversion Factor (L1 / L5)	1.628635			
	Calculation of Uncollecttible Factor:				
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	38.5989%			
9	One Minus Combined Income Tax Rate (L7 - L8)	61.4011%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 x L10)	0.0000%			
	Calculation of Effective Tax Rate:				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L12 - L13)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 40)	34.0000%			
16	Effective Federal Income Tax Rate (L14 x L15)	31.6309%			
17	Combined Federal and State Income Tax Rate (L13 + L16)	38.5989%			
18	Required Operating Income (Schedule DWC-1, Col. [B], Line 5)	$ 180,748			
19	Adjusted Test Year Operating Income (Loss) (Sch. AII-1, Col. [C], Line 28)	$ 225,868			
20	Required Increase in Operating Income (L18 - L19)		$ (45,120)		
21	Income Taxes on Recommended Revenue (Col. [D], L39)	$ 64,928			
22	Income Taxes on Test Year Revenue (Col. [B], L39)	$ 93,293			
23	Required Increase in Revenue to Provide for Income Taxes (L21 - L22)		$ (28,364)		
24	Recommended Revenue Requirement (Schedule DWC-1, Col. [B], Line 10)	$ 1,793,061			
25	Uncollectible Rate (Line 10)	0.0000%			
26	Uncollectible Expense on Recommended Revenue (L24 x L25)	$ -			
27	Adjusted Test Year Uncollectible Expense	$ -			
28	Required Increase in Revenue to Provide for Uncollectible Exp. (L26 - L27)		$ -		
29	Total Required Increase in Revenue (L20 + L23 + L28)		$ (73,485)		

	Calculation of Income Tax:	Test Year		STAFF Recommended	
30	Revenue (Schedule AII-1, Col. [C], Line 5 & Sch. DWC-1, Col. [B], Line 10)	$ 1,866,546		$ 1,793,061	
31	Operating Expenses Excluding Income Taxes	$ 1,547,385	$ -	$ 1,547,385	
32	Synchronized Interest (L43)	$ 77,463		$ 77,463	
33	Arizona Taxable Income (L30 - L31 - L32)	$ 241,698		$ 168,213	
34	Arizona State Income Tax Rate	6.9680%		6.9680%	
35	Arizona Income Tax (L33 x L34)		$ 16,842		$ 11,721
36	Federal Taxable Income (L33 - L35)	$ 224,856		$ 156,492	
37	Federal Income Tax Rate	34.0000%		34.0000%	
38	Federal Income Tax (L36 x L37)		$ 76,451		$ 53,207
39	Combined Federal and State Income Tax (L35 + L38)		$ 93,293		$ 64,928
40	Applicable Federal Income Tax Rate (Col. [D], L38 - Col. [B], L38) / (Col. [C], L36 - Col. [A], L36)				34.0000%
	Calculation of Interest Synchronization:				
41	Rate Base (Schedule DWC-3, Col. [C], Line 17)	$ 2,746,928			
42	Weighted Average Cost of Debt	2.82%			
43	Synchronized Interest (L41 x L42)	$ 77,463			

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Schedule DWC-3

RATE BASE - ORIGINAL COST

LINE NO.		[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	ADJ	[C] STAFF AS ADJUSTED
1	Plant in Service	$ 23,053,411	$ 32	A	$ 23,053,443
2	Less: Accumulated Depreciation	789,221	-		789,221
3	Net Plant in Service	$ 22,264,190	$ 32		$ 22,264,222
	LESS:				
4	Contributions in Aid of Construction (CIAC)	$ -	$ -		$ -
5	Less: Accumulated Amortization	-	-		-
6	Net CIAC	472,196	-		472,196
7	Advances in Aid of Construction (AIAC)	19,045,098	-		19,045,098
8	Customer Deposits	-	-		-
9	Meter Advances	-	-		-
10	Deferred Income Tax Credits	-	-		-
	ADD:				
11	Cash Working Capital	-	-		-
12	Prepayments	-	-		-
13	Supplies Inventory	-	-		-
14	Projected Capital Expenditures	-	-		-
15	Deferred Debits	-	-		-
16	Tolleson Trickling Filter	-	-		
16	Citizens Acquisition Adjustment	6,134,972	(6,134,972)	C	-
17	Original Cost Rate Base	$ 8,881,868	$ (6,134,940)		$ 2,746,928

Adjustments:
A. Per plant adjustments on Schedule DWC-4

C. Per acquisition adjustment on Schedule DWC-4

References:
Column [A]: Company Schedule B-1
Column [B]: Staff Schedule DWC-4
Column [C]: Column [A] + Column [B]

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Schedule DWC-4

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] Plant-not used ADJ #1	[C] Plant-unidentified ADJ #2	[D] Plant Mis-Posted ADJ #3	[E] Plant Prev. Dec. ADJ #4	[F] Post-TY Pl. ADJ #5	[G] AFUDC Adj. ADJ #6	[H] Acquisition Adj ADJ #7	[I] STAFF ADJUSTED
		PLANT IN SERVICE:		Leave Blank	Leave Blank	Leave Blank	Leave Blank		Leave Blank		
1		Intangible									
2	301.00	Organization	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	302.00	Franchises	251,928	-	-	-	-	-	-	-	251,928
4	303.00	Miscellaneous Intangibles	-	-	-	-	-	-	-	-	-
5		Subtotal Intangible	251,928	-	-	-	-	-	-	-	251,928
6											
7		Treatment and Discharge									
8	310.00	Land & Land Rights	336,560	-	-	-	-	-	-	-	336,560
9	311.00	Structures & Improvements	-	-	-	-	-	-	-	-	-
10	312.00	Preliminary Treatment	823,719	-	-	-	-	-	-	-	823,719
11	313.00	Primary Treatment Equipment	-	-	-	-	-	-	-	-	-
12	314.00	Secondary Treatment Equipment	2,062,401	-	-	-	-	-	-	-	2,062,401
13	315.00	Tertiary Equipment	8,731,796	-	-	-	-	-	-	-	8,731,796
14	316.00	Disfection Equipment	891,776	-	-	-	-	-	-	-	891,776
15	317.00	Effluent Lift Station E	813,269	-	-	-	-	-	-	-	813,269
16	318.00	Outfall Line	-	-	-	-	-	-	-	-	-
17	319.00	Sludge, Treatment & Distribution	-	-	-	-	-	-	-	-	-
18	321.00	Influent Lift Station	5,000	-	-	-	-	1,208	-	-	6,208
20	322.00	General Treatment Equipment	88,108	-	-	-	-	2,463	-	-	90,571
13		Subtotal Treatment & Discharge	13,752,629	-	-	-	-	3,671	-	-	13,756,300
14											
15		Collection and Influent									
16	340.00	Land & Land Rights	-	-	-	-	-	-	-	-	-
17	341.00	Structures & Improvements	-	-	-	-	-	-	-	-	-
18	342.00	Collection System Lift	140,048	-	-	-	-	4,940	-	-	144,988
19	343.00	Collection Mains	7,425,125	-	-	-	-	-	-	-	7,425,125
20	344.00	Force Mains	1,918	-	-	-	-	-	-	-	1,918
	345.00	Discharge Services	1,170,937	-	-	-	-	-	-	-	1,170,937
21	348.00	Manholes	-	-	-	-	-	-	-	-	-
22		Subtotal Collection and Influent	8,738,028	-	-	-	-	4,940	-	-	8,742,968
23											
42		General - Allocated Common Plant									
43	389.00	Land & Land Rights	4,333	-	-	-	-	(4,200)	-	-	133
44	390.00	Structures & Improvements	91,499	-	-	-	-	1,379	-	-	92,878
45	391.00	Office Furniture and Equipment	46,755	-	-	-	-	(2,842)	-	-	43,913
46	391.10	Computer Equipment	69,974	-	-	-	-	-	-	-	69,974
47	392.00	Transportation Equipment	49,105	-	-	-	-	-	-	-	49,105
48	393.00	Stores Equipment	785	-	-	-	-	-	-	-	785
49	394.00	Tools, Shop, & Garage Equipment	16,457	-	-	-	-	(5,227)	-	-	11,230
50	395.00	Laboratory Equipment	5,284	-	-	-	-	(1,727)	-	-	3,557
51	396.00	Power Operated Equipment	3,288	-	-	-	-	-	-	-	3,288
52	397.00	Communication Equipment	15,776	-	-	-	-	4,038	-	-	19,814
53	398.00	Miscellaneous Equipment	7,570	-	-	-	-	-	-	-	7,570
54		Subtotal General	310,826	-	-	-	-	(8,579)	-	-	302,247
55											
56	Add:			-	-	-	-	-	-	-	-
57				-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-
58	Less:			-	-	-	-	-	-	-	-
59				-	-	-	-	-	-	-	-
60				-	-	-	-	-	-	-	-
61		Total Plant in Service	$ 23,053,411	$ -	$ -	$ -	$ -	$ 32	$ -	$ -	$ 23,053,443
62		Less: Accumulated Depreciation	789,221	-	-	-	-	-	-	-	789,221
63		Net Plant in Service (L59 - L 60)	$ 22,264,190	$ -	$ -	$ -	$ -	$ 32	$ -	$ -	$ 22,264,222
64											
65	*LESS:*										
66		Contributions in Aid of Construction (CIAC)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67		Less: Accumulated Amortization	-	-	-	-	-	-	-	-	-
68		Net CIAC (L25 - L26)	472,196	-	-	-	-	-	-	-	472,196
69		Advances in Aid of Construction (AIAC)	19,045,098	-	-	-	-	-	-	-	19,045,098
70		Customer Deposits	-	-	-	-	-	-	-	-	-
71		Meter Advances	-	-	-	-	-	-	-	-	-
72		*Deferred Income Tax Credits*	-	-	-	-	-	-	-	-	-
73											
74	*ADD:*										
75		Cash Working Capital Allowance	-	-	-	-	-	-	-	-	-
76		Prepayments	-	-	-	-	-	-	-	-	-
77		Supplies Inventory	-	-	-	-	-	-	-	-	-
78		Projected Capital Expenditures	-	-	-	-	-	-	-	-	-
79		Deferred Debits	-	-	-	-	-	-	-	-	-
80		Tolleson Trickling Filter	-	-	-	-	-	-	-	-	-
81		Citizens Acquisition Adjustment	6,134,972	-	-	-	-	-	-	(6,134,972)	-
82		Original Cost Rate Base	$ 8,881,868	$ -	$ -	$ -	$ -	$ 32	$ -	$ (6,134,972)	$ 2,746,928

ADJ #		References:
1	Plant - not used & useful	Per Staff Engineering Reports
2	Plant - unidentified	Per Staff Engineering Reports
3	Plant - mis-posted	*Per Company Response to Staff Data Request* BKB 26-3
4	Plant - removed by previous decision	Per Decision No. 60172
5	Post-Test Year Plant	Per Company Response to Staff Data Request DWC 12-2
6	Remove AFUDC Adj. 3/95	Per Company Response to Staff Data Request DWC 6-10 Amended
7	Remove Acquisition Adjustment	Per Carlson Direct Testimony

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Schedule AII-1

OPERATING INCOME STATEMENT - TEST YEAR AND STAFF PROPOSED

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
1	*REVENUES:*					
2	Flat Rate Revenues	$ 880,474	$ -	$ 880,474	$ (73,485)	$ 806,989
3	Measured Revenues	-	-	-	-	-
4	Other Wastewater Revenues	986,072	-	986,072	-	986,072
5	Total Operating Revenues	$ 1,866,546	$ -	$ 1,866,546	$ (73,485)	$ 1,793,061
6						
7	*OPERATING EXPENSES:*					
8	Salaries & Wages	$ 317,956	$ (178,644)	$ 139,312	$ -	$ 139,312
9	Purchased Wastewater Treatment	19,925	-	19,925	-	19,925
10	Purchased Power	5,714	55	5,769	-	5,769
11	Fuel for Power Production	-	-	-	-	-
12	Chemicals	-	-	-	-	-
13	Materials and Supplies	(1,053)	-	(1,053)	-	(1,053)
14	Repairs & Maintenance	-	1,053	1,053	-	1,053
15	Office Supplies & Expense	72,565	(28,040)	44,525	-	44,525
16	Outside Services	26,544	(1,390)	25,154	-	25,154
17	Service Company Charges	287,577	(287,577)	-	-	-
18	Water Testing	-	-	-	-	-
19	Rents	8,308	1,331	9,639	-	9,639
20	Transportation Expense	-	-	-	-	-
21	Insurance - General Liability	(3,612)	5,273	1,661	-	1,661
22	Insurance -Health and Life	-	-	-	-	-
23	Regulatory Comm. Exp. - Rate Case	12,319	-	12,319	-	12,319
24	Miscellaneous Operating Expense	241,357	67,299	308,656	-	308,656
25	Depreciation Expense	876,022	(10,693)	865,329	-	865,329
26	Taxes Other Than Income	17,520	(4,073)	13,447	-	13,447
27	Property Taxes	121,472	(19,823)	101,649	-	101,649
28	Income Tax	(87,213)	180,506	93,293	(28,364)	64,929
29	Tolleson Wastewater User Fees	-	-	-	-	-
30						
31	Total Operating Expenses	$ 1,915,401	$ (274,723)	$ 1,640,678	$ (28,364)	$ 1,612,313
32	Operating Income (Loss)	$ (48,855)	$ 274,723	$ 225,868	$ (45,121)	$ 180,748

References:
Column [A]: Company Schedule C-1
Column [B]: Schedule AII-2
Column [C]: Column [A] + Column [B]
Column [D]: Schedules DWC-1 and DWC-2
Column [E]: Column [C] + Column [D]

ARIZONA-AMERICAN WATER COMPANY, INC. - ANTHEM/AGUA FRIA WASTEWATER
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SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR

LINE 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] ADJ #7	[I] ADJ #8	[J] STAFF ADJUSTED
1	*REVENUES:*										
2	Flat Rate Revenues	$ 880,474	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 880,474
3	Measured Revenues	-	-	-	-	-	-	-	-	-	$ -
4	Other Wastewater Revenues	986,072	-	-	-	-	-	-	-	-	$ 986,072
5	Total Operating Revenues	$ 1,866,546	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,866,546
6											
7	*OPERATING EXPENSES:*										
8	Salaries & Wages	$ 317,956	$ -	$ -	$ (108,156)	$ 139,312	$ (209,800)	$ -	$ -	$ -	$ 139,312
9	Purchased Wastewater Treatment	19,925	-	-	-	-	-	-	-	-	$ 19,925
10	Purchased Power	5,714	55	-	-	-	-	-	-	-	$ 5,769
11	Fuel for Power Production	-	-	-	-	-	-	-	-	-	$ -
12	Chemicals	-	-	-	-	-	-	-	-	-	$ -
13	Materials and Supplies	(1,053)	-	-	-	-	-	-	-	-	$ (1,053)
14	Repairs & Maintenance	-	1,053	-	-	-	-	-	-	-	$ 1,053
15	Office Supplies & Expense	72,565	1,251	-	(29,291)	-	-	-	-	-	$ 44,525
16	Outside Services	26,544	(1,390)	-	-	-	-	-	-	-	$ 25,154
17	Service Company Charges	287,577	-	(287,577)	-	-	-	-	-	-	$ -
18	Water Testing	-	-	-	-	-	-	-	-	-	$ -
19	Rents	8,308	1,331	-	-	-	-	-	-	-	$ 9,639
20	Transportation Expense	-	-	-	-	-	-	-	-	-	$ -
21	Insurance - General Liability	(3,612)	10,204	-	(4,931)	-	-	-	-	-	$ 1,661
22	Insurance -Health and Life	-	-	-	-	-	-	-	-	-	$ -
23	Regulatory Comm. Exp. - Rate Case	12,319	-	-	-	-	-	-	-	-	$ 12,319
24	Miscellaneous Operating Expense	241,357	71,474	-	(4,175)	-	-	-	-	-	$ 308,656
25	Depreciation Expense	876,022	-	-	-	-	-	(10,693)	-	-	$ 865,329
26	Taxes Other Than Income	17,520	-	-	-	13,447	(17,520)	-	-	-	$ 13,447
27	Property Taxes	121,472	-	-	-	-	-	-	(19,823)	-	$ 101,649
28	Income Tax	(87,213)	-	-	-	-	-	-	-	180,506	$ 93,293
29	Tolleson Wastewater User Fees	-	-	-	-	-	-	-	-	-	$ -
30											
31	Total Operating Expenses	$ 1,915,401	$ 83,978	$ (287,577)	$ (146,553)	$ 152,759	$ (227,320)	$ (10,693)	$ (19,823)	$ 180,506	$ 1,640,678
32	Operating Income (Loss)	$ (48,855)	$ (83,978)	$ 287,577	$ 146,553	$ (152,759)	$ 227,320	$ 10,693	$ 19,823	$ (180,506)	$ 225,868

ADJ #		References:
1	Citizens' Corporate Costs Allocation	Schedule AII-3
2	Service Company Charges	Schedule AII-4
3	Projected additional expenses	Schedule AII-5
4	Test Year Salaries, Wages & Related Expenses	Schedule AII-6
5	Projected Salaries, Wages & Related Expenses	Schedule AII-7
6	Depreciation Expense	Schedule AII-8
7	Property Taxes	Schedule AII-9
8	Income Taxes	Schedule AII-10

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Schedule AII-3

OPERATING INCOME ADJUSTMENT #1 - CITIZEN'S CORPORATE COST

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Taxes Other Than Income	-	1a	$ -
2	Purchased Power	(55)	1b	$ 55
3	Chemicals	-	1c	$ -
4	Materials and Supplies	(1,053)	1d	$ 1,053
5	Office Supplies & Expense	(1,251)	1e	$ 1,251
6	Outside Services	1,390	1f	$ (1,390)
7	Rents	(1,331)	1g	$ 1,331
8	Insurance Expense	(10,204)	1h	$ 10,204
9	Miscellaneous Expense	(71,474)	1i	$ 71,474
10	Total Adjustments	(83,978)		$ 83,978

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 2
Bourassa, Direct, page 12
Stephenson, Direct, Pages 15 and 16

Column [B]: Testimony, AII

OPERATING INCOME ADJUSTMENT #2 - SERVICE COMPANY CHARGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT
1	Service Company Charges	$ 287,577	$ (287,577)
2	Total	$ 287,577	$ (287,577)

REFERENCES:

Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 3
Bourassa, Direct, pages 12 and 13
Stephenson, Direct, page 16

Column [B]: Testimony, AII

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SCHEDULE AII-5

OPERATING ADJUSTMENT #3 - PROJECTED ADDITIONAL EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 108,156	3a	$ (108,156)
2	Office Expense	$ 29,291	3b	$ (29,291)
3	Insurance	$ 4,931	3c	$ (4,931)
4	Miscellaneous	$ 4,175	3d	$ (4,175)
5	Total	$ 146,553		$ (146,553)

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 10
Bourassa, Direct, pages 15 and 16
Stephenson, Direct, pages 17 and 18

Column [B]: Testimony, AII

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SCHEDULE AII-6

OPERATING INCOME ADJUSTMENT #4 - TEST YEAR SALARIES, WAGES AND RELATED EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ (139,312)	4a	$ 139,312
2	Payroll Taxes	$ (13,447)	4b	$ 13,447
3	Total	$ (152,759)		$ 152,759

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 3
Bourassa, Direct, page 13

Column [B]: Testimony, AII

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SCHEDULE AII-7

OPERATING INCOME ADJUSTMENT #5 - PROJECTED SALARIES AND WAGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 209,800	5a	$ (209,800)
2	Payroll Taxes	$ 17,520	5b	$ (17,520)
3	Total	$ 227,320		$ (227,320)

REFERENCES:

Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 5
Bourassa, Direct, pages 15 and 16
Stephenson, Direct, pages 17 and 18

Column [B]: Testimony, All

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SCHEDULE AII-8

OPERATING ADJUSTMENT #6 - DEPRECIATION EXPENSE

LINE NO	DESCRIPTION	ORIGINAL COST	RATE	DEPRECTION EXPENSE
1	Intangible			
2	Organization	$ -	0.00%	$ -
3	Franchises	$ 251,928	0.00%	$ -
4	Miscellaneous Intangibles	$ -	0.00%	$ -
5	Subtotal Intangible	$ 251,928		$ -
6				
7	*Treatment & Discharge*			
8	Land and Land Rights	$ 336,560	0.00%	$ -
9	Structures and Improvements	$ -	5.00%	$ -
10	Preliminary Treatment	$ 823,719	5.00%	$ 41,186
11	Primary Treatment Equipment	$ -	5.00%	$ -
12	Secondary Treatment Equipment	$ 2,062,401	5.00%	$ 103,120
13	Tertiary Equipment	$ 8,731,796	5.00%	$ 436,590
14	Disinfection Equipment	$ 891,776	5.00%	$ 44,589
15	Effluent Lift Station E	$ 813,269	8.40%	$ 68,315
16	Outfall Line	$ -	5.00%	$ -
17	Sludge, Treatment & Distribution	$ -	5.00%	$ -
18	Influent Lift Station	$ 6,208	8.40%	$ 521
19	General Treatment Equipment	$ 90,571	5.00%	$ 4,529
20	Subtotal Treatment & Discharge	$ 13,756,300		$ 698,849
21				
22	Collection and Influent			
23	Land and Land Rights	$ -	0.00%	$ -
24	Structures and Improvements	$ -	1.67%	$ -
25	Collection System Lift	$ 144,988	8.40%	$ 12,179
26	Collection Mains	$ 7,425,125	2.04%	$ 151,473
27	Force Mains	$ 1,918	2.07%	$ 40
28	Discharge Services	$ 1,170,937	2.04%	$ 23,887
29	Manholes	$ -	2.03%	$ -
30	Subtotal Collection and Influent	$ 8,742,968		$ 187,578
31				
32	General			
33	Land and Land Rights	$ 133	0.00%	$ -
34	Structures and Improvements	$ 92,878	1.68%	$ 1,561
35	Office Funiture and Equipment	$ 43,913	4.55%	$ 1,996
36	Computer Equipment	$ 69,974	4.55%	$ 3,180
37	Transportation Equipment	$ 49,105	25.00%	$ 12,276
38	Stores Equipment	$ 785	3.92%	$ 31
39	Tools, Shop and Garage	$ 11,230	4.14%	$ 464
40	Laboratory Equipment	$ 3,557	3.71%	$ 132
41	Power Operated Equipment	$ 3,288	5.14%	$ 169
42	Communication Equipment	$ 19,814	10.28%	$ 2,036
43	Miscellaneous Equipment	$ 7,570	4.98%	$ 377
44	Subtotal General	$ 302,247		$ 22,223
45				
46	TOTALS	$ 23,053,443		$ 908,651
47	Amortization of Deferred Regulatory Assets	$ 99,122	3.93%	$ 3,897
48	Less: Amotization of Contributions	$ 472,196	10.00%	$ (47,220)
49	Staff recommended depreciation Expense			$ 865,329
50	Company Proposed depreciation Expense			$ 876,022
51	Staff Adjustment			$ (10,693)

ARIZONA-AMERICAN WATER COMPANY, INC. - ANTHEM/AGUA FRIA WASTEWATER
Docket No. WS-01303A-02-0867 et al.
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SCHEDULE AII-9

OPERATING ADJUSTMENT #7 - PROPERTY TAX EXPENSE

LINE NO.	DESCRIPTION		AMOUNT
1	Staff Adjusted Test Year Revenues - 2001	$	1,866,546
2	Weight Factor		2
3	Subtotal (Line 1 x Line 2)	$	3,733,092
4	Staff Recommended Revenue	$	1,793,061
5	Subtotal (Line 4 + Line 5)	$	5,526,153
6	Number of Years		3
7	Three Year Average (Line 5 / Line 6)	$	1,842,051
8	Department of Revenue Mutilplier		2
9	Revenue Base Value (Line 7 x Line 8)	$	3,684,102
10	Plus: 10% of CWIP - 2001	$	-
11	Less: Net Book Value of Licensed Vehicles	$	49,104
12	Full Cash Value (Line 9 + Line 10 - Line 11)	$	3,634,998
13	Assessment Ratio		25%
14	Assessment Value (Line 12 x Line 13)	$	908,750
15	Composite Property Tax Rate		11.185601%
16	Staff Recommended Property Tax Expense (Line 14 x Line 15)	$	101,649
17	Company proposed Property Tax Expense	$	121,472
18	*Staff Adjustment (Line 16 - Line 17)*	$	(19,823)

ARIZONA-AMERICAN WATER COMPANY, INC. - ANTHEM/AGUA FRIA WASTEWATER
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SCHEDULE AII-10

OPERATING ADJUSTMENT #8 - INCOME TAX EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT	[C] STAFF PROPOSED
1	Income Taxes	$ (87,213)	$ 180,506	$ 93,293
2	Total	$ (87,213)	$ 180,506	$ 93,293

REFERENCES:

Column [A]: Company, Schedule C-1, page 1
Company, Schedule C-2, page 1
Company, Schedule C-3, page 1

Column [B]: Testimony, AII
Schedule DWC-2

Column [C]: Column [A] + Column [B]

MINIMUM MONTHLY AND COMMODITY CHARGES

LINE NO.	CUSTOMER CLASS	PRESENT			COMPANY PROPOSED		
		MINIMUM CHARGE	USAGE UP TO GALLONS	COMMODITY CHARGE	MINIMUM CHARGE	GALLONS INCLUDED	COMMODITY CHARGE
1	Residential Units	$ 16.00	7,000	$ 2.00	$ 22.40	7,000	$ 2.80
2	Small Commerical User 5/8"	$ 16.00	7,000	$ 2.00	$ 22.40	7,000	$ 2.80
3	Small Commerical User 3/4"	$ 24.00	10,000	$ 2.00	$ 33.60	10,000	$ 2.80
4	Small Commerical User 1"	$ 32.00	15,000	$ 2.00	$ 44.80	15,000	$ 2.80
5	Comm. Large User	$ 64.00	999,999,999	$ 2.00	96.96	999,999,999	$ 2.80
6	Anthem/Agua Fria Treatco	$ -	999,999,999	$ 2.32	$ -	999,999,999	$ 2.32
7	Industrial Discharge Annual Fee <50,000gal/mo	$ 500.00	-		$ 500.00	-	
8	Industrial Discharge Annual Fee >50,000gal/mo	$ 1,000.00			$ 1,000.00		

LINE NO.	CUSTOMER CLASS	STAFF RECOMMENDED		
		MINIMUM CHARGE	GALLONS INCLUDED	COMMODITY CHARGE
9	Residential Units	$ 14.68	7,000	$ 1.84
10	Small Commerical User 5/8"	$ 14.68	7,000	$ 1.84
11	Small Commerical User 3/4"	$ 22.03	10,000	$ 1.84
12	Small Commerical User 1"	$ 29.37	15,000	$ 1.84
13	Comm. Large User	$ 58.73	999,999,999	$ 1.84
14	Anthem/Agua Fria Treatco	$ -	999,999,999	$ 2.32
15	Industrial Discharge Annual Fee <50,000gal/mo	$ 500.00	-	
16	Industrial Discharge Annual Fee >50,000gal/mo	$ 1,000.00		

Note: Charges are applied up to the usage indicated in the schedules. Amounts in excess of the first tier have no charges.

ARIZONA-AMERICAN WATER COMPANY, INC. - ANTHEM/AGUA FRIA WASTEWATER
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Schedule DRR-2

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN USAGE COST COMPARISONS

LINE NO.	CUSTOMER CLASS	CURRENT			
		AVERAGE		MEDIAN	
		USAGE	DOLLARS	USAGE	DOLLARS
1	Residential Units	8,854	$ 30.00	8,000	$ 30.00
2	Small Commerical User 5/8"	8,205	$ 32.41	8,000	$ 32.00
3	Small Commerical User 3/4"				
4	Small Commerical User 1"				
5	Comm. Large User	60,695	$ 185.39	8,000	$ 80.00
6	Anthem/Agua Fria Treatco	484,100	$ 1,123.11	484,100	$ 1,123.11
7	Industrial Discharge Annual Fee <50,000gal/mo.				
8	Industrial Discharge Annual Fee >50,000gal/mo.				

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED					
		AVERAGE	INCREASE	PERCENT	MEDIAN	INCREASE	PERCENT
9	Residential Units	$ 45.45	$ 15.45	51.50%	$ 45.45	$ 15.45	51.50%
10	Small Commerical User 5/8"	$ 49.10	$ 16.69	51.50%	$ 48.48	$ 16.48	51.50%
11	Small Commerical User 3/4"						
12	Small Commerical User 1"						
13	Comm. Large User	$ 280.87	$ 95.48	51.50%	$ 121.20	$ 41.20	51.50%
14	Anthem/Agua Fria Treatco	$ 1,123.11	$ -	-	$ 1,123.11	$ -	0.00%
15	Industrial Discharge Annual Fee <50,000gal/mo.						
16	Industrial Discharge Annual Fee >50,000gal/mo.						

LINE NO.	CUSTOMER CLASS	STAFF RECOMMENDED					
		AVERAGE	DECREASE	PERCENT	MEDIAN	DECREASE	PERCENT
17	Residential Units	$ 27.53	$ (2.47)	-8.23%	$ 27.53	$ (2.47)	-8.23%
18	Small Commerical User 5/8"	$ 29.74	$ (2.67)	-8.23%	$ 29.37	$ (2.63)	-8.23%
19	Small Commerical User 3/4"						
20	Small Commerical User 1"						
21	Comm. Large User	$ 170.14	$ (15.25)	-8.23%	$ 73.42	$ (6.58)	-8.23%
22	Anthem/Agua Fria Treatco (Contracted Price)	$ 1,123.11	$ -	-	$ 1,123.11	$ -	0.00%
23	Industrial Discharge Annual Fee <50,000gal/mo.						
24	Industrial Discharge Annual Fee >50,000gal/mo.						

TUBAC WATER

ARIZONA-AMERICAN WATER COMPANY, INC. - **TUBAC WATER** Schedule DWC-1
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY FAIR VALUE	[B] STAFF ORIGINAL COST	[C] STAFF FAIR VALUE
1	Adjusted Rate Base	$ 1,903,647	$ 1,130,583	$ 1,130,583
2	Adjusted Operating Income/(Loss)	$ 14,582	$ 20,103	$ 20,103
3	Current Rate of Return (L2 / L1)	0.77%	1.78%	1.78%
4	Required Rate of Return	7.75%	6.6%	6.6%
5	Required Operating Income (L4 x L1)	$ 147,533	$ 74,392	$ 74,392
6	Operating Income Deficiency/(Excess) (L5 - L2)	$ 132,951	$ 54,289	$ 54,289
7	Gross Revenue Conversion Factor	1.62860	1.62863	1.62863
8	Required Revenue Increase/(Decrease) (L7 x L6)	$ 216,523	**$ 88,417**	**$ 88,417**
9	Adjusted Test Year Revenue	$ 254,486	$ 254,486	$ 254,486
10	Proposed Annual Revenue (L8 + L9)	$ 471,009	$ 342,903	$ 342,903
11	Required Increase/Decrease in Revenue (%)	85.08%	34.74%	34.74%
12	Rate of Return on Common Equity (%)	11.50%	9.7%	9.7%

References:
Column [A]: Company Schedules A-1, A-2, & D-1
Columns [B] & [C]: Staff Schedules AII-1, DWC-2, DWC-3, & JMR-9

ARIZONA-AMERICAN WATER COMPANY, INC. - TUBAC WATER
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Schedule DWC-2

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	[A]	[B]	[C]	[D]
	Calculation of Gross Revenue Conversion Factor:				
1	Billings	100.0000%			
2	Uncollecible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Tax Rate (Line 17)	38.5989%			
5	Subtotal (L3 - L4)	61.4011%			
6	Revenue Conversion Factor (L1 / L5)	1.628635			
	Calculation of Uncollecttible Factor:				
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	38.5989%			
9	One Minus Combined Income Tax Rate (L7 - L8)	61.4011%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 x L10)	0.0000%			
	Calculation of Effective Tax Rate:				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L12 - L13)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 40)	34.0000%			
16	Effective Federal Income Tax Rate (L14 x L15)	31.6309%			
17	Combined Federal and State Income Tax Rate (L13 + L16)	38.5989%			
18	Required Operating Income (Schedule DWC-1, Col. [B], Line 5)	$ 74,392			
19	Adjusted Test Year Operating Income (Loss) (Sch. All-1, Col. [C], Line 28)	$ 20,103			
20	Required Increase in Operating Income (L18 - L19)		$ 54,289		
21	Income Taxes on Recommended Revenue (Col. [D], L39)	$ 26,724			
22	Income Taxes on Test Year Revenue (Col. [B], L39)	$ (7,404)			
23	Required Increase in Revenue to Provide for Income Taxes (L21 - L22)		$ 34,128		
24	Recommended Revenue Requirement (Schedule DWC-1, Col. [B], Line 10)	$ 342,903			
25	Uncollectible Rate (Line 10)	0.0000%			
26	Uncollectible Expense on Recommended Revenue (L24 x L25)	$ -			
27	Adjusted Test Year Uncollectible Expense	$ -			
28	Required Increase in Revenue to Provide for Uncollectible Exp. (L26 - L27)		$ -		
29	Total Required Increase in Revenue (L20 + L23 + L28)		$ 88,417		

	Calculation of Income Tax:	Test Year		STAFF Recommended	
30	Revenue (Schedule All-1, Col. [C], Line 5 & Sch. DWC-1, Col. [B], Line 10)	$ 254,486		$ 342,903	
31	Operating Expenses Excluding Income Taxes	$ 241,787	$ -	$ 241,787	
32	Synchronized Interest (L43)	$ 31,882		$ 31,882	
33	Arizona Taxable Income (L30 - L31 - L32)	$ (19,183)		$ 69,234	
34	Arizona State Income Tax Rate	6.9680%		6.9680%	
35	Arizona Income Tax (L33 x L34)		$ (1,337)		$ 4,824
36	Federal Taxable Income (L33 - L35)	$ (17,846)		$ 64,410	
37	Federal Income Tax Rate	34.0000%		34.0000%	
38	Federal Income Tax (L36 x L37)		$ (6,068)		$ 21,899
39	Combined Federal and State Income Tax (L35 + L38)		$ (7,404)		$ 26,724
40	Applicable Federal Income Tax Rate (Col. [D], L38 - Col. [B], L38) / (Col. [C], L36 - Col. [A], L36)				34.0000%
	Calculation of Interest Synchronization:				
41	Rate Base (Schedule DWC-3, Col. [C], Line 17)	$ 1,130,583			
42	Weighted Average Cost of Debt	2.82%			
43	Synchronized Interest (L41 x L42)	$ 31,882			

ARIZONA-AMERICAN WATER COMPANY, INC. - TUBAC WATER
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Test Year Ended December 31, 2001

Schedule DWC-3

RATE BASE - ORIGINAL COST

LINE NO.		[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	ADJ	[C] STAFF AS ADJUSTED
1	Plant in Service	$ 1,968,840	$ 44,362	A	$ 2,013,202
2	Less: Accumulated Depreciation	569,484	(1,211)	B	568,273
3	Net Plant in Service	$ 1,399,356	$ 45,573		$ 1,444,929
	LESS:				
4	Contributions in Aid of Construction (CIAC)	$ -	$ -		$ -
5	Less: Accumulated Amortization	-	-		-
6	Net CIAC	143,675	-		143,675
7	Advances in Aid of Construction (AIAC)	170,081	-		170,081
8	Customer Deposits	590	-		590
9	Meter Advances	-	-		-
10	Deferred Income Tax Credits	-	-		-
	ADD:				
11	Cash Working Capital	-	-		-
12	Prepayments	-	-		-
13	Supplies Inventory	-	-		-
14	Projected Capital Expenditures	-	-		-
15	Deferred Debits	-	-		-
16	Citizens Acquisition Adjustment	531,184	(531,184)	C	-
17	Original Cost Rate Base	$ 1,616,194	$ (485,611)		$ 1,130,583

Adjustments:
A. See plant adjustments on Schedule DWC-4
B. See accumulated depreciation adjustments on Schedule DWC-4
C. See acquisition adjustment on Schedule DWC-4

References:
Column [A]: Company Schedule B-1
Column [B]: Staff Schedule DWC-4
Column [C]: Column [A] + Column [B]

ARIZONA-AMERICAN WATER COMPANY, INC. - TUBAC WATER
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Schedule DWC-4

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] Plant-not used ADJ #1	[C] Plant-unidentified ADJ #2	[D] Plant Mis-Posted ADJ #3	[E] Plant Prev. Dec. ADJ #4	[F] Post-TY Pl. ADJ #5	[G] AFUDC Adj. ADJ #6	[H] Acquisition Adj ADJ #7	[I] STAFF ADJUSTED
		PLANT IN SERVICE:			Leave Blank	Leave Blank	Leave Blank				
1		Intangible									
2	301.00	Organization	$ 567	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 567
3	302.00	Franchises	2,030	-	-	-	-	-	-	-	2,030
4	303.00	Miscellaneous Intangibles	-	-	-	-	-	-	-	-	-
5		Subtotal Intangible	2,597	-	-	-	-	-	-	-	2,597
6											
7		Source of Supply									
8	310.00	Land & Land Rights	20,414	-	-	-	-	-	-	-	20,414
9	311.00	Structures & Improvements	20,492	-	-	-	-	-	-	-	20,492
10	312.00	Collecting & Impounding Reservoirs	-	-	-	-	-	-	-	-	-
11	313.00	Lakes, Rivers, Other Intakes	-	-	-	-	-	-	-	-	-
12	314.00	Wells and Springs	116,034	(1,624)	-	-	-	-	-	-	114,410
13		Subtotal Source of Supply	156,940	(1,624)	-	-	-	-	-	-	155,316
14											
15		Pumping									
16	320.00	Land & Land Rights	50	-	-	-	-	-	-	-	50
17	321.00	Structures & Improvements	14,608	-	-	-	-	234	-	-	14,842
18	323.00	Other Power Production	-	-	-	-	-	-	-	-	-
19	325.00	Electric Pumping Equipment	244,199	-	-	-	-	26,375	-	-	270,574
20	326.00	Diesel Pumping Equipment	879	-	-	-	-	-	-	-	879
21	328.10	Gas Engine Pumping Equipment	42,994	-	-	-	-	-	-	-	42,994
22		Subtotal Pumping	302,730	-	-	-	-	26,609	-	-	329,339
23											
24		Water Treatment									
25	330.00	Land & Land Rights	50	-	-	-	-	-	-	-	50
26	331.00	Structures & Improvements	-	-	-	-	-	-	-	-	-
27	332.00	Water Treatment Equipment	505	-	-	-	-	-	-	-	505
28		Subtotal Water Treatment	555	-	-	-	-	-	-	-	555
29											
30		Transmission & Distribution									
31	340.00	Land & Land Rights	539	-	-	-	-	-	-	-	539
32	341.00	Structures & Improvements	156	-	-	-	-	-	-	-	156
33	342.00	Distribution Reservoirs & Standpipes	142,420	-	-	-	-	-	-	-	142,420
34	343.00	Transmission & Distribution	921,147	-	-	-	-	18,020	-	-	939,167
35	344.00	Fire Mains	-	-	-	-	-	-	-	-	-
36	345.00	Services	272,942	-	-	-	-	-	-	-	272,942
37	346.00	Meters	87,950	-	-	-	-	-	-	-	87,950
38	348.00	Hydrants	24,189	-	-	-	-	-	-	-	24,189
39	349.00	Other Transmission & Distribution	-	-	-	-	-	-	-	-	-
40		Subtotal Transmission & Distribu.	1,449,343	-	-	-	-	18,020	-	-	1,467,363
41											
42		General - Allocated Common Plant									
43	389.00	Land & Land Rights	26	-	-	-	-	-	-	-	26
44	390.00	Structures & Improvements	17,767	-	-	-	-	-	-	-	17,767
45	391.00	Office Furniture and Equipment	9,093	-	-	-	-	(563)	-	-	8,530
46	391.10	Computer Equipment	13,194	-	-	-	-	-	-	-	13,194
47	392.00	Transportation Equipment	9,535	-	-	-	-	-	-	-	9,535
48	393.00	Stores Equipment	152	-	-	-	-	-	-	-	152
49	394.00	Tools, Shop, & Garage Equipment	2,181	-	-	-	-	-	-	-	2,181
50	395.00	Laboratory Equipment	691	-	-	-	-	-	-	-	691
51	396.00	Power Operated Equipment	638	-	-	-	-	-	-	-	638
52	397.00	Communication Equipment	3,763	-	-	-	-	85	-	-	3,848
53	398.00	Miscellaneous Equipment	1,470	-	-	-	-	-	-	-	1,470
54		Subtotal General	58,510	-	-	-	-	(478)	-	-	58,032
55											
56	Add:										-
57											-
											-
58	Less:			-	-	-	-	-	-	-	
59		AFUDC Adjustment 3/95**	(1,835)	-	-	-	-	-	1,835	-	-
60				-	-	-	-	-	-	-	-
61	Total Plant in Service		$ 1,968,840	$ (1,624)	$ -	$ -	$ -	$ 44,151	$ 1,835	$ -	$ 2,013,202
62	Less: Accumulated Depreciation		569,484	1,624	-	-	-	-	413	-	568,273
63	Net Plant in Service (L59 - L 60)		$ 1,399,356	$ (0)	$ -	$ -	$ -	$ 44,151	$ 1,422	$ -	$ 1,444,929
64											
65	*LESS:*										
66	Contributions in Aid of Construction (CIAC)		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67	Less: Accumulated Amortization		-	-	-	-	-	-	-	-	-
68	Net CIAC (L25 - L26)		143,675	-	-	-	-	-	-	-	143,675
69	Advances in Aid of Construction (AIAC)		170,081	-	-	-	-	-	-	-	170,081
70	Customer Deposits		590	-	-	-	-	-	-	-	590
71	Meter Advances		-	-	-	-	-	-	-	-	-
72	Deferred Income Tax Credits		-	-	-	-	-	-	-	-	-
73											
74	*ADD:*										
75	Cash Working Capital Allowance		-	-	-	-	-	-	-	-	-
76	Prepayments		-	-	-	-	-	-	-	-	-
77	Supplies Inventory		-	-	-	-	-	-	-	-	-
78	Projected Capital Expenditures		-	-	-	-	-	-	-	-	-
79	*Deferred Debits*		-	-	-	-	-	-	-	-	-
80	Citizens Acquisition Adjustment		531,184	-	-	-	-	-	-	(531,184)	-
81	Original Cost Rate Base		$ 1,616,194	$ (0)	$ -	$ -	$ -	$ 44,151	$ 1,422	$ (531,184)	$ 1,130,583

ADJ #		References:
1	Plant - not used & useful	Per Staff Engineering Reports.
2	Plant - unidentified	Per Staff Engineering Reports.
3	Plant - mis-posted	Per Company Response to Staff Data Request BKB 26-3.
4	Plant - removed by previous decision	Per Decision No. 60172.
5	Post-Test Year Plant	Per Company Response to Staff Data Request DWC 12-2
6	Remove AFUDC Adj. 3/95	Per Company Response to Staff Data Request DWC 6-10 Amended
7	Remove Acquisition Adjustment	Per Carlson Direct Testimony

ARIZONA-AMERICAN WATER COMPANY, INC. - TUBAC WATER
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Schedule AII-1

OPERATING INCOME STATEMENT - TEST YEAR AND STAFF PROPOSED

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
1	*REVENUES:*					
2	Metered Water Sales	$ 251,795	$ -	$ 251,795	$ 88,417	$ 340,212
3	Water Sales - Unmetered	-	-	-	-	-
4	Other Operating Revenue	2,691	-	2,691	-	2,691
5	Total Operating Revenues	$ 254,486	$ -	$ 254,486	$ 88,417	$ 342,903
6						
7	*OPERATING EXPENSES:*					
8	Salaries & Wages	$ 77,690	$ (17,461)	$ 60,229	$ -	$ 60,229
9	Purchased Water	-	-	-	-	-
10	Purchased Pumping Power	20,767	4	20,771	-	20,771
11	Chemicals	16	-	16	-	16
12	Repairs & Maintenance	18,029	-	18,029	-	18,029
13	Office Supplies & Expense	19,965	(10,820)	9,145	-	9,145
14	Outside Services	10,516	2,243	12,759	-	12,759
15	Service Company Charges	38,653	(38,653)	-	-	-
16	Water Testing	1,420	-	1,420	-	1,420
17	Rents	3,454	-	3,454	-	3,454
18	Transportation Expense	-	-	-	-	-
19	Insurance - General Liability	3,428	(1,285)	2,143	-	2,143
20	Insurance - Health and Life	-	-	-	-	-
21	Regulatory Comm. Exp. - Rate Case	1,680	-	1,680	-	1,680
22	Miscellaneous Operating Expense	7,022	22,707	29,729	-	29,729
23	Depreciation Expense	37,208	(1,734)	35,474	-	35,474
24	Taxes Other Than Income	4,809	21,474	26,283	-	26,283
25	Property Taxes	23,752	(3,097)	20,655	-	20,655
26	Income Tax	(28,505)	21,101	(7,404)	34,128	26,724
27						
28	Total Operating Expenses	$ 239,904	$ (5,521)	$ 234,383	$ 34,128	$ 268,510
29	Operating Income (Loss)	$ 14,582	$ 5,521	$ 20,103	$ 54,289	$ 74,393

References:
Column [A]: Company Schedule C-1
Column [B]: Schedule AII-2
Column [C]: Column [A] + Column [B]
Column [D]: Schedules DWC-1 and DWC-2
Column [E]: Column [C] + Column [D]

ARIZONA-AMERICAN WATER COMPANY, INC. - TUBAC WATER
Docket No. WS-01303A-02-0867 et al.
Test Year Ended December 31, 2001

Schedule AII-2

SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR

LINE 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] ADJ #7	[I] ADJ #8	[J] STAFF ADJUSTED
1											
2	*REVENUES:*										
3	Metered Water Sales	$ 251,795	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 251,795
4	Water Sales - Unmetered	-	-	-	-	-	-	-	-	-	-
5	Other Operating Revenue	2,691	-	-	-	-	-	-	-	-	2,691.0
6	Total Operating Revenues	$ 254,486	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 254,486
7											
8	*OPERATING EXPENSES:*										
9	Salaries & Wages	$ 77,690	$ -		$ (18,026)	$ 60,229	$ (59,664)	$ -	$ -	$ -	$ 60,229
10	Purchased Water	-	-	-	-	-	-	-	-	-	$ -
11	Purchased Pumping Power	20,767	4	-	-	-	-	-	-	-	$ 20,771
12	Chemicals	16	-	-	-	-	-	-	-	-	$ 16
13	Repairs & Maintenance	18,029	-	-	-	-	-	-	-	-	$ 18,029
14	Office Supplies & Expense	19,965	627	-	(11,447)	-	-	-	-	-	$ 9,145
15	Outside Services	10,516	2,243	-	-	-	-	-	-	-	$ 12,759
16	Service Company Charges	38,653	-	(38,653)	-	-	-	-	-	-	$ -
17	Water Testing	1,420	-	-	-	-	-	-	-	-	$ 1,420
18	Rents	3,454	-	-	-	-	-	-	-	-	$ 3,454
19	Transportation Expense	-	-	-	-	-	-	-	-	-	$ -
20	Insurance - General Liability	3,428	2,127	-	(3,412)	-	-	-	-	-	$ 2,143
21	Insurance -Health and Life	-	-	-	-	-	-	-	-	-	$ -
22	Regulatory Comm. Exp. - Rate Case	1,680	-	-	-	-	-	-	-	-	$ 1,680
23	Miscellaneous Operating Expense	7,022	22,928	-	(221)	-	-	-	-	-	$ 29,729
24	Depreciation Expense	37,208	-	-	-	-		(1,734)	-	-	$ 35,474
25	Taxes Other Than Income	4,809	-		-	26,283	(4,809)	-	-	-	$ 26,283
26	Property Taxes	23,752	-	-	-	-	-		(3,097)	-	$ 20,655
27	Income Tax	(28,505)	-	-	-	-	-	-		21,101	$ (7,404)
28											
29	Total Operating Expenses	$ 239,904	$ 27,929	$ (38,653)	$ (33,106)	$ 86,512	$ (64,473)	$ (1,734)	$ (3,097)	$ 21,101	$ 234,383
30	Operating Income (Loss)	$ 14,582	$ (27,929)	$ 38,653	$ 33,106	$ (86,512)	$ 64,473	$ 1,734	$ 3,097	$ (21,101)	$ 20,103

ADJ #		References:
1	Citizens, Corporate Costs Allocation	Schedule AII-3
2	Service Company Charges	Schedule AII-4
3	Projected additional expenses	Schedule AII-5
4	Test Year Salaries, Wages & Related Expenses	Schedule AII-6
5	Projected Salaries, Wages & Related Expenses	Schedule AII-7
6	Depreciation Expense	Schedule AII-8
7	Property Taxes	Schedule AII-9
8	Income Taxes	Schedule AII-10

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SCHEDULE AII-3

OPERATING INCOME ADJUSTMENT #1 - CITIZEN'S CORPORATE COST

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Taxes Other Than Income	$ -	1a	$ -
2	Purchased Power	$ (4)	1b	$ 4
3	Chemicals	$ -	1a	$ -
4	Repairs and Maintenance	$ -	1b	$ -
5	Office Supplies and Expense	$ (627)	1a	$ 627
6	Outside Services	$ (2,243)	1b	$ 2,243
7	Rents	$ -	1a	$ -
8	Insurance - General Liability	$ (2,127)	1b	$ 2,127
9	Miscellaneous Expense	$ (22,928)	1a	$ 22,928
10	Total Adjustments	$ (27,929)		$ 27,929

REFERENCES:

Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 2
Bourassa, Direct, page 11
Stephenson, Direct, pages 14 and 15

Column [B]: Testimony, All

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SCHEDULE AII-4

OPERATING INCOME ADJUSTMENT #2 - SERVICE COMPANY CHARGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT
1	Service Company Charges	$ 38,653	$ (38,653)
2	Total	$ 38,653	$ (38,653)

REFERENCES:
Column [A]: Company, Schedule C-2, page 1
Company, Schedule C-2, page 3
Bourassa, Direct, page 11

Column [B]: Testimony, AII

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SCHEDULE AII-5

OPERATING ADJUSTMENT #3 - PROJECTED ADDITIONAL EXPENSES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 18,026	10a	$ (18,026)
2	Office Expense	$ 11,447	10b	$ (11,447)
3	Insurance	$ 3,412	10c	$ (3,412)
4	Micellaneous Expense	$ 221	10d	$ (221)
5	Total	$ 33,106		$ (33,106)

REFERENCES:

Column [A]:
Company, Schedule C-2, page 1
Company, Schedule C-2, page 10
Bourassa, Direct, pages 11 and 12
Stephenson, Direct, pages 15 and 16

Column [B]:
Testimony, AII

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SCHEDULE AII-6

OPERATING INCOME ADJUSTMENT #4 - TEST YEAR SALARIES AND WAGES, AND RELATED EXPENSES

NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ (60,229)	2a	$ 60,229
2	Payroll Taxes	$ (26,283)	2b	$ 26,283
3	Total	$ (86,512)		$ 86,512

REFERENCES:

Column [A]:
Company, Schedule C-2, page 1
Company, Schedule C-2, page 4
Bourassa, Direct, pages 11 and 12
Stephenson, Direct, pages 17 and 18

Column [B]:
Testimony, AII

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SCHEDULE AII-7

OPERATING INCOME ADJUSTMENT #5 - PROJECTED SALARIES AND WAGES

NO.	DESCRIPTION	[A] COMPANY AS FILED	ADJUSTMENT LABEL	[B] STAFF ADJUSTMENT
1	Salaries & Wages	$ 59,664	4a	$ (59,664)
2	Payroll Taxes	$ 4,809	4b	$ (4,809)
3	Total	$ 64,473		$ (64,473)

REFERENCES:

Column [A]:
Company, Schedule C-2, page 1
Company, Schedule C-2, page 5
Bourassa, Direct, pages 11 and 12
Stephenson, Direct, pages 17 and 18

Column [B]:
Testimony, AII

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SCHEDULE AII-8

OPERATING ADJUSTMENT #6 - DEPRECIATION EXPENSE

LINE NO.	DESCRIPTION	ORIGINAL COST	RATE	EXPENSE
1	Intangible			
2	Organization	$ 567	0.00%	$ -
3	Franchises	$ 2,030	0.00%	$ -
4	Miscellaneous Intangibles	$ -	0.00%	$ -
5	Subtotal Intangible	$ 2,597		$ -
6				
7	Source of Supply			
8	Land and Land Rights	$ 20,414	0.00%	$ -
9	Structures and Improvements	$ 20,492	2.40%	$ 492
10	Collecting and Impounding Res.	$ -	0.00%	$ -
11	Lakes, Rivers, Other Intakes	$ -	0.00%	$ -
12	Wells and Springs	$ 114,410	3.08%	$ 3,524
13	Subtotal Source of Supply	$ 155,316		$ 4,016
14				
15	Pumping			
16	Land & Land Rights	$ 50	0.00%	$ -
17	Structures & Improvements	$ 14,842	1.94%	$ 288
18	Other Power Production	$ -	0.00%	$ -
19	Electric Pumping Equipment	$ 270,574	4.24%	$ 11,472
20	Diesel Pumping Equipment	$ 879	5.00%	$ 44
21	Gas Engine Pumping Equipment	$ 42,994	4.24%	$ 1,823
22	Subtotal Pumping	$ 329,339		$ 13,627
23				
24	Water Treatment			
25	Land and Land Rights	$ 50	0.00%	$ -
26	Structures and Improvements	$ -	0.00%	$ -
27	Water Treatment Equipment	$ 505	4.00%	$ 20
28	Subtotal Water Treatment	$ 555		$ 20
29				
30	Transmission and Distribution			
31	Land and Land Rights	$ 539	0.00%	$ -
32	Structures and Improvements	$ 156	1.92%	$ 3
33	Distribution, Reservoirs, & ST	$ 142,420	1.62%	$ 2,307
34	Transmission and Distribution	$ 939,167	1.97%	$ 18,502
35	Fire Mains	$ -	0.00%	$ -
36	Services	$ 272,942	2.45%	$ 6,687
37	Meters	$ 87,950	2.42%	$ 2,128
38	Hydrants	$ 24,189	1.97%	$ 477
39	Other Transmission & Distribution	$ -	0.00%	$ -
40	Subtotal Transmission and Distribution	$ 1,467,363		$ 30,104
41				
42	General			
43	Land and Land Rights	$ 26	0.00%	$ -
44	Structures and Improvements	$ 17,767	2.89%	$ 513
45	Office Funiture and Equipment	$ 8,530	3.28%	$ 280
46	Computer Equipment	$ 13,194	3.28%	$ 433
47	Transportation Equipment	$ 9,535	25.00%	$ 2,384
48	Stores Equipment	$ 152	4.00%	$ 6
49	Tools, Shop and Garage	$ 2,181	3.42%	$ 75
50	Laboratory Equipment	$ 691	0.00%	$ -
51	Power Operated Equipment	$ 638	0.00%	$ -
52	Communication Equipment	$ 3,848	5.03%	$ 194
53	Miscellaneous Equipment	$ 1,470	4.93%	$ 72
54	Subtotal General	$ 58,032		$ 3,956
55				
58	Total	$ 2,013,202		$ 51,723
64	Amortization of Deferred Regulatory Assets	$ 4,596	2.58%	$ 118
65	Depreciation of well not-in-service	$ 64,945	3.08%	$ 2,000
66	Less: Amotization of Contributions	$ 143,675	10.00%	$ 14,368
68	Staff recommended depreciation Expense			$ 35,474
69	Company Proposed Depreciation Expense			$ 37,208
70	Staff Adjustment			$ (1,734)

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Schedule AII-9

OPERATING ADJUSTMENT #7 - PROPERTY TAX EXPENSE

LINE NO.	DESCRIPTION	AMOUNT
1	Staff Adjusted Test Year Revenues - 2001	$ 254,486
2	Weight Factor	2
3	Subtotal (Line 1 x Line 2)	$ 508,972
4	Staff Recommended Revenue	342,903
5	Subtotal (Line 4 + Line 5)	851,875
6	Number of Years	3
7	Three Year Average (Line 5 / Line 6)	283,958
8	Department of Revenue Mutilplier	2
9	Revenue Base Value (Line 7 x Line 8)	567,917
10	Plus: 10% of CWIP - 2001	-
11	Less: Net Book Value of Licensed Vehicles	$ 9,535
12	Full Cash Value (Line 9 + Line 10 - Line 11)	558,382
13	Assessment Ratio	25%
14	Assessment Value (Line 12 x Line 13)	139,595
15	Composite Property Tax Rate	14.7962%
16	Staff Recommended Property Tax Expense (Line 14 x Line 15)	$ 20,655
17	Company Proposed Property Tax Expense	$ 23,752
18	Staff Adjustment	$ (3,097)

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SCHEDULE AII-10

OPERATING ADJUSTMENT #8 - INCOME TAX EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT	[C] STAFF PROPOSED
1	Income Taxes	$ (28,505)	$ 21,101	$ (7,404)
2	Total	$ (28,505)	$ 21,101	$ (7,404)

REFERENCES:

Column [A]: Company, Schedule C-1, page 1
Company, Schedule C-2, page 1
Company, Schedule C-3, page 1

Column [B]: Testimony, AII
Schedule DWC-2

Column [C]: Column [A] + Column[B]

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Schedule DRR-1

MINIMUM MONTHLY CHARGES AND COMMODITY RATES

LINE NO.	CUSTOMER CLASS	PRESENT		COMPANY PROPOSED		STAFF RECOMMENDED		PRESENT RATES			
								TIER ONE		TIER TWO	
		MINIMUM CHARGE	GALLONS INCLUDED	MINIMUM CHARGE	GALLONS INCLUDED	MINIMUM CHARGE	GALLONS INCLUDED	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT
1	Residential 5/8"	$ 15.35	-	$ 28.58	-	$ 20.80	-	$ 1.66	8.00	$ 2.04	Infinite
2	Residential 3/4"	$ 15.35	-	$ 28.58	-	$ 20.80	-	$ 1.66	8.00	$ 2.04	Infinite
3	Residential 1"	$ 23.00	-	$ 42.83	-	$ 31.17	-	$ 1.66	8.00	$ 2.04	Infinite
4	Residential 1.5"	$ 46.00	-	$ 85.66	-	$ 62.33	-	$ 1.66	8.00	$ 2.04	Infinite
5	Residential 2"	$ 76.00	-	$ 141.52	-	$ 102.98	-	$ 1.66	8.00	$ 2.04	Infinite
6	Residential 3"	$ 90.00	-	$ 167.59	-	$ 121.95	-	$ 1.66	8.00	$ 2.04	Infinite
7	Residential 4"	$ 132.00	-	$ 245.79	-	$ 178.85	-	$ 1.66	8.00	$ 2.04	Infinite
8	Residential 6"	$ 180.00	-	$ 335.17	-	$ 243.89	-	$ 1.66	8.00	$ 2.04	Infinite
9	Residential 8"	N/A	-	$ 2,858.00	-	$ 2,079.62	-	$ 1.66	8.00	$ 2.04	Infinite
10	Commerical 5/8"	$ 15.35	-	$ 28.58	-	$ 20.80	-	$ 1.66	8.00	$ 2.04	Infinite
11	Commerical 3/4"	$ 15.35	-	$ 28.58	-	$ 20.80	-	$ 1.66	8.00	$ 2.04	Infinite
12	Commerical 1"	$ 23.00	-	$ 42.83	-	$ 31.17	-	$ 1.66	8.00	$ 2.04	Infinite
13	Commerical 1.5"	$ 46.00	-	$ 85.66	-	$ 62.33	-	$ 1.66	8.00	$ 2.04	Infinite
14	Commerical 2"	$ 76.00	-	$ 141.52	-	$ 102.98	-	$ 1.66	8.00	$ 2.04	Infinite
15	Commerical 3"	$ 90.00	-	$ 167.59	-	$ 121.95	-	$ 1.66	8.00	$ 2.04	Infinite
16	Commerical 4"	$ 132.00	-	$ 245.79	-	$ 178.85	-	$ 1.66	8.00	$ 2.04	Infinite
17	Commerical 6"	$ 180.00	-	$ 335.17	-	$ 243.89	-	$ 1.66	8.00	$ 2.04	Infinite
18	Commerical 8"	N/A	-	$ 2,858.00	-	$ 2,079.62	-	$ 1.66	8.00	$ 2.04	Infinite

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED RATES				STAFF RECOMMENDED RATES					
		TIER ONE		TIER TWO		TIER ONE		TIER TWO		TIER THREE	
		COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT	COMMODITY RATE	UPPER LIMIT
19	Residential 5/8"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
20	Residential 3/4"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
21	Residential 1"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
22	Residential 1.5"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
23	Residential 2"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
24	Residential 3"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
25	Residential 4"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
26	Residential 6"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
27	Residential 8"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
28	Commerical 5/8"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
29	Commerical 3/4"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
30	Commerical 1"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
31	Commerical 1.5"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
32	Commerical 2"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
33	Commerical 3"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
34	Commerical 4"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
35	Commerical 6"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite
36	Commerical 8"	$ 3.09	8.00	$ 3.79	Infinite	$ 1.81	4.00	$ 2.72	51.00	$ 3.26	Infinite

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN USAGE AND COSTS

LINE NO.	CUSTOMER CLASS	CURRENT AVERAGE USAGE	CURRENT AVERAGE DOLLARS	CURRENT MEDIAN USAGE	CURRENT MEDIAN DOLLARS
1	Residential 5/8"	13,177	$ 39.19	8,000	$ 28.63
2	Residential 3/4"	N/A			
3	Residential 1"	15,301	$ 51.17	12,000	$ 44.44
4	Residential 1.5"	40,250	$ 125.07	24,000	$ 91.92
5	Residential 2"	32,500	$ 139.26	30,000	$ 134.16
6	Residential 3"	3,538	$ 95.87	-	$ 90.00
7	Residential 4"	N/A			
8	Residential 6"	N/A			
9	Residential 8"	N/A			
10	Commerical 5/8"	9,090	$ 30.85	5,000	$ 23.65
11	Commerical 3/4"	N/A			
12	Commerical 1"	19,172	$ 59.07	8,000	$ 36.28
13	Commerical 1.5"	35,167	$ 114.70	26,000	$ 96.00
14	Commerical 2"	159,167	$ 397.66	29,000	$ 132.12
15	Commerical 3"	22,833	$ 133.54	6,000	$ 99.96
16	Commerical 4"	N/A			
17	Commerical 6"	N/A			
18	Commerical 8"	N/A			
28	Intentionally left blank				

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED AVERAGE	INCREASE	PERCENT	MEDIAN	INCREASE	PERCENT
29	Residential 5/8"	$ 72.92	$ 33.73	86.06%	$ 53.30	$ 24.67	86.17%
30	Residential 3/4"	N/A					
31	Residential 1"	$ 95.22	$ 44.05	86.07%	$ 82.71	$ 38.27	86.12%
32	Residential 1.5"	$ 232.61	$ 107.54	85.98%	$ 171.02	$ 79.10	86.05%
33	Residential 2"	$ 259.10	$ 119.84	86.05%	$ 249.62	$ 115.46	86.06%
34	Residential 3"	$ 178.52	$ 82.65	86.21%	$ 167.59	$ 77.59	86.21%
35	Residential 4"	N/A					
36	Residential 6"	N/A					
37	Residential 8"	N/A					
38	Commerical 5/8"	$ 57.43	$ 26.58	86.14%	$ 44.03	$ 20.38	86.17%
39	Commerical 3/4"	N/A					
40	Commerical 1"	$ 109.89	$ 50.82	86.03%	$ 67.55	$ 31.27	86.19%
41	Commerical 1.5"	$ 213.34	$ 98.64	86.00%	$ 178.60	$ 82.60	86.04%
42	Commerical 2"	$ 739.16	$ 341.50	85.88%	$ 245.83	$ 113.71	86.07%
43	Commerical 3"	$ 248.53	$ 114.99	86.11%	$ 186.13	$ 86.17	86.20%
44	Commerical 4"	N/A					
45	Commerical 6"	N/A					
46	Commerical 8"	N/A					
47	Intentionally left blank						

(a) Reflects phase two rates.

LINE NO.	CUSTOMER CLASS	STAFF RECOMMENDED AVERAGE	INCREASE	PERCENT	MEDIAN	INCREASE	PERCENT
48	Residential 5/8"	$ 53.00	$ 13.81	35.24%	$ 38.92	$ 10.29	35.94%
49	Residential 3/4"	N/A			N/A		
50	Residential 1"	$ 69.15	$ 17.98	35.14%	$ 60.17	$ 15.73	35.40%
51	Residential 1.5"	$ 167.49	$ 42.42	33.92%	$ 123.97	$ 32.05	34.87%
52	Residential 2"	$ 186.38	$ 47.12	33.84%	$ 180.94	$ 46.78	34.87%
53	Residential 3"	$ 128.35	$ 32.48	33.88%	$ 121.95	$ 31.95	35.50%
54	Residential 4"	N/A			N/A		
55	Residential 6"	N/A			N/A		
56	Residential 8"	N/A			N/A		
57	Commerical 5/8"	$ 41.88	$ 11.03	35.77%	$ 30.76	$ 7.11	30.06%
58	Commerical 3/4"	N/A			N/A		
59	Commerical 1"	$ 79.68	$ 20.61	34.89%	$ 49.29	$ 13.01	35.86%
60	Commerical 1.5"	$ 154.34	$ 39.64	34.56%	$ 129.41	$ 33.41	34.80%
61	Commerical 2"	$ 753.68	$ 356.02	89.53%	$ 178.22	$ 46.10	34.89%
62	Commerical 3"	$ 180.42	$ 46.88	35.10%	$ 134.63	$ 34.67	34.68%
63	Commerical 4"	N/A			N/A		
64	Commerical 6"	N/A			N/A		
65	Commerical 8"	N/A			N/A		
66	Intentionally left blank						