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BEFORE THE ARIZONA CORPORATION

COMMISSIONERS

- GARY PIERCE - Chairman
- BOB STUMP
- SANDRA D. KENNEDY
- PAUL NEWMAN
- BRENDA BURNS

IN THE MATTER OF THE APPLICATION OF PIMA UTILITY COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS WATER RATES AND CHARGES FOR UTILITY SERVICE BASED THEREON.

DOCKET NO. W-02199A-11-0329

IN THE MATTER OF THE APPLICATION OF PIMA UTILITY COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS WASTEWATER RATES AND CHARGES FOR UTILITY SERVICE BASED THEREON.

DOCKET NO. SW-02199A-11-0330

**STAFF'S NOTICE OF FILING
DIRECT TESTIMONY**

The Utilities Division ("Staff") of the Arizona Corporation Commission ("Commission") hereby files the Direct Testimony of Staff witnesses Crystal S. Brown, John A. Cassidy and Marlin Scott, Jr. in the above-referenced matter.

RESPECTFULLY SUBMITTED this 3rd day of April, 2012.

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Arizona Corporation Commission

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BEFORE THE ARIZONA CORPORATION COMMISSION

GARY PIERCE
Chairman
BOB STUMP
Commissioner
SANDRA D. KENNEDY
Commissioner
PAUL NEWMAN
Commissioner
BRENDA BURNS
Commissioner

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UTILITY COMPANY, AN ARIZONA CORPORATION,)
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CHARGES FOR UTILITY SERVICE BASED)
THEREON.)

DOCKET NO. SW-02199A-11-0330

DIRECT
TESTIMONY
OF
CRYSTAL S. BROWN
PUBLIC UTILITIES ANALYST V
UTILITIES DIVISION
ARIZONA CORPORATION COMMISSION

APRIL 3, 2012

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**EXECUTIVE SUMMARY
PIMA UTILITY COMPANY,
DOCKET NOS. W-02199A-11-0329 AND SW-02199A-11-0330**

Pima Utility Company is a certificated Arizona public service corporation that provided water and wastewater service during 2010 to the community of Sun Lakes in Maricopa County, Arizona. Pima Utility Company provided water service to approximately 10,175 customers and wastewater service to approximately 10,050 customers during the test year. The current rates of Pima Utility Company's water division were approved in Decision No. 58743, dated August 11, 1994. The current rates of Pima Utility Company's wastewater division were approved in Decision No. 62184, dated January 5, 2000.

On August 29, 2011, Pima Utility Company filed applications for permanent rate increases for its water and wastewater divisions.

Pima Utility Company – Water Division (“Pima Water” or “Company”)

Pima Water states that it experienced a \$132,560 test year operating income resulting in a 1.46 percent rate of return.

Pima Water proposes a \$1,023,565, or 51.76 percent revenue increase from \$1,977,627 to \$3,001,192. The proposed revenue increase would produce an operating income of \$861,536 for a 9.47 percent rate of return on an original cost rate base (“OCRB”) of \$9,097,529. The Company's proposed rates would increase the typical residential 5/8 x 3/4-inch meter bill with a median usage of 4,500 gallons from \$8.92 to \$11.88, for an increase of \$2.96 or 33.23 percent.

Staff recommends a \$479,932 or 24.27 percent revenue increase from \$1,977,627 to \$2,457,559. Staff's recommended revenue increase would produce an operating income of \$711,569 for a 7.80 percent rate of return on an OCRB of \$9,122,677. Staff's recommended rates would increase the typical residential 5/8 x 3/4-inch meter bill with a median usage of 4,500 gallons from \$8.92 to \$9.27, for an increase of \$0.35 or 3.94 percent.

Pima Utility – Wastewater Division (“Pima Wastewater” or “Company”)

Pima Wastewater states that it experienced a \$441,784 test year operating income resulting in a 4.48 percent rate of return.

Pima Wastewater proposes a \$691,210, or 22.32 percent revenue increase from \$3,096,775 to \$3,787,985. The proposed revenue increase would produce an operating income of \$934,052 for a 9.47 percent rate of return on an OCRB of \$9,863,271. The Company's proposed rates would increase the typical residential bill from \$22.73 to \$27.79, for an increase of \$5.06 or 22.3 percent.

Staff recommends a \$170,345 or 5.50 percent revenue increase from \$3,096,775 to \$3,267,120. Staff's recommended revenue increase would produce an operating income of \$752,089 for a 7.80 percent rate of return on an OCRB of \$9,642,163. Staff's recommended rates would increase the typical residential 5/8 x 3/4-inch meter bill from \$22.73 to \$24.05, for an increase of \$1.32 or 5.8 percent.

1 **INTRODUCTION**

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

3 A. My name is Crystal S. Brown. I am a Public Utilities Analyst V employed by the Arizona
4 Corporation Commission (“ACC” or “Commission”) in the Utilities Division (“Staff”).
5 My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

6
7 **Q. Briefly describe your responsibilities as a Public Utilities Analyst V.**

8 A. I am responsible for the examination and verification of financial and statistical
9 information included in utility rate applications. In addition, I develop revenue
10 requirements, prepare written reports, testimonies, and schedules that include Staff
11 recommendations to the Commission. I am also responsible for testifying at formal
12 hearings on these matters.

13
14 **Q. Please describe your educational background and professional experience.**

15 A. I received a Bachelor of Science Degree in Business Administration from the University
16 of Arizona and a Bachelor of Science Degree in Accounting from Arizona State
17 University.

18
19 Since joining the Commission in August 1996, I have participated in numerous rate cases
20 and other regulatory proceedings involving electric, gas, water, and wastewater utilities. I
21 have testified on matters involving regulatory accounting and auditing. Additionally, I
22 have attended utility-related seminars sponsored by the National Association of
23 Regulatory Utility Commissioners (“NARUC”) on ratemaking and accounting designed to
24 provide continuing and updated education in these areas.

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

2 A. I am presenting Staff's analysis and recommendations in the areas of rate base and
3 operating revenues, expenses, and rate design regarding Pima Utility Company – Water
4 Division ("Pima Water") and Pima Utility Company – Wastewater Division ("Pima
5 Wastewater") (collectively "Pima Utility Company" or "Company") applications for
6 permanent rate increases. Staff witness John Cassidy is presenting Staff's cost of capital
7 recommendations. Staff witness Marlin Scott, Jr. is presenting Staff's engineering
8 analysis and recommendations.

9
10 **Q. What is the basis of your recommendations?**

11 A. I performed a regulatory audit of Pima Utility Company's applications to determine
12 whether sufficient, relevant, and reliable evidence exists to support the Company's
13 requested rate increases. The regulatory audit consisted of examining and testing the
14 financial information, accounting records, and other supporting documentation and
15 verifying that the accounting principles applied were in accordance with the Commission-
16 adopted NARUC Uniform System of Accounts ("USOA").

17
18 **BACKGROUND**

19 **Q. Please review the background of these applications.**

20 A. Pima Utility Company is a certificated Arizona public service corporation that provided
21 water and wastewater service to the community of Sun Lakes in Maricopa County,
22 Arizona.

23
24 Pima Utility Company is owned by a group of shareholders of which the majority
25 shareholder is Mr. Edward Robson. Pima Utility Company employs individuals that work
26 directly for the water and wastewater divisions. These employees are responsible for

1 managing, operating, and maintaining the divisions. Pima Utility Company uses a shared
2 service, Robson Communities, Inc., (“Robson Communities” or “RCI”) to perform
3 administrative work such as accounting, finance, information technology/computer
4 support, human resources, payroll, executive, and legal for both divisions. Robson
5 Communities is an affiliate of Pima Utility. Mr. Edward Robson is the Chairman of the
6 Board for both Pima Utility Company and Robson Communities, Inc.

7
8 Pima Water’s current rates were authorized in Decision No. 58743, dated August 11,
9 1994. That Decision authorized a \$26,612 revenue increase that provided an 11.5 percent
10 rate of return on a \$231,410 fair value rate base.

11
12 Pima Wastewater’s current rates were authorized in Decision No. 62184, dated January 5,
13 2000. That Decision authorized a \$1,134,979 revenue increase that provided a 9.10
14 percent rate of return on a \$12,472,296 fair value rate base.

15
16 **Q. What are the primary reasons for Pima Utility Company’s requested permanent rate**
17 **increase?**

18 A. According to the applications, the primary reasons are to recover increased operating
19 expenses and to earn its authorized rate of return on its rate bases.

20
21 **CONSUMER SERVICE**

22 **Q. Please provide a brief history of customer complaints received by the Commission**
23 **regarding Pima Utility Company.**

24 A. A brief history of customer complaints received by the Commission for Pima Water and
25 Pima Wastewater follows:

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Pima Water

Staff performed a search of the Consumer Services database and found the following customer complaints and opinions were filed against Pima Water division from January 1, 2009 through March 13, 2012:

- 2009 – One complaint quality of service issue.
 - 2010 – Zero complaints.
 - 2011 – Zero complaints and four opinions against rate increase.
 - 2012 – Zero complaints and three opinions against rate increase.
- All complaints have been resolved and closed.

Pima Wastewater

Staff performed a search of the Consumer Services database and found the following customer complaints and opinions were filed against Pima Sewer division from January 1, 2009 through March 13, 2012:

- 2009 – Two complaints, regarding odors, quality of service issue.
 - 2010 – Zero complaints.
 - 2011 – Zero complaints and three opinions against rate increase.
 - 2012 – Zero complaints and three opinions against rate increase.
- All complaints have been resolved and closed.

COMPLIANCE

Q. Please provide a summary of the compliance status of Pima Utility Company.

A. A check of the Compliance Database indicates that there are currently no delinquencies for Pima Utility Company.

1 **SUMMARY OF PROPOSED REVENUES**

2 **Q. Please summarize Pima Utility Company's filing.**

3 A. Pima Utility Company proposes, in aggregate, \$6,789,177 of total annual operating
4 revenue. This represents an increase of \$1,714,775, or 33.79% percent, over test year
5 revenue of \$5,074,402. The amount for each division is shown below.

6 **Company Proposed**

	<u>Pima Utility Company Test Year Revenue</u>	<u>Pima Utility Company Proposed Revenue</u>	<u>\$ Increase</u>	<u>% Increase</u>
Pima Water	\$1,977,627	\$3,001,192	\$1,023,565	51.76%
Pima Wastewater	\$3,096,775	\$3,787,985	\$ 691,210	22.32%
Total / Overall	\$5,074,402	\$6,789,177	\$1,714,775	33.79%

7
8 **Q. Please summarize Staff's recommended revenue.**

9 A. Staff recommends a revenue requirement of \$5,724,679 in aggregate. This represents an
10 increase of \$650,277, or 12.81 percent. The amount for each division is shown below.

11

Staff Recommended	<u>Test Year Per Staff</u>	<u>Staff Recommended</u>	<u>\$ Increase</u>	<u>% Increase</u>
Pima Water	\$1,977,627	\$2,457,559	\$479,932	24.27%
Pima Wastewater	\$3,096,775	\$3,267,120	\$170,345	5.50%
Total / Overall	\$5,074,402	\$5,724,679	\$650,277	12.81%

12
13 The above proposed and recommended revenue requirements would apply to the
14 customers of each division of Pima Utility Company as discussed below:

15
16 *Pima Water*

17 Pima Water proposes a \$1,023,565, or 51.76 percent revenue increase from \$1,977,627 to
18 \$3,001,192. The proposed revenue increase would produce an operating income of
19 \$861,536 for a 9.47 percent rate of return on an original cost rate base ("OCRB") of
20 \$9,097,529. The Company's proposed rates would increase the typical residential 5/8 x

1 3/4-inch meter bill with a median usage of 4,500 gallons from \$8.92 to \$11.88, for an
2 increase of \$2.96 or 33.23 percent.

3
4 Staff recommends a \$479,932 or 24.27 percent revenue increase from \$1,977,627 to
5 \$2,457,559. Staff's recommended revenue increase would produce an operating income
6 of \$711,569 for a 7.80 percent rate of return on an OCRB of \$9,122,677. Staff's
7 recommended rates would increase the typical residential 5/8 x 3/4-inch meter bill with a
8 median usage of 4,500 gallons from \$8.92 to \$9.27, for an increase of \$0.35 or 3.94
9 percent.

10
11 *Pima Wastewater*

12 Pima Wastewater proposes a \$691,210, or 22.32 percent revenue increase from
13 \$3,096,775 to \$3,787,985. The proposed revenue increase would produce an operating
14 income of \$934,052 for a 9.47 percent rate of return on an OCRB of \$9,863,271. The
15 Company's proposed rates would increase the typical residential bill from \$22.73 to
16 \$27.79, for an increase of \$5.06 or 22.3 percent.

17
18 Staff recommends a \$170,345 or 5.50 percent revenue increase from \$3,096,775 to
19 \$3,267,120. Staff's recommended revenue increase would produce an operating income
20 of \$752,089 for a 7.80 percent rate of return on an OCRB of \$9,642,163. Staff's
21 recommended rates would increase the typical residential 5/8 x 3/4-inch meter bill from
22 \$22.73 to \$24.05, for an increase of \$1.32 or 5.8 percent.

23
24 **Q. What test year did Pima Utility Company use in this filing?**

25 **A. Pima Utility Company's rate filings are based on the twelve months ended December 31,**
26 **2010 ("test year").**

1 **Q. Please summarize the rate base and operating income recommendations and**
2 **adjustments addressed in your testimony for Pima Utility Company.**

3 A. My testimony addresses the following issues:

4
5 Expensed Plant Costs, Plant In Service – This adjustment is made for both divisions of
6 Pima Utility Company. It reflects plant that the Company expensed when paid rather than
7 capitalized and depreciated. The adjustments increase plant in service by \$25,531 for
8 Pima Water and \$22,391 for Pima Wastewater.

9
10 Excess Capacity Costs – This adjustment is made only to the rate base of Pima
11 Wastewater and decreases plant in service by \$598,468 to remove plant that Staff has
12 identified as being excess capacity.

13
14 Accumulated Depreciation – This adjustment is made for both divisions of Pima Utility
15 Company to reflect Staff's calculation of accumulated depreciation based on Staff's
16 adjustments to plant. The adjustments increase accumulated depreciation by \$383 for
17 Pima Water and decreases accumulated depreciation by \$354,969 for Pima Wastewater.

18
19 Salaries and Wages, Officers and Directors – This adjustment is made for both divisions
20 of Pima Utility Company to reflect Staff's calculation of a reasonable level of salary and
21 wage expenses for the chairman of the board, Mr. Edward Robson, who is also the
22 majority shareholder of Robson Communities. The adjustments decrease the Salaries and
23 Wages, Officers and Directors account by \$76,608 each for Pima Water and Pima
24 Wastewater.

25

1 Employee Pensions and Benefits – This adjustment is made for both divisions of Pima
2 Utility Company. The adjustments decrease Employee Pensions and Benefits expense
3 consistent with Staff’s adjustment to decrease Salaries and Wages, Officers and Directors
4 expense. The adjustments decrease the Employee Pensions and Benefits account by
5 \$1,378 each for Pima Water and Pima Wastewater.

6
7 Repairs and Maintenance (Pima Water) / Materials and Supplies (Pima Wastewater) – The
8 adjustments decrease operating expenses to remove plant costs that the Company
9 inappropriately expensed rather than capitalized and depreciated. The adjustments
10 decrease Pima Water’s Repairs and Maintenance account by \$29,489 and Pima
11 Wastewater’s Materials and Supplies account by \$22,391.

12
13 Office Supplies and Expenses – This adjustment is made for both divisions of Pima Utility
14 Company and decreases operating expenses to remove expenses that are not needed for
15 the provision of service. The adjustments decrease the Office Supplies and Expenses
16 account by \$460 each for Pima Water and Pima Wastewater.

17
18 Contract Services, Engineering – This adjustment is made for both divisions of Pima
19 Utility Company and decreases operating expenses to remove plant costs that the
20 Company inappropriately expensed. The adjustments decrease the Contract Services,
21 Engineering account by \$3,902 for Pima Water and \$19,524 for Pima Wastewater.

22
23 Contract Services, Other – This adjustment is made for both divisions of Pima Utility
24 Company and decreases operating expenses to remove expenses that are not needed for
25 the provision of service. The adjustments decrease the Contract Services, Other account
26 by \$415 for Pima Water and \$7,138 for Pima Wastewater.

1 Contract Services, Water Testing – This adjustment is made for both divisions of Pima
2 Utility Company and reflects Staff's analysis of water testing expense. The adjustments
3 decrease the Contract Services, Water Testing account by \$9,812 for Pima Water and
4 increase the account by \$12,157 for Pima Wastewater.

5
6 Rate Case Expense – This adjustment is made for both divisions of Pima Utility Company
7 and decreases operating expenses to reflect a reasonable level of rate case expense based
8 upon Staff's analysis. The adjustments decrease the Regulatory Commission - Rate Case
9 account by \$10,000 each for Pima Water and Pima Wastewater.

10
11 Depreciation Expense – This adjustment is made for both divisions of Pima Utility
12 Company to reflect Staff's calculation of depreciation expense based upon Staff's
13 recommended plant balances. The adjustments increase the Depreciation Expense account
14 by \$1,389 for Pima Water and \$63,556 for Pima Wastewater.

15
16 Property Tax Expense – This adjustment is made for both divisions of Pima Utility
17 Company and decreases operating expenses to reflect Staff's calculation of the property
18 tax expense. The adjustments decrease the Property Tax Expense account by \$6,167 for
19 Pima Water and \$1,394 for Pima Wastewater.

20
21 Income Tax Expense – This adjustment is made for both divisions of Pima Utility
22 Company. Staff's adjustment removes income tax expenses to reflect the fact that the
23 Company has no income tax obligation. The adjustments increase the Income Tax
24 Expense account by \$27,157 for Pima Water and decrease the account by \$85,405 for
25 Pima Wastewater.
26

1 **RATE BASE**

2 **Fair Value Rate Base**

3 **Q. Did Pima Utility Company prepare schedules showing the elements of**
4 **Reconstruction Cost New Rate Base?**

5 A. No, Pima Utility Company did not. Therefore, Pima Utility Company's OCRBs will be
6 treated as its fair value rate bases.

7
8 **Rate Base Summary**

9 **Q. Please summarize Staff's adjustments to the rate bases of Pima Water and Pima**
10 **Wastewater as shown on Schedules CSB-2 and CSB-3 of their respective schedules.**

11 A. A summary of Pima Utility Company's proposed and Staff's recommended rate bases
12 follows:

13

	TEST YEAR RATE BASE		
	<u>Per Company</u>	<u>Difference</u>	<u>Per Staff</u>
Pima Water	\$9,097,529	\$25,148	\$9,122,677
Pima Wastewater	\$9,863,271	(\$221,108)	\$9,642,163
Total	\$18,960,800	(\$195,960)	\$18,764,840

14
15 **Rate Base Adjustment – Expensed Plant (Pima Water and Pima Wastewater)**

16 **Q. What guidance should water and wastewater utilities use to determine whether a cost**
17 **should be capitalized by recording it in a plant account or treated as an operating**
18 **expense?**

19 A. AAC R14-2-411(D)(2) and R14-2-610(D)(2) require water and wastewater companies to
20 maintain their accounting records in accordance with the NARUC USOA. AAC R14-2-
21 610(D)(2) states, "Each utility shall maintain its books and records in conformity with the
22 Uniform System of Accounts for Class A, B, C and D Sewer Utilities." (Emphasis
23 added). AAC R14-2-411(D)(2) makes a similar requirement for water companies.

1 Further, the NARUC USOA provides a listing of plant accounts and the types of costs that
2 should be recorded in each account. Utilities should use the plant account listing and
3 Accounting Instruction No. 14 "Utility Plant – Components of Construction Costs" to
4 determine what costs should be recorded as plant.

5
6 **Q. Did Pima Utility expense costs that, according to the NARUC USOA, should be**
7 **recorded in plant accounts?**

8 A. Yes, the Company expensed costs that should have been recorded as plant.

9
10 **Q. What is the effect of expensing plant?**

11 A. The matching principle is violated. The NARUC USOA requires utilities to follow
12 accrual accounting. The matching principle is the underlying basis of accrual accounting.
13 The matching principle requires that revenues in an accounting period be matched to the
14 expenses incurred during that same accounting period.

15
16 The practice of expensing plant violates the matching principle because the entire cost of
17 the asset is matched to only one accounting period even though the asset will benefit many
18 accounting periods. Adherence to the matching principle and the NARUC USOA requires
19 that the cost of an asset that benefits more than one accounting period be capitalized (by
20 recording it in a plant account) and depreciated over the asset's useful life.

21
22 **Q. What is Staff recommending?**

23 A. Staff recommends increasing plant in service to reclassify plant that was incorrectly
24 recorded as an operating expense as shown on Schedules CSB-3 and CSB-4 for Pima
25 Water and Schedules CSB-3 and CSB-5 for Pima Wastewater.

EXPENSED PLANT				
	Reference:	Plant In Service Per Company	Staff's Adjustment	Plant In Service Per Staff
Pima Water	Schedules CSB-3 & CSB-4	\$ 14,546,128	\$ 25,531	\$ 14,571,659
Pima Wastewater	Schedules CSB-3 & CSB-5	\$ 22,055,018	\$ 22,391	\$ 22,077,409
Total		\$ 36,601,146	\$ 47,922	\$ 36,649,068

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Rate Base Adjustment – Excess Capacity Plant (Pima Wastewater)

Q. During the course of the audit, did Staff identify excess capacity plant for Pima Wastewater?

A. Yes. Staff identified excess capacity plant, as discussed in greater detail by Staff witness, Marlin Scott, Jr.

Q. Is excess capacity plant used and useful?

A. No, it is not.

Q. What is the cost of the excess capacity plant?

A. The cost is \$598,468.

Q. What is Staff's recommendation?

A. Staff recommends decreasing plant in service by \$598,468 for Pima Wastewater as shown on Schedules CSB-3 and CSB-4.

Rate Base – Accumulated Depreciation

Q. What did Pima Utility Company propose for Accumulated Depreciation?

A. Pima Utility Company proposed \$4,788,169 for the water division and \$11,546,833 for the wastewater division.

1 **Q. Did Staff recalculate the Accumulated Depreciation balance using Staff's**
2 **recommended plant balances?**

3 A. Yes. Staff recalculated the Accumulated Depreciation balance using the plant in service
4 balances that were adjusted for the removal of excess capacity costs (Pima Wastewater
5 only) and the addition of plant costs that were inappropriately included in operating
6 expenses.

7
8 **Q. Please summarize Staff's recommendation for accumulated depreciation?**

9 A. Staff recommends decreasing accumulated depreciation for each division of Pima Utility
10 Company as follows:

ACCUMULATED DEPRECIATION				
	Reference:	Accumulated Depreciation Per Company	Staff's Adjustment	Accumulated Depreciation Per Staff
Pima Water	Schedules CSB-3 & CSB-5	\$ 4,788,169	\$383	\$4,788,552
Pima Wastewater	Schedules CSB-3 & CSB-6	\$ 11,546,833	(\$354,969)	\$11,191,864
Total		\$ 16,335,002	(\$354,586)	\$15,980,416

11
12 **Rate Base – Other Matters**

13 **Q. What information came to Staff's attention during the course of Staff's audit?**

14 A. Pima Utility Company brought to Staff's attention, in its response to CSB 1-11 (water
15 division), that it owes approximately \$49,000 in refunds on a line extension contract to a
16 builder that has filed bankruptcy and has not been able to find a successor.

17
18 **Q. What is Staff's recommendation concerning this matter?**

19 A. Staff recommends that the Company contact the bankruptcy court to determine who
20 should receive the payment.
21

1 **OPERATING INCOME**

2 **Operating Income Summary**

3 **Q. What are the results of Staff's analysis of test year revenues, expenses and operating**
4 **income for the Pima Utility Company?**

5 A. Staff's analysis resulted in test year revenues, expenses, and operating income as follows:

6

Test Year	Pima Water	Pima Wastewater
	Sch CSB-6	Sch CSB-7
Revenues	\$1,977,627	\$3,096,775
Expenses	\$1,735,381	\$2,506,406
Operating Income	\$242,246	\$590,369

7

8

9

10

11 **Operating Income Adjustment – Salaries and Wages, Officers and Directors**

12 **Q. What amount is Pima Water and Pima Wastewater proposing for Salaries and**
13 **Wages, Officers and Directors?**

14 A. Schedule C-2 of the Company's respective income statements, shows that the Company is
15 proposing \$90,294 each for Pima Water and Pima Wastewater. The total salary for both
16 divisions is \$180,588.

17

18 **Q. What is the name and title of the individual who receives the salary?**

19 A. The individual's name is Mr. Edward Robson and his title is chairman of the board.

20

21 **Q. Does Pima Utility have a board of directors that works solely for Pima Utility?**

22 A. No, it does not.

23

24 **Q. For what board of directors is Mr. Robson chairman?**

25 A. Mr. Robson is the chairman of the board of directors for Robson Communities.

1 **Q. Is Mr. Robson the majority shareholder for Robson Communities?**

2 A. Yes.

3
4 **Q. How many companies are owned by Robson Communities?**

5 A. According to the application, Robson Communities owns nine companies in Arizona.
6 Those companies are Lago Del Oro Water Company, Ridgeview Utility Company,
7 Saddlebrooke Utility Company, Picacho Water Company, Picacho Sewer Company,
8 Mountain Pass Utility Company, Santa Rosa Water Company, and Santa Rosa Utility
9 Company.

10

11 **Q. How many hours did the Company state that the chairman of the board spent**
12 **working for Pima Utility?**

13 A. The Company indicated that the chairman spent 56.6 hours working for Pima

14

15 **Q. Was that claim based on time sheets or a time study?**

16 A. Neither. The 56.6 hours is an estimate.

17

18 **Q. Is it appropriate to use an estimate as the basis for a salary?**

19 A. No, it is not. Accounting Instruction No. 10 of the NARUC USOA states:

20

10. General – Allocation of Salaries and Expenses

21

Charges to utility plant or to a salaries expense account shall be based
22 upon the actual time engaged in either plant construction or providing
23 operational services. In the event actual time spent in the various
24 activities is not available or practicable, salaries should be allocated upon
25 the basis of a study of the time engaged during a representative period.
26 **Charges should not be made to the accounts based upon estimates or**
27 **in an arbitrary fashion. (Emphasis added).**

28

1 **Q. Is the work performed by the chairman of the board for Pima Utility Company**
2 **classified as direct or indirect?**

3 A. The work is classified as indirect because it reflects the oversight of Robson Communities
4 which, in turn, oversees Pima Utility Company.

5
6 **Q. Should indirect work be allocated?**

7 A. Yes. One of the principles contained in the NARUC Guideline for Cost Allocations and
8 Affiliate Transactions states:

9
10 The primary cost driver of common costs, or a relevant proxy in the
11 absence of a primary cost driver, should be identified and used to
12 allocate the cost between regulated and non-regulated services or
13 products.

14
15 **Q. What effect does improperly allocated costs have on rate payers?**

16 A. When costs incurred primarily for the benefit of an unregulated affiliate's business are
17 improperly identified and allocated as operating expenses, then costs of the unregulated
18 affiliate are shifted to the captive customers of the regulated utility. This cost shifting
19 results in the captive customers of the regulated utility subsidizing the business operations
20 of the unregulated affiliate. This harms customers by creating artificially higher rates.

21
22 **Q. Did Staff review the reasonableness of the \$90,294 amount?**

23 A. Yes.

24
25 **Q. Is the proposed \$90,294 amount reasonable?**

26 A. No, it is not because the hourly rate and the corresponding annual salary are excessive.

27

1 **Q. What is the hourly rate?**

2 A. The hourly rate is \$1,500 an hour calculated as follows: $\$90,294 / 56.6 \text{ hours} = \$1,500$ per
3 hour.

4
5 **Q. What annual salary does this correspond to?**

6 A. A \$1,500 hourly rate corresponds to an annual salary of \$3 million per year calculated as
7 follows: $\$1,500 \text{ per hour} \times 2,080 \text{ hours} = \3 million .

8
9 **Q. Did Staff allocate a more reasonable amount for worked performed by the chairman
10 for Pima Utilities?**

11 A. Yes, Staff allocated \$13,686 for each of the divisions.

12
13 **Q. How was the amount of Salary Expense for the chairman calculated?**

14 A. Staff's salary expense for the chairman was calculated by multiplying total RCI employee
15 salary and wage expense by 30 percent.

16
17 **Q. What is Staff's recommendation?**

18 A. Staff recommends decreasing operating expense as follows for Pima Utility Company:
19

SALARIES AND WAGES, OFFICERS AND DIRECTORS				
	Reference:	<u>Per Company</u>	<u>Staff's Adjustment</u>	<u>Per Staff</u>
Pima Water	Schedules CSB-7 & CSB-8	\$90,284	(\$76,608)	\$13,686
Pima Wastewater	Schedules CSB-8 & CSB-9	\$90,284	(\$76,608)	\$13,686

1 **Q. Did Pima Utility Company indicate that it planned to file a revision to the proposed**
2 **amount for the chairman?**

3 A. Yes.
4

5 **Operating Income Adjustment – Employee Pensions and Benefits**

6 **Q. What amount did Pima Water and Pima Wastewater propose for the Employee**
7 **Pensions and Benefits account?**

8 A. Pima Water proposed \$64,900 and Pima Wastewater proposed \$115,720.
9

10 **Q. What adjustment did Staff make to the Employee Pensions and Benefits account?**

11 A. Consistent with Staff's adjustment to reduce the amount of salary and wages paid to the
12 chairman of the board, Staff has reduced the amount of associated pensions and benefits
13 paid to the chairman.
14

15 **Q. How was the amount of Employee Pensions for the chairman calculated?**

16 A. Staff's pension expense for the chairman was calculated by multiplying total RCI
17 employee pension expense by 30 percent.
18

19 **Q. What is Staff's recommendation?**

20 A. Staff recommends adjustments to operating expense for Pima Utility Company as follows:
21

EMPLOYEE PENSIONS AND BENEFITS				
	Reference:	Per Company	Staff's Adjustment	Per Staff
Pima Water	Schedules CSB-7 & CSB-9	\$64,900	(\$1,378)	\$63,522
Pima Wastewater	Schedules CSB-8 & CSB-11	\$115,720	(\$1,378)	\$114,342

1 **Operating Income Adjustment – Repairs and Maintenance (Pima Water) / Materials and**
2 **Supplies (Pima Wastewater)**

3 **Q. Did Pima Water and Pima Wastewater inappropriately record as operating expenses**
4 **costs that should have been capitalized and depreciated?**

5 A. Yes, as Staff discussed in “Rate Base Adjustment, Expensed Plant,” Pima Water and Pima
6 Wastewater inappropriately recorded as operating expenses costs that, according to the
7 NARUC USOA and the matching principle, should be capitalized and depreciated.

8
9 **Q. What adjustment did Staff make to Pima Water’s Repairs and Maintenance**
10 **account?**

11 A. Staff removed \$5,937 in pumping equipment and \$15,692 in services that Pima Water
12 inappropriately included in operating expenses. Also, Staff normalized, using five years,
13 the \$9,825 cost to remove a tree. Staff’s calculation is shown on Schedule CSB-10.

14
15 **Q. What adjustment did Staff make to Pima Wastewater’s Materials and Supplies**
16 **account?**

17 A. Staff removed \$9,179 in pumping equipment and \$13,212 in treatment and disposal
18 equipment for a total of \$22,391 that Pima Water included in operating expenses. Staff’s
19 calculation is shown on Schedule CSB-11.

20
21 **Q. What treatment does Staff recommend for the Company’s expensed plant costs?**

22 A. Staff recommends that the costs be treated consistent with the NARUC USOA and the
23 matching principle. Staff recommends including these costs in rate base and excluding
24 them from test year operating expenses.

1 **Q. What is Staff's recommendation?**

2 A. Staff recommends decreasing operating expense for Pima Utility Company as follows:

3

REPAIRS & MAINT. (WTR) / MATERIALS & SUPPLIES (WASTEWTR)		
	Reference:	Staff's Adjustment
Pima Water	Schedules CSB-7 & CSB-10	(\$29,489)
Pima Wastewater	Schedules CSB-8 & CSB-11	(\$22,391)

4

5 **Operating Income Adjustment – Office Supplies and Expenses**

6 **Q. What amount for coffee service did Pima Water and Pima Wastewater include in**
7 **their respective Office Supplies and Expenses accounts?**

8 A. Pima Water and Pima Wastewater each included \$460 for coffee service in their Office
9 Supplies and Expenses accounts.

10

11 **Q. What rate-making treatment does Staff recommend for these types of expenses?**

12 A. Since these costs are not necessary to provide service, Staff recommends that they be
13 recognized as non-operating expenses and excluded from the revenue requirement.

14

15 **Q. What is Staff's recommendation?**

16 A. Staff recommends decreasing operating expense for Pima Utility Company as follows:

17

OFFICE SUPPLIES AND EXPENSES		
	Reference:	Staff's Adjustment
Pima Water	Schedules CSB-7 & CSB-11	(\$460)
Pima Wastewater	Schedules CSB-8 & CSB-12	(\$460)

18

1 **Operating Income Adjustment – Contract Services, Engineering**

2 **Q. Did Pima Water and Pima Wastewater inappropriately record as operating expenses**
3 **costs that should have been capitalized and depreciated in the Contract Services,**
4 **Engineering account?**

5 A. Yes, as Staff discussed in “Rate Base Adjustment, Expensed Plant,” Pima Water and Pima
6 Wastewater inappropriately recorded as operating expenses costs that, according to the
7 NARUC USOA and the matching principle, should be capitalized and depreciated.

8
9 **Q. What adjustment did Staff make to Pima Water’s and Pima Wastewater’s Contract**
10 **Services, Engineering account?**

11 A. For Pima Water, Staff removed and capitalized \$3,902 for wells and springs plant in
12 pumping equipment. For Pima Wastewater, Staff removed from operating expenses but
13 did not capitalize \$19,524 in plant costs as the amount was for construction work in
14 progress.

15
16 **Q. What is Staff’s recommendation?**

17 A. Staff recommends decreasing operating expense for Pima Utility Company as follows:

18

CONTRACT SERVICES, ENGINEERING		
	<u>Reference:</u>	<u>Staff’s Adjustment</u>
Pima Water	Schedules CSB-7 & CSB-12	(\$3,902)
Pima Wastewater	Schedules CSB-8 & CSB-13	(\$19,524)

19
20
21

22 **Operating Income Adjustment – Contract Services, Other**

23 **Q. What amount did Pima Water and Pima Wastewater propose for the Contract**
24 **Services, Other account?**

25 A. Pima Water proposed \$54,797 and Pima Wastewater proposed \$61,500.
26

1 **Q. What adjustment did Staff make to Pima Water's Contract Services, Other account?**

2 A. Staff removed \$415 for an allocation from RCI for bonuses. Staff has allowed the full
3 allocated base salaries and wages amounts for the RCI employees. The bonus pay is an
4 optional cost and, therefore, should be recognized below-the-line (i.e., removed from
5 rates).

6
7 **Q. What adjustment did Staff make to Pima Wastewater's Contract Services, Other
8 account?**

9 A. Staff removed a total of \$7,138. Staff removed \$6,700 for IDA bond fees. Pima Utility
10 Company is refinancing all of its IDA bonds through a loan to be provided from Wells
11 Fargo; therefore, all fees associated with the IDA bonds will cease once the refinancing
12 takes place. Also, Staff removed \$438 for an allocation from RCI for bonuses. Staff has
13 allowed the full allocated base salaries and wages amounts for the RCI employees. The
14 bonus pay is an optional cost and, therefore, should be recognized below-the-line (i.e.,
15 removed from rates).

16
17 **Q. What is Staff's recommendation?**

18 A. Staff recommends decreasing operating expense for Pima Utility Company as follows:

19

CONTRACT SERVICES, OTHER		
	Reference:	Staff's Adjustment
Pima Water	Schedules CSB-7 & CSB-13	(\$415)
Pima Wastewater	Schedules CSB-8 & CSB-14	(\$7,138)

20
21

22
23 **Operating Income Adjustment – Contract Services, Testing**

24 **Q. What did Pima Water and Pima Wastewater propose for water testing expense?**

25 A. Pima Water proposed \$18,737 and Pima Wastewater proposed \$15,729 for water testing
26 expense.

1 **Q. What adjustment did Staff make?**

2 A. Staff adjusted annual water testing costs to reflect Staff's recommended \$9,812 decrease
3 for Pima Water and \$12,157 increase for Pima Wastewater as discussed in greater detail
4 by Staff witness Marlin Scott, Jr.

5
6 **Q. What is Staff's recommendation?**

7 A. Staff recommends adjusting operating expense for Pima Utility Company as follows:
8

CONTRACT SERVICES, WATER TESTING		
	Reference:	Staff's Adjustment
Pima Water	Schedules CSB-7 & CSB-14	(\$9,812)
Pima Wastewater	Schedules CSB-8 & CSB-15	\$12,157

9

10 **Operating Income Adjustment – Rate Case Expense**

11 **Q. What rate case expense is Pima Water and Pima Wastewater proposing?**

12 A. Pima Water and Pima Wastewater are proposing total rate case expense of \$200,000 each,
13 normalized using four years, for an annual rate case expense of \$50,000 for each division.
14

15 **Q. Did Staff make an adjustment to rate case expense?**

16 A. Yes.
17

18 **Q. Why did Staff make this adjustment?**

19 A. Staff usually normalizes rate case expense over a 3- to 5-year period. In this case, Pima
20 Water has not been in for a rate case in approximately 18 years and Pima Wastewater in
21 approximately 10 years; therefore, Staff concludes that normalizing the rate case expense
22 over 5 years is more appropriate.
23

1 **Q. What is Staff's recommendation?**

2 A. Staff recommends decreasing operating expense by \$10,000 for Pima Utility Company to
3 reflect Staff's annual rate case expense of \$40,000 for each division:
4

RATE CASE EXPENSE		
	Reference	<u>Annual Rate Case</u> <u>Expense</u>
Pima Water	Schedules CSB-7 & CSB-15	\$40,000
Pima Wastewater	Schedules CSB-8 & CSB-16	\$40,000

5

6 **Operating Income Adjustment – Depreciation Expense**

7 **Q. What are Pima Water and Pima Wastewater proposing for depreciation expense?**

8 A. Pima Water and Pima Wastewater are proposing depreciation expense of \$686,998 and
9 \$1,010,700, respectively.
10

11 **Q. What adjustment did Staff make to depreciation expense?**

12 A. Staff adjusted depreciation expense to reflect application of the Staff recommended
13 depreciation rates to the Staff recommended plant balances.
14

15 **Q. What is Staff's recommendation?**

16 A. Staff recommends the following depreciation expense for Pima Water and Pima
17 Wastewater:
18

DEPRECIATION EXPENSE		
	Reference	Depreciation Expense Per Staff
Pima Water	Schedules CSB-7 & CSB-16	\$688,387
Pima Wastewater	Schedules CSB-8 & CSB-17	\$1,074,256

19

1 **Operating Income Adjustment – Property Taxes**

2 **Q. What are Pima Water and Pima Wastewater proposing for property taxes?**

3 A. Pima Water and Pima Wastewater are proposing property taxes of \$83,358 and \$125,916,
4 respectively.

5
6 **Q. Did Staff make any adjustment to the property taxes?**

7 A. Yes. Staff's adjustment reflects Staff's calculation of the property tax expense using the
8 modified Arizona Department of Revenue Methodology applied to Staff's recommended
9 revenues.

10
11 **Q. What is Staff's recommendation?**

12 A. Staff recommends the following property tax expense for Pima Water and Pima
13 Wastewater:

14

PROPERTY TAX EXPENSE		
	Reference	Property Tax Expense Per Staff
Pima Water	Schedules CSB-7 & CSB-17	\$77,191
Pima Wastewater	Schedules CSB-8 & CSB-18	\$124,522

15
16 **Operating Income Adjustment – Income Taxes**

17 **Q. What are Pima Water and Pima Wastewater proposing for income tax expense?**

18 A. Pima Water and Pima Wastewater are proposing income tax expense of (\$27,127), and
19 \$85,405, respectively.

20
21 **Q. What adjustment did Staff make and why?**

22 A. Staff's adjustment removes the income taxes from both divisions as the Company is not
23 liable for income taxes.

1 **Q. What does the Company's audited financial statements say concerning income taxes?**

2 A. The audited financial statements say the following:

3
4 With few exceptions, the Company is no longer subject to U.S.
5 federal, state and local income tax examinations by tax authorities
6 for years before 2006.

7
8 The Company and its stockholders have elected to be taxed as an S
9 corporation. In lieu of corporate income taxes, the stockholders are
10 personally taxed on the Company's taxable income.

11

12 **Q. Has the Commission recently ruled on the appropriateness of utility companies that**
13 **are pass-through entities, such as limited liability companies or Sub Chapter S**
14 **corporations, claiming income tax expense?**

15 A. Yes. In the recent Sunrise Water Company Case,¹ the Commission decided that Sub
16 Chapter S corporations, as well as limited liability companies, that are not subject to tax
17 by the Internal Revenue Service, should not receive income taxes for rate making
18 purposes.

19

20 That decision stated, "The Commission has established a long-standing policy of denying
21 recovery of income tax expenses for pass-thru entities and apparently has varied from it, at
22 least in recent years, only as an exception made under unique circumstances or as an
23 inadvertent error."²

24

25 **Q. Was that determination subsequently affirmed by the Commission?**

26 A. Yes. In Decision No. 71510, dated March 17, 2010, and in Decision No. 72177, dated
27 February 11, 2011, the Commission again decided that Sub Chapter S corporations and

¹ Docket No. W-02069A-08-0406, Decision No. 71445 (issued December 28, 2009).

² *Id.* at 36.

1 limited liability companies that are not subject to tax by the Internal Revenue Service
2 should not receive income taxes for rate making purposes. Staff does note, however, that
3 Decision No. 72177 included a provision that, if the Commission were to alter its policy in
4 the future and allow such entities to impute a hypothetical income tax expense for
5 ratemaking purposes, the utility could file a motion to amend the order prospectively.³

6
7 **Q. What is Staff's recommendation?**

8 A. Staff recommends the following income tax expense for the Pima Utility Company:

9

INCOME TAX EXPENSE		
	Reference:	Income Tax Per Staff
Pima Water	Schedules CSB-7 & CSB-18	\$0
Pima Wastewater	Schedules CSB-8 & CSB-19	\$0

10
11 **RATE DESIGN**

12 **Pima Water**

13 **Q. Has Staff prepared a schedule summarizing the present, Company proposed, and**
14 **Staff recommended rates and service charges for Pima Water?**

15 A. Yes. Schedule CSB-19 provides a summary of the present, Company's proposed, and
16 Staff's recommended rates for Pima Water.

17
18 **Q. Please summarize the present rate design.**

19 A. Customer class is distinguished by meter size. The monthly minimum charges vary by
20 meter size and include 1,000 gallons. The commodity rates are based on an inverted two-
21 tier rate design.

22

³ Decision No. 72177 at 45:26-28.

1 **Q. Please summarize the Company's proposed rate design.**

2 A. Customer class is distinguished by meter size. The monthly minimum charges vary by
3 meter size and include no gallons. The commodity rates are based on an inverted three-
4 tier rate design. The Company's proposed rates would increase the typical residential 5/8
5 x 3/4-inch meter bill with a median usage of 4,500 gallons from \$8.92 to \$11.88, for an
6 increase of \$2.96 or 33.23 percent as shown on Schedule CSB-20.

7
8 **Q. Please summarize Staff's recommended rate design.**

9 A. Customer class is distinguished by meter size. The monthly minimum charges vary by
10 meter size and include no gallons. The commodity rates are based on an inverted three-
11 tier rate design. Staff's recommended rates would increase the typical residential 5/8 x
12 3/4-inch meter bill with a median usage of 4,500 gallons from \$8.92 to \$9.27, for an
13 increase of \$0.35 or 3.94 percent, as shown on Schedule CSB-20.

14
15 **Q. Did the Company propose to add a "Construction/Standpipe" tariff rate?**

16 A. Yes, the Company proposed to add a "Construction/Standpipe" tariff rate. The proposed
17 rate is \$0.70 per gallon.

18
19 **Q. Does Staff agree with the addition of the tariff item and the proposed rate?**

20 A. Staff agrees with the addition of the tariff item, but Staff recommends a commodity rate of
21 \$1.7190. This higher commodity rate is intended to cover the costs of meter reading and
22 other administrative costs.
23

1 **Q. Did the Company propose any changes to its Meter and Service Line Charges?**

2 A. Yes, and Staff recommends approval. Both the Company-proposed and the Staff-
3 recommended changes are shown on Schedule CSB-19 and are discussed in greater detail
4 in the testimony of Staff witness, Marlin Scott, Jr.

5
6 *Service Charges – Pima Water*

7 **Q. Did the Company propose any changes to the service charges?**

8 A. Yes. The Company proposes to add an Establishment charge of \$25, add a Reconnection
9 (Delinquent) charge of \$25 and add an After Hours Service Charge of \$50.

10
11 **Q. Does Staff agree with the proposed Establishment and Reconnection (Delinquent)**
12 **charges?**

13 A. Yes.

14
15 **Q. Does Staff agree with the proposed After Hours Service Charge?**

16 A. Yes. The Company has proposed an After Hours Service Charge, at the customer's
17 request (after hours). Staff agrees that an additional fee for service provided outside of
18 normal business hours is appropriate when such service is at the customer's request. Such
19 a tariff compensates the utility for additional expenses incurred from providing after-hours
20 service. Moreover, Staff concludes that it is appropriate to apply an after-hours service
21 charge in addition to the charge for any utility service provided after hours at the
22 customer's request. Therefore, Staff recommends the creation of a separate After-Hours
23 Service Charge at the customer request. For example, under Staff's proposal, a customer
24 would be subject to a \$25 Reconnection fee if it is done during normal business hours, but
25 would pay an additional after-hours fee when such service is at the customer's request.
26

1 **Q. Does Staff agree with the amount of the proposed After Hours Service Charge?**

2 A. Yes.

3
4 **Pima Wastewater**

5 **Q. Has Staff prepared a schedule summarizing the present, Company-proposed, and**
6 **Staff-recommended rates and service charges for Pima Wastewater?**

7 A. Yes. Schedule CSB-20 provides a summary of the Company's present, Company's
8 proposed, and Staff's recommended rates for Pima Wastewater.

9
10 **Q. Please summarize the present rate design.**

11 A. The present monthly customer charges vary by meter size. The present monthly customer
12 charge for the residential customers is \$22.73 with no commodity charge. The monthly
13 customer charge for effluent customers is \$180 with 100,000 gallons included in the
14 minimum. Effluent customers pay \$0.58 per 1,000 gallons.

15
16 **Q. Please summarize the Company's proposed rate design.**

17 A. The Company's proposed monthly customer charges vary by meter size. The proposed
18 monthly customer charge for the residential customers is \$27.79 with no commodity
19 charge. The proposed monthly customer charge for effluent customers is \$232.56 with no
20 gallons included in the minimum. Effluent customers would pay \$0.70 per 1,000 gallons
21 under the Company's proposal.

22
23 **Q. Please summarize Staff's recommended rate design.**

24 A. Staff's monthly customer charges vary by meter size. The recommended monthly
25 customer charge for effluent customers is \$230 with no gallons included in the minimum
26 and \$0.70 per 1,000 gallons. The recommended monthly customer charge for the

1 residential customers is \$24.05 with no commodity charge. Staff's recommended rates
2 would increase the typical residential 5/8 x 3/4-inch meter bill from \$22.73 to \$24.05, for
3 an increase of \$1.32 or 5.8 percent. as shown on Schedule CSB-21.

4
5 *Service Charges – Pima Wastewater*

6 **Q. Did the Company propose to remove any service charges from its tariff?**

7 A. Yes. The Company proposes to remove a \$260 Impact Fee and a \$500
8 Disconnect/Reconnect (Delinquent Account) charge.

9
10 **Q. Does Staff agree with the proposed removal of the Impact Fee and**
11 **Disconnect/Reconnect (Delinquent Account) charges?**

12 A. Yes.

13
14 **Q. Did the Company propose to add any service charges to its tariff?**

15 A. Yes. The Company proposes to add an Establishment charge of \$25; add a
16 Reestablishment (Within 12 months) charge per Commission Rules; add a Reconnection
17 (Delinquent) charge of \$25; and add an After Hours Service Charge of \$50.

18
19 **Q. Does Staff agree with the proposed Establishment, Re-Establishment and the**
20 **Reconnection (Delinquent) Charges?**

21 A. Yes.

22
23 **Q. Does Staff agree with the proposed After Hours Service Charge?**

24 A. Yes. The Company has proposed an After Hours service charge, at the customer's request
25 (after hours). Staff agrees that an additional fee for service provided outside of normal
26 business hours is appropriate when such service is at the customer's request. Such a tariff

1 compensates the utility for additional expenses incurred from providing after-hours
2 service. Moreover, Staff concludes that it is appropriate to apply an after-hours service
3 charge in addition to the charge for any utility service provided after hours at the
4 customer's request. Therefore, Staff recommends the creation of a separate After-Hours
5 Service Charge at the customer request. For example, under Staff's proposal, a customer
6 would be subject to a \$25 Reconnection fee if it is done during normal business hours, but
7 would pay an additional after-hours fee when such service is at the customer's request.

8
9 **Q. Does Staff agree with the amount of the proposed After Hours Service Charge?**

10 A. Yes.

11
12 **Q. Does this conclude your direct testimony?**

13 A. Yes, it does.

SCHEDULES

PIMA UTILITY

WATER DIVISION

REVENUE REQUIREMENT

<u>LINE NO.</u>	<u>DESCRIPTION</u>	<u>[A] COMPANY ORIGINAL COST</u>	<u>[B] STAFF ORIGINAL COST</u>
1	Adjusted Rate Base	\$ 9,097,529	\$ 9,122,677
2	Adjusted Operating Income (Loss)	\$ 132,560	\$ 242,246
3	Current Rate of Return (L2 / L1)	1.46%	2.66%
4	Required Rate of Return	9.47%	7.80%
5	Required Operating Income (L4 * L1)	\$ 861,536	\$ 711,569
6	Operating Income Deficiency/(Excess) (L5 - L2)	\$ 728,976	\$ 469,323
7a	Gross Revenue Conversion Factor	1.40411	N/A
7b	Property Tax Factor	N/A	1.02261
8	Increase (Decrease) In Gross Revenue (L7 * L6)	\$ 1,023,565	\$ 479,932
9	Adjusted Test Year Revenue	\$ 1,977,627	\$ 1,977,627
10	Proposed Annual Revenue (L8 + L9)	\$ 3,001,192	\$ 2,457,559
11	Required Increase/(Decrease in Revenue) (%) (L8/L9)	51.76%	24.27%

References:

Column [A]: Company Schedules A-1, C-1, C-3, & D-1
Column [B]: Staff Schedules CSB-2 & CSB-6

RATE BASE - ORIGINAL COST

LINE NO.	(A) COMPANY AS FILED	(B) STAFF ADJUSTMENTS	ADJ NO.	(C) STAFF AS ADJUSTED
1	Plant in Service	\$ 14,546,128	1	\$ 14,571,659
2	Less: Accumulated Depreciation	4,788,169	2	4,788,552
3	Net Plant in Service	<u>\$ 9,757,959</u>		<u>\$ 9,783,107</u>
LESS:				
4	Advances in Aid of Construction (AIAC)	\$ 374,236		\$ 374,236
5	Service Line and Meter Advances	\$ -		\$ -
6	Contributions in Aid of Construction (CIAC)	\$ 632,418		\$ 632,418
7	Less: Accumulated Amortization of CIAC	346,223		346,223
8	Net CIAC	<u>\$ 286,195</u>		<u>\$ 286,195</u>
9	Total Advances and Contributions	\$ 660,431		\$ 660,431
10	Customer Deposits	\$ -		\$ -
11	Accumulated Deferred Income Taxes	\$ -		\$ -
ADD:				
12	Cash Working Capital Allowance	\$ -		\$ -
13	Materials and Supplies Inventories	\$ -		\$ -
14	Prepayments	\$ -		\$ -
15	Rounding	\$ 1		\$ 1
16	Total Rate Base	<u>\$ 9,097,529</u>		<u>\$ 9,122,677</u>

References:

Column [A], Company Schedule B-1, Page 1
Column [B]: Schedule CSB-3
Column [C]: Column [A] + Column [B]

SUMMARY OF RATE BASE ADJUSTMENTS

LINE NO.	PLANT IN SERVICE Acct. No. Plant Description	[A]	[B]	[C]	[D]
		COMPANY	Expensed	Accumulated	STAFF AS
		AS FILED	Plant Costs	Depreciation	ADJUSTED
		Ref: Sch B-2, 3.19	Ref: Sch CSB-4	Ref: Sch CSB-5	
1	301 Organization	\$ -	\$ -	\$ -	\$ -
2	303 Land and Land Rights	97,637	-	-	97,637
3	304 Structures and Improvements	315,125	-	-	315,125
4	307 Wells and Springs	606,699	3,902	-	610,601
5	309 Supply Mains	-	-	-	-
6	311 Pumping Equipment	2,263,801	5,937	-	2,269,738
7	320 Wtr Trtmnt Equip-Solution Chem Feeders	58,255	-	-	58,255
8	330.1 Distrib Reser & Standpipes-Storage Tanks	1,102,197	-	-	1,102,197
9	330.2 Distrib Reser & Standpipes-Pressure Tanks	73,937	-	-	73,937
10	331 Transmission and Distribution Mains	2,916,048	-	-	2,916,048
11	333 Services	4,709,148	15,692	-	4,724,840
12	334 Meters and Meter Installations	923,202	-	-	923,202
13	335 Hydrants	887,381	-	-	887,381
14	336 Backflow Prevention Devices	-	-	-	-
15	339 Other Plant and Miscellaneous Equipment	-	-	-	-
16	340 Office Furniture and Equipment	4,239	-	-	4,239
17	340.1 Computers and Software	28,479	-	-	28,479
18	341 Transportation Equipment	61,635	-	-	61,635
19	343 Tools, Shop, and Garage Equipment	134,506	-	-	134,506
20	345 Power Operated Equipment	124,899	-	-	124,899
21	346 Communication Equipment	238,939	-	-	238,939
22	347 Miscellaneous Equipment	-	-	-	-
23	Rounding	1	-	-	1
24	Total Plant in Service	\$ 14,546,128	\$ 25,531	\$ -	\$ 14,571,659
25	Less: Accumulated Depreciation	\$ 4,788,169	\$ -	\$ 383	\$ 4,788,552
26	Net Plant in Service	\$ 9,757,959	\$ 25,531	\$ (383)	\$ 9,783,107
27					
28	<u>LESS:</u>				
29	Advances in Aid of Construction (AIAC)	\$ 374,236	\$ -	\$ -	\$ 374,236
30	Meter Deposits - Service Line & Meter Advances	\$ -	\$ -	\$ -	\$ -
31					
32	Contributions in Aid of Construction (CIAC)	\$ 632,418	-	-	\$ 632,418
33	Less: Accumulated Amortization of CIAC	\$ 346,223	-	-	\$ 346,223
34	Net CIAC	\$ 286,195	\$ -	\$ -	\$ 286,195
35					
36	Total Advances and Net Contributions	\$ 660,431	\$ -	\$ -	\$ 660,431
37					
38	Customer Deposits	\$ -	-	-	\$ -
39	Accumulated Deferred Taxes	\$ -	-	-	\$ -
40					
41	<u>ADD:</u>				
42	Cash Working Capital Allowance	\$ -	-	-	\$ -
43	Materials and Supplies Inventories	\$ -	-	-	\$ -
44	Prepayments	\$ -	-	-	\$ -
45	Rounding	\$ 1	-	-	\$ 1
46	Total Rate Base	\$ 9,097,529	\$ 25,531	\$ (383)	\$ 9,122,677

RATE BASE ADJUSTMENT NO. 2 - EXPENSED PLANT

LINE NO.	Plant Account Number	Description	[A]	[B]	[C]
			COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED (Col A + Col B)
1	307	Wells and Springs	\$ 606,699	\$ 3,902	\$ 610,601
2	311	Pumping Equipment	\$ 2,263,801	\$ 5,937	\$ 2,269,738
3	333	Services	\$ 4,709,148	\$ 15,692	\$ 4,724,840
4		Total	<u>\$ 7,579,648</u>	<u>\$ 25,531</u>	<u>\$ 7,605,179</u>

FROM REPAIRS AND MAINTENANCE (CSB 1.29)

Acct. No.	Vendor Name	Description	Amount
9	311-Pumping Equipment	Bray Sales Southern	WP1 - 12" Valve \$ 631.22
10	311-Pumping Equipment	Bray Sales Southern	WP1 - 10" Lug Valves \$ 941.25
11	311-Pumping Equipment	Siemens Energy Aut.	Ultrasonic Level Sensors \$ 909.01
12	311-Pumping Equipment	Industrial Service	Switchover Modules for C1 Site \$ 2,565.70
13	311-Pumping Equipment	Engineered Sales Co	Well 29B Booster Pump \$ 889.89
		Subtotal	\$ 5,937.07
17	333-Services	HD Supply Waterwork	Copper Tubing for Service Repairs \$ 3,311.61
18	333-Services	HD Supply Waterwork	Copper Tubing for Service Repairs \$ 3,342.33
19	333-Services	HD Supply Waterwork	Copper Tubing for Service Repairs \$ 5,982.91
20	333-Services	HD Supply Waterwork	Copper Tubing for Service Repairs \$ 3,055.11
		Subtotal	\$ 15,691.96
		Total for Repairs and Maintenance	\$ 21,629.03

FROM CONTRACTUAL SERVICES , ENGINEERING (CSB 1.31)

Acct. No.	Vendor Name	Description	Amount
28	307-Wells and Springs	B&R Engineering, Inc.	Capitalize as part of Well 27 Rehab \$ 177.35
29	307-Wells and Springs	B&R Engineering, Inc.	Capitalize as part of Well 27 Rehab \$ 2,926.33
30	307-Wells and Springs	B&R Engineering, Inc.	Capitalize as part of Well 27 Rehab \$ 798.11
		Total for Contractual Services, Engineering	\$ 3,901.79

References:

- Column A: Company Schedule B-2, P. 3.19
- Column B: Testimony, CSB, Company Data Request Responses CSB 1.10, 1.29, & 1.31
- Column C: Column [A] + Column [B]

RATE BASE ADJUSTMENT NO. 3 - ACCUMULATED DEPRECIATION

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		PER COMPANY	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Accumulated Depreciation	\$ 4,788,169	\$ 383	\$ 4,788,552
2				
3				
4				
5	Year Placed			
6	Reference	In Service	Acct No. Description	Plant Cost
7	CSB 1.31	2010	307 Wells and Springs	\$3,902
8	CSB 1.29	2010	311 Pumping Equipment	\$5,937
9	CSB 1.29	2010	333 Services	\$15,692
10				\$25,531
11				x 3%
12				\$766
13				x 0.5
14				\$383

References:

- Column A: Company Schedule B-2
- Column B: Testimony, Data Request Response CSB 1.31, CSB 1.29
- Column C: Column [A] + Column [B]

OPERATING INCOME - TEST YEAR AND STAFF RECOMMENDED

LINE NO.	DESCRIPTION	[A] COMPANY TEST YEAR AS FILED	[B] STAFF TEST YEAR ADJUSTMENTS	ADJ NO.	[C] STAFF TEST YEAR AS ADJUSTED	[D] STAFF PROPOSED CHANGES	[E] STAFF RECOMMENDED
REVENUES:							
1	Metered Water Revenues	\$ 1,970,366	\$ -		\$ 1,970,366	\$ 479,932	\$ 2,450,298
2	Unmetered Water Revenues	-	-		-	-	-
3	Other Water Revenues	7,261	-		7,261	-	7,261
4	Total Revenues	\$ 1,977,627	\$ -		\$ 1,977,627	\$ 479,932	\$ 2,457,559
EXPENSES:							
7	Salaries and Wages - Employees	\$ 220,827	\$ -		\$ 220,827	\$ -	\$ 220,827
8	Salaries and Wages - Officers and Directors	90,294	(76,608)	1	13,686	-	13,686
9	Employee Pensions and Benefits	64,900	(1,378)	2	63,522	-	63,522
10	Purchased Power	252,453	-		252,453	-	252,453
11	Chemicals	16,721	-		16,721	-	16,721
12	Repairs and Maintenance	100,885	(29,489)	3	71,396	-	71,396
13	Office Supplies & Expenses	67,321	(460)	4	66,861	-	66,861
14	Contractual Services - Engineering	5,283	(3,902)	5	1,381	-	1,381
15	Contractual Services - Accounting	3,067	-		3,067	-	3,067
16	Contractual Services - Legal	14,175	-		14,175	-	14,175
17	Contractual Services - Other	54,797	(415)	6	54,382	-	54,382
18	Contractual Services - Water Testing	18,737	(9,812)	7	8,925	-	8,925
19	Rents - Equipment	3,203	-		3,203	-	3,203
20	Transportation Expenses	44,637	-		44,637	-	44,637
21	Insurance - Vehicle	17,464	-		17,464	-	17,464
22	Insurance - General Liability	10,840	-		10,840	-	10,840
23	Insurance - Worker's Comp	1,009	-		1,009	-	1,009
24	Reg. Comm. Exp.	3,671	-		3,671	-	3,671
25	Reg. Comm. Exp. - Rate Case	50,000	(10,000)	8	40,000	-	40,000
26	Bad Debt Expense	4,766	-		4,766	-	4,766
27	Miscellaneous Expense	15,934	-		15,934	-	15,934
28	Depreciation Expense	686,998	1,389	9	688,387	-	688,387
29	Taxes Other Than Income	40,883	-		40,883	-	40,883
30	Property Taxes	83,358	(6,167)	10	77,191	10,608	87,799
31	Income Taxes	(27,157)	27,157	11	-	0	0
32	Rounding	1	-		1	-	1
34	Operating Expenses	\$ 1,845,067	\$ (109,686)		\$ 1,735,381	\$ 10,608	\$ 1,745,989
37		-	-		-	-	-
38	Operating Income (Loss)	\$ 132,560	\$ 109,686		\$ 242,246	\$ 469,324	\$ 711,569

References:

- Column (A): Company Schedule C-1
- Column (B): Schedule CSB-7
- Column (C): Column (A) + Column (B)
- Column (D): Schedules CSB-1 and CSB-17
- Column (E): Column (C) + Column (D)

SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] ADJ #1 Salaries & Wages Officers & Directors Ref. Sch CSB-8	[C] ADJ #2 Employee Pensions and Benefits Ref. Sch CSB-9	[D] ADJ #3 Repairs and Maintenance Ref. Sch CSB-10	[E] ADJ #4 Office Supplies and Expenses Ref. Sch CSB-11	[F] ADJ #5 Contract Services Engineering Ref. Sch CSB-12	[G] ADJ #6 Contract Services Other Ref. Sch CSB-13	[H] ADJ #7 Contract Services Water Testing Ref. Sch CSB-14	[I] Subtotal
1	REVENUES: Metered Water Revenues	\$ 1,970,366	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,970,366
2	Unmetered Water Revenues	-	-	-	-	-	-	-	-	-
3	Other Water Revenues	7,261	-	-	-	-	-	-	-	7,261
4	Total Revenues	\$ 1,977,627	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,977,627
5										
6	OPERATING EXPENSES:									
7	Salaries and Wages - Employees	\$ 220,827	-	-	-	-	-	-	-	220,827
8	Salaries and Wages - Officers and Directors	90,294	(76,608)	-	-	-	-	-	-	13,686
9	Employee Pensions and Benefits	64,900	-	(1,378)	-	-	-	-	-	63,522
10	Purchased Power	252,453	-	-	-	-	-	-	-	252,453
11	Chemicals	16,721	-	-	-	-	-	-	-	16,721
12	Repairs and Maintenance	100,885	-	-	(29,489)	-	-	-	-	71,396
13	Office Supplies & Expenses	67,321	-	-	-	(460)	-	-	-	66,861
14	Contractual Services - Engineering	5,283	-	-	-	-	(3,902)	-	-	1,381
15	Contractual Services - Accounting	3,067	-	-	-	-	-	-	-	3,067
16	Contractual Services - Legal	14,175	-	-	-	-	-	-	-	14,175
17	Contractual Services - Other	54,797	-	-	-	-	-	(415)	-	54,382
18	Contractual Services - Water Testing	18,737	-	-	-	-	-	-	(9,812)	8,925
19	Rents - Equipment	3,203	-	-	-	-	-	-	-	3,203
20	Transportation Expenses	44,637	-	-	-	-	-	-	-	44,637
21	Insurance - Vehicle	17,464	-	-	-	-	-	-	-	17,464
22	Insurance - General Liability	10,840	-	-	-	-	-	-	-	10,840
23	Insurance - Worker's Comp	1,009	-	-	-	-	-	-	-	1,009
24	Reg. Comm. Exp.	3,671	-	-	-	-	-	-	-	3,671
25	Reg. Comm. Exp. - Rate Case	50,000	-	-	-	-	-	-	-	50,000
26	Bad Debt Expense	4,766	-	-	-	-	-	-	-	4,766
27	Miscellaneous Expense	15,934	-	-	-	-	-	-	-	15,934
28	Depreciation Expense	686,998	-	-	-	-	-	-	-	686,998
29	Taxes Other Than Income	40,883	-	-	-	-	-	-	-	40,883
30	Property Taxes	83,358	-	-	-	-	-	-	-	83,358
31	Income Taxes	(27,157)	-	-	-	-	-	-	-	(27,157)
32	Rounding	1	-	-	-	-	-	-	-	1
33										
34	Total Operating Expenses	\$ 1,845,067	\$ (76,608)	\$ (1,378)	\$ (29,489)	\$ (460)	\$ (3,902)	\$ (415)	\$ (9,812)	\$ 1,723,003
35										
36	Operating Income (Loss)	\$ 132,560	\$ 76,608	\$ 1,378	\$ 29,489	\$ 460	\$ 3,902	\$ 415	\$ 9,812	\$ 254,624

SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR CONTINUED

LINE NO.	DESCRIPTION	[J] ADJ #8	[K] ADJ #9	[L] ADJ #10	[M] ADJ #11	[N] ADJ #11
		Rate Case Expense Ref. Sch CSB-15	Depreciation Expense Ref. Sch CSB-16	Property Taxes Ref. Sch CSB-17	Income Taxes Ref. Sch CSB-18	STAFF ADJUSTED
1	<u>REVENUES:</u>					
2	Metered Water Sales	\$ -	\$ -	\$ -	\$ -	\$ 1,970,366
3	Water Sales - Unmetered	-	-	-	-	-
4	Other Operating Revenues	-	-	-	-	-
5	Total Revenues	\$ -	\$ -	\$ -	\$ -	\$ 1,970,366
6						7,261
7	<u>OPERATING EXPENSES:</u>					
8	Salaries and Wages - Employees	-	-	-	-	220,827
9	Salaries and Wages - Officers and Directors	-	-	-	-	13,686
10	Employee Pensions and Benefits	-	-	-	-	63,522
11	Purchased Power	-	-	-	-	252,453
12	Chemicals	-	-	-	-	16,721
13	Repairs and Maintenance	-	-	-	-	71,396
14	Office Supplies & Expenses	-	-	-	-	66,861
15	Contractual Services - Engineering	-	-	-	-	1,381
16	Contractual Services - Accounting	-	-	-	-	3,067
17	Contractual Services - Legal	-	-	-	-	14,175
18	Contractual Services - Other	-	-	-	-	54,382
19	Contractual Services - Water Testing	-	-	-	-	8,925
20	Equipment Rental	-	-	-	-	3,203
21	Transportation Expenses	-	-	-	-	44,637
22	Insurance - Vehicle	-	-	-	-	17,464
23	Insurance - General Liability	-	-	-	-	10,840
24	Insurance - Worker's Comp	-	-	-	-	1,009
25	Reg. Comm. Exp. - Rate Case	(10,000)	-	-	-	3,671
26	Bad Debt Expense	-	-	-	-	40,000
27	Miscellaneous Expense	-	-	-	-	4,766
28	Depreciation	-	1,389	-	-	15,934
29	Tax - Other	-	-	-	-	688,387
30	Property Taxes	-	-	(6,167)	-	40,883
31	Income Taxes	-	-	-	-	77,191
32	Rounding	-	-	-	27,157	-
33						1
34	Total Operating Expenses	\$ (10,000)	\$ 1,389	\$ (6,167)	\$ 27,157	\$ 1,735,381
35						
36	Operating Income (Loss)	\$ 10,000	\$ (1,389)	\$ 6,167	\$ (27,157)	\$ 242,246

OPERATING INCOME ADJUSTMENT NO. 1 - SALARY AND WAGES, OFFICERS AND DIRECTORS

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Salary & Wages, Officers and Directors	90,294	\$ (76,608)	\$ 13,686
2				
3				

Chairman of the Board Salary Calculation
--

RCI Salaries & Wages - Accounting and Finance	\$	24,015
RCI Salary & Wages -IT Department	\$	1,327
RCI Salary & Wages - Human Resources and Payroll	\$	2,303
RCI Salary & Wages - Executive and Legal	\$	17,975
Total RCI Salaries & Wages Expense for Pima Water	\$	45,620
Multiplied by		30%
	\$	13,686

References:

- Column A: Company Schedule C-2
- Column B: Testimony, CSB; CSB 1-24
- Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 2 - EMPLOYEE PENSIONS AND BENEFITS

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS (Col C - Col A)	STAFF AS ADJUSTED
1	Employee Pensions & Benefits, Employees	\$ 63,022	\$ -	\$ 63,022
2	Employee Pensions & Benefits, Chairman of the Board	1,878.00	(1,377.78)	500.22
3		\$ 64,900	\$ (1,378)	\$ 63,522
4				
5				
6				
7				
8	RCI Salaries & Wages - Accounting and Finance	\$ 24,015		
9	RCI Salary & Wages -IT Department	\$ 1,327		
10	RCI Salary & Wages - Human Resources and Payroll	\$ 2,303		
11	RCI Salary & Wages - Executive and Legal	\$ 17,975		
12	Total RCI Salaries & Wages Expense for Pima Water	\$ 45,620		
13	Multiplied by		30%	
14		\$ 13,686		
15	Multiplied by		3.655% Per CSB 5.2	
16	Pensions and Benefits Per Staff	\$ 500		

Pension & Benefits Calculation

References:

- Column A: Company Schedule C-2
- Column B: Testimony, CSB; Company Data Request Responses to CSB 1-24
- Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 3 - REPAIRS AND MAINTENANCE

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS (Col C - Col A)	STAFF AS ADJUSTED
1	Repairs and Maintenance	\$ 100,885	\$ -	\$ 100,885
2	Expensed Plant		(21,629)	(21,629)
3	Normalized Tree Removal Cost		(7,860)	(7,860)
4	Total Repairs and Maintenance	\$ 100,885	\$ (29,489)	\$ 71,396
5				
6				
7				
8		Expensed Plant		
9	Acct. No. 311, Pumping Equip	\$ 5,937	Data Request Response CSB 1-29	
10	Acct. No. 333, Services	15,692	Data Request Response CSB 1-29	
11		\$ 21,629		
12				
13				
14				
15				
16		Normalize Tree Removal Expense		
17				
18	Pacheco Landscaping	\$ 9,825	From General Ledger Acct No. 620	
19	Divided by 5 years	5		
20	Normalized Expense	\$ 1,965		
21				
22	From Line 18	\$ 9,825		
23	Less: Normalized amount	(1,965)		
24	Amount Removed	7,860		

References:

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

OPERATING INCOME ADJUSTMENT NO. 4 - OFFICE SUPPLIES AND EXPENSES

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Office Supplies and Expense	\$ 67,321	\$ (460)	\$ 67,781
2				
3				
4				
5		From General Ledger Account No. 621		
6		Office Supplies and Expense		
7		Jan-10	Coffee Service	\$ 30.52
8		Feb-10	Coffee Service	\$ 40.48
9		Mar-10	Coffee Service	\$ 31.26
10		Apr-10	Coffee Service	\$ 32.43
11		May-10	Coffee Service	\$ 56.35
12		Jun-10	Coffee Service	\$ 25.15
13		Jul-10	Coffee Service	\$ 29.27
14		Aug-10	Coffee Service	\$ 38.66
15		Sep-10	Coffee Service	\$ 24.23
16		Oct-10	Coffee Service	\$ 34.54
17		Nov-10	Coffee Service	\$ 46.29
18		Dec-10	Coffee Service	\$ 71.13
19				\$ 460.31

References:

- Column A: Company Schedule C-1
- Column B: Testimony, CSB
- Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 5- CONTRACT SERVICES, ENGINEERING

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Contract Services, Engineering	\$ 5,283	\$ -	\$ 5,283
2	Expensed Plant Costs	-	(3,902)	(3,902)
3		\$ 5,283	\$ (3,902)	\$ 1,381
4				
5				
6				
7				
8	Acct. No. 307, Wells and Springs	3,902	Data Request Response CSB 1-31	

Expensed
Plant

References:

- Column A: Company Schedule C-1
- Column B: Testimony, CSB
- Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 6 - CONTRACT SERVICES, WATER TESTING

		[A]	[B]	[C]
LINE NO.	DESCRIPTION	COMPANY AS FILED	STAFF ADJUSTMENTS (Col C - Col A)	STAFF AS ADJUSTED
1	Contract Services, Testing	\$ 18,737	\$ (9,812)	\$ 8,925

References:

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

OPERATING INCOME ADJUSTMENT NO. 7 - CONTRACT SERVICES, OTHER

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS (Col C - Col A)	STAFF AS ADJUSTED
1	Contract Services, Other	\$ 54,797	\$ (415)	\$ 54,382

References:

- Column A: Company Schedule C-2
- Column B: Testimony, CSB; Data Request Response CSB 6.2
- Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 8 - RATE CASE EXPENSE

LINE NO.	Description	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Rate Case Expense	\$ 50,000	\$ (10,000)	\$ 40,000
2				
3				
4				
5				
6		Per Company	Difference	Per Staff
7		\$ 200,000	\$ -	\$ 200,000
8	Divided by	4	1	5
9		50,000	(10,000)	40,000

References:

- Column A: Company Schedule C-1
- Column B: Testimony, CSB
- Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 9 - DEPRECIATION EXPENSE ON TEST YEAR PLANT

LINE NO.	DESCRIPTION	[A] PLANT IN SERVICE Per Staff	[B] NonDepreciable & Fully Depreciated PLANT	[C] DEPRECIABLE PLANT (Col A - Col B)	[D] DEPRECIATION RATE	[E] DEPRECIATION EXPENSE (Col C x Col D)
1	301 Organization	\$ -	\$ -	\$ -	0.00%	\$ -
2	303 Land and Land Rights	97,637	97,637	-	0.00%	-
3	304 Structures and Improvements	315,125	-	315,125	3.33%	10,494
4	307 Wells and Springs	610,601	-	610,601	3.33%	20,333
5	309 Supply Mains	-	-	-	2.00%	-
6	311 Pumping Equipment	2,269,738	-	2,269,738	12.50%	283,717
7	320 Water Treatment Equipment	58,255	-	58,255	20.00%	11,651
8	330.1 Distrib Reser & Standpipes-Storage Tanks	1,102,197	-	1,102,197	2.22%	24,469
9	330.2 Distrib Reser & Standpipes-Pressure Tanks	73,937	-	73,937	5.00%	3,697
10	331 Transmission and Distribution Mains	2,916,048	-	2,916,048	2.00%	58,321
11	333 Services	4,724,840	-	4,724,840	3.33%	157,337
12	334 Meters and Meter Installations	923,202	-	923,202	8.33%	76,903
13	335 Hydrants	887,381	-	887,381	2.00%	17,748
14	336 Backflow Prevention Devices	-	-	-	6.67%	-
15	339 Other Plant and Miscellaneous Equipment	-	-	-	6.67%	-
16	340 Office Furniture and Equipment	4,239	-	4,239	6.67%	283
17	340.1 Computers and Software	28,479	-	28,479	20.00%	5,696
18	341 Transportation Equipment	61,635	-	61,635	20.00%	12,327
19	343 Tools, Shop, and Garage Equipment	134,506	-	134,506	5.00%	6,725
20	345 Power Operated Equipment	124,899	-	124,899	5.00%	6,245
21	346 Communication Equipment	238,939	-	238,939	10.00%	23,894
22	347 Miscellaneous Equipment	-	-	-	10.00%	-
23	Rounding	1	-	-	-	-
24	Total Plant	\$ 14,571,659	\$ -	\$ 14,474,021		\$ 719,839

Composite Depreciation Rate (Depr Exp / Depreciable Plant): 4.97%
 CIAC: \$ 632,418
 Amortization of CIAC (Line 28 x Line 29): \$ 31,452

Depreciation Expense Before Amortization of CIAC: \$ 719,839
 Less Amortization of CIAC: \$ 31,452
 Test Year Depreciation Expense - Staff: \$ 688,387
 Depreciation Expense - Company: 686,998
 Staff's Total Adjustment: \$ 1,389

References:
 Column [A]: Schedule CSB-4
 Column [B]: From Column [A]
 Column [C]: Column [A] - Column [B]
 Column [D]: Engineering Staff Report
 Column [E]: Column [C] x Column [D]

OPERATING INCOME ADJUSTMENT NO. 10 - PROPERTY TAX EXPENSE

LINE NO.	Property Tax Calculation	[A]	[B]
		STAFF AS ADJUSTED	STAFF RECOMMENDED
1	Staff Adjusted Test Year Revenues	\$ 1,977,627	\$ 1,977,627
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	3,955,254	\$ 3,955,254
4	Staff Recommended Revenue, Per Schedule CSB-1	1,977,627	\$ 2,457,559
5	Subtotal (Line 4 + Line 5)	5,932,881	6,412,813
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	1,977,627	\$ 2,137,604
8	Department of Revenue Multiplier	2	2
9	Revenue Base Value (Line 7 * Line 8)	3,955,254	\$ 4,275,209
10	Plus: 10% of CWIP -	-	-
11	Less: Net Book Value of Licensed Vehicles	112,708	\$ 112,708
12	Full Cash Value (Line 9 + Line 10 - Line 11)	3,842,546	\$ 4,162,501
13	Assessment Ratio	20.0%	21.0%
14	Assessment Value (Line 12 * Line 13)	768,509	\$ 874,125
15	Composite Property Tax Rate	10.0442%	10.0442%
			\$ -
16	Staff Test Year Adjusted Property Tax (Line 14 * Line 15)	\$ 77,191	
17	Company Proposed Property Tax	83,358	
18	Staff Test Year Adjustment (Line 16-Line 17)	\$ (6,167)	
19	Property Tax - Staff Recommended Revenue (Line 14 * Line 15)		\$ 87,799
20	Staff Test Year Adjusted Property Tax Expense (Line 16)		\$ 77,191
21	Increase in Property Tax Expense Due to Increase in Revenue Requirement		\$ 10,608
22	Increase to Property Tax Expense		\$ 10,608
23	Increase in Revenue Requirement		479,932
24	Increase to Property Tax per Dollar Increase in Revenue (Line 19/Line 20)		2.210371%

OPERATING INCOME ADJUSTMENT NO. 11 - INCOME TAXES

		[A]	[B]	[C]
LINE NO.	DESCRIPTION	COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Income Taxes	(27,157)	\$27,157	\$0

References:

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

Monthly Minimum Charge

	Present	Company Proposed	Staff Recommended
<u>Meter Size (All Classes):</u>			
5/8 Inch x 3/4 Inch	\$ 5.70	\$ 7.36	\$ 5.70
3/4 Inch	5.70	7.36	5.70
1 Inch	16.00	20.67	16.00
1 1/2 Inch	21.00	27.13	21.00
2 Inch	26.00	33.59	26.00
3 Inch	40.00	51.68	40.00
4 Inch	52.00	67.18	52.00
6 Inch	100.00	129.20	100.00
Irrigation	180.00	232.56	180.00

Gallons Included In Monthly Minimum Charge

Gallons In Minimum (All Classes, except irrigation)	1,000.00	-	-
Gallons In Minimum (Irrigation)	100,000.00	-	-

Commodity Charge - Per One Thousand Gallons

<u>5/8 x 3/4 Inch (All Classes)</u>			
Over Minimum up to 10,000 gallons	\$ 0.92	N/A	N/A
Over 10,000 gallons	\$ 1.08	N/A	N/A
<u>5/8x3/4 Inch - Residential</u>			
1 gallon to 4,000 gallons	N/A	\$ 0.96	N/A
4,001 gallons to 10,000 gallons	N/A	\$ 1.36	N/A
over 10,000 gallons	N/A	\$ 1.86	N/A
First 4,000 gallons	N/A	N/A	\$ 0.7500
4,001 gallons to 10,000 gallons	N/A	N/A	1.1430
Over 10,000 gallons	N/A	N/A	1.7190
<u>5/8x3/4 Inch - Commercial</u>			
1 gallon to 10,000 gallons	N/A	\$ 1.36	N/A
over 10,000 gallons	N/A	\$ 1.86	N/A
First 10,000 gallons	N/A	N/A	1.1430
Over 10,000 gallons	N/A	N/A	1.7190
<u>3/4 Inch Meter (All Classes)</u>			
Over Minimum up to 10,000 gallons	\$ 0.92	N/A	N/A
Over 10,000 gallons	\$ 1.08	N/A	N/A
<u>3/4 Inch Meter - Residential</u>			
1 gallon to 4,000 gallons	N/A	\$ 0.96	N/A
4,001 gallons to 10,000 gallons	N/A	\$ 1.36	N/A
over 10,000 gallons	N/A	\$ 1.86	N/A
First 4,000 gallons	N/A	N/A	\$ 0.7500
4,001 gallons to 21,000 gallons	N/A	N/A	1.1430
Over 21,000 gallons	N/A	N/A	1.7190
<u>3/4 Inch Meter - Commercial</u>			
1 gallon to 10,000 gallons	N/A	\$ 0.96	N/A
over 10,000 gallons	N/A	\$ 1.36	N/A
First 10,000 gallons	N/A	N/A	1.1430
Over 10,000 gallons	N/A	N/A	1.7190

Present	Company Proposed	Staff Recommended
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Commodity Charge - Per One Thousand Gallons Continued

<u>1 Inch Meter (All classes)</u>			
Over Minimum up to 10,000 gallons	\$ 0.92	N/A	N/A
Over 10,000 gallons	\$ 1.08	N/A	N/A
<u>1 Inch Meter - Residential, Commercial</u>			
1 gallon to 25,000 gallons	N/A \$	1.36	N/A
over 25,000 gallons	N/A \$	1.86	N/A
First 21,000 gallons	N/A	N/A	1.1430
Over 21,000 gallons	N/A	N/A	1.7190
<u>1.5 Inch Meter (All classes, except irrigation)</u>			
Over Minimum up to 10,000 gallons	\$ 0.92	N/A	N/A
Over 10,000 gallons	\$ 1.08	N/A	N/A
<u>1.5 Inch Meter - Residential, Commercial</u>			
1 gallon to 50,000 gallons	N/A \$	1.36	N/A
over 50,000 gallons	N/A \$	1.86	N/A
First 26,000 gallons	N/A	N/A	1.1430
Over 26,000 gallons	N/A	N/A	1.7190
<u>2 Inch Meter (All classes, except irrigation)</u>			
Over Minimum up to 10,000 gallons	\$ 0.92	N/A	N/A
Over 10,000 gallons	\$ 1.08	N/A	N/A
<u>2 Inch Meter - Residential, Commercial</u>			
1 gallon to 80,000 gallons	N/A \$	1.36	N/A
over 80,000 gallons	N/A \$	1.86	N/A
First 31,000 gallons	N/A	N/A	1.1430
Over 31,000 gallons	N/A	N/A	1.7190
<u>3 Inch Meter (All classes, except irrigation)</u>			
Over Minimum up to 10,000 gallons	\$ 0.92	N/A	N/A
Over 10,000 gallons	\$ 1.08	N/A	N/A
<u>3 Inch Meter - Residential, Commercial</u>			
1 gallon to 160,000 gallons	N/A \$	1.36	N/A
over 160,000 gallons	N/A \$	1.86	N/A
First 47,000 gallons	N/A	N/A	1.1430
Over 47,000 gallons	N/A	N/A	1.7190
<u>4 Inch Meter (All classes, except irrigation)</u>			
Over Minimum up to 10,000 gallons	\$ 0.92	N/A	N/A
Over 10,000 gallons	\$ 1.08	N/A	N/A
<u>4 Inch Meter - Residential, Commercial</u>			
1 gallon to 250,000 gallons	N/A \$	1.36	N/A
over 250,000 gallons	N/A \$	1.86	N/A
First 60,000 gallons	N/A	N/A	1.1430
Over 60,000 gallons	N/A	N/A	1.7190

Present	Company Proposed	Staff Recommended
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Commodity Charge - Per One Thousand Gallons Continued

<u>6 Inch Meter (All classes, except irrigation)</u>	\$	0.92	N/A	N/A
Over Minimum up to 10,000 gallons	\$	1.08	N/A	N/A
Over 10,000 gallons				
<u>6 Inch Meter - Residential, Commercial</u>		N/A	\$ 1.36	N/A
1 gallons to 500,000 gallons		N/A	\$ 1.86	N/A
over 500,000 gallons				
First 112,000 gallons		N/A	N/A	1.1430
Over 680,000 gallons		N/A	N/A	1.7190
<u>Irrigation (all meter sizes)</u>	\$	0.36	\$ 0.70	0.7000
Over Minimum				
Construction/Standpipe		NT	\$ 0.70	1.7190
All gallons				

NT = No Tariff

Present	Company Proposed	Staff Recommended
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Miscellaneous Charges

Establishment		NT	25.00	\$	25.00
Reestablishment (within 12 months)		*	*		*
Reconnection (Delinquent)		NT	\$ 25.00	\$	25.00
Meter Test (if correct)	\$	20.00	\$ 20.00	\$	20.00
Meter Re-read (if correct)	\$	25.00	\$ 25.00	\$	25.00
Deposit		**	**		**
Deposit Interest		**	**		**
NSF Check	\$	15.00	\$ 15.00	\$	15.00
Deferred Payment, per month		1.50%	1.50%		1.50%
Late Payment Fee (per month)		1.50%	1.50%		1.50%
After hours service charge (At the Customer's Request)		NT	\$ 50.00	\$	50.00

* Number of months off the system times the monthly minimum.

** Per Rule R14-2-403.B

NT = No Tariff

	Total Present Charge	Company Proposed Service Line Charge*	Company Proposed Meter Installation Charge*	Total Company Proposed Charge
Service and Meter Installation Charges				
NT	\$	385	\$ 135	\$ 520
5/8 x 3/4 Inch	NT	\$ 415	\$ 205	\$ 620
3/4 Inch	NT	\$ 465	\$ 265	\$ 730
1 Inch	NT	\$ 520	\$ 475	\$ 995
1 1/2 Inch	NT	\$ 800	\$ 995	\$ 1,795
2 Inch / Turbine	NT	\$ 800	\$ 1,840	\$ 2,640
2 Inch / Compound	NT	\$ 1,015	\$ 1,620	\$ 2,635
3 Inch / Turbine	NT	\$ 1,135	\$ 2,495	\$ 3,630
3 Inch / Compound	NT	\$ 1,430	\$ 2,570	\$ 4,000
4 Inch / Turbine	NT	\$ 1,610	\$ 3,545	\$ 5,155
4 Inch / Compound	NT	\$ 2,150	\$ 4,925	\$ 7,075
6 Inch / Turbine	NT	\$ 2,270	\$ 6,820	\$ 9,090
6 Inch / Compound				

* Based on ACC Staff Engineering Memo dated February 21, 2008
NT = No Tariff

	Total Present Charge	Staff Recommended Service Line Charge	Staff Recommended Meter Installation Charge	Total Staff Recommended Charge
NT	\$	385	\$ 135	\$ 520
5/8 x 3/4 Inch	NT	\$ 415	\$ 205	\$ 620
3/4 Inch	NT	\$ 465	\$ 265	\$ 730
1 Inch	NT	\$ 520	\$ 475	\$ 995
1 1/2 Inch	NT	\$ 800	\$ 995	\$ 1,795
2 Inch / Turbine	NT	\$ 800	\$ 1,840	\$ 2,640
2 Inch / Compound	NT	\$ 1,015	\$ 1,620	\$ 2,635
3 Inch / Turbine	NT	\$ 1,135	\$ 2,495	\$ 3,630
3 Inch / Compound	NT	\$ 1,430	\$ 2,570	\$ 4,000
4 Inch / Turbine	NT	\$ 1,610	\$ 3,545	\$ 5,155
4 Inch / Compound	NT	\$ 2,150	\$ 4,925	\$ 7,075
6 Inch / Turbine	NT	\$ 2,270	\$ 6,820	\$ 9,090
6 Inch / Compound				

NT = No Tariff

Typical Bill Analysis
General Service 5/8 x 3/4-Inch Meter

Company Proposed	Gallons	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
Average Usage	6,395	\$ 10.66	\$ 14.46	\$ 3.80	35.62%
Median Usage	4,500	8.92	11.88	\$ 2.96	33.23%
Staff Recommended					
Average Usage	6,395	\$ 10.66	\$ 11.44	\$ 0.77	7.26%
Median Usage	4,500	8.92	9.27	\$ 0.35	3.94%

Present & Proposed Rates (Without Taxes)
General Service 5/8 x 3/4-Inch Meter

Gallons Consumption	Present Rates	Company Proposed Rates	% Increase	Staff Recommended Rates	% Increase
-	\$ 5.70	\$ 7.36	29.20%	\$ 5.70	0.00%
1,000	5.70	8.32	46.04%	6.45	13.16%
2,000	6.62	9.28	40.25%	7.20	8.76%
3,000	7.54	10.24	35.87%	7.95	5.44%
4,000	8.46	11.20	32.44%	8.70	2.84%
4,500	8.92	11.88	33.23%	9.27	3.94%
5,000	9.38	12.56	33.95%	9.84	4.94%
6,000	10.30	13.92	35.19%	10.99	6.66%
6,395	10.66	14.46	35.62%	11.44	7.26%
7,000	11.22	15.28	36.22%	12.13	8.10%
8,000	12.14	16.64	37.10%	13.27	9.32%
9,000	13.06	18.00	37.86%	14.42	10.38%
10,000	13.98	19.36	38.52%	15.56	11.29%
11,000	15.06	21.22	40.93%	17.28	14.72%
12,000	16.14	23.08	43.03%	19.00	17.70%
13,000	17.22	24.94	44.86%	20.72	20.30%
14,000	18.30	26.80	46.47%	22.43	22.59%
15,000	19.38	28.66	47.91%	24.15	24.63%
16,000	20.46	30.52	49.19%	25.87	26.45%
17,000	21.54	32.38	50.35%	27.59	28.09%
18,000	22.62	34.24	51.39%	29.31	29.58%
19,000	23.70	36.10	52.34%	31.03	30.92%
20,000	24.78	37.96	53.21%	32.75	32.15%
25,000	30.18	47.26	56.61%	41.34	36.99%
30,000	35.58	56.56	58.98%	49.94	40.35%
35,000	40.98	65.86	60.72%	58.53	42.83%
40,000	46.38	75.16	62.06%	67.13	44.73%
45,000	51.78	84.46	63.12%	75.72	46.24%
50,000	57.18	93.76	63.98%	84.32	47.46%
75,000	84.18	140.26	66.62%	127.29	51.22%
100,000	111.18	186.76	67.98%	170.27	53.15%

SCHEDULES

PIMA UTILITY

WASTERWATER DIVISION

REVENUE REQUIREMENT

<u>LINE NO.</u>	<u>DESCRIPTION</u>	<u>[A] COMPANY ORIGINAL COST</u>	<u>[B] STAFF ORIGINAL COST</u>
1	Adjusted Rate Base	\$ 9,863,271	\$ 9,642,163
2	Adjusted Operating Income (Loss)	\$ 441,784	\$ 590,369
3	Current Rate of Return (L2 / L1)	4.48%	6.12%
4	Required Rate of Return	9.47%	7.80%
5	Required Operating Income (L4 * L1)	\$ 934,052	\$ 752,089
6	Operating Income Deficiency/(Excess) (L5 - L2)	\$ 492,268	\$ 161,720
7a	Gross Revenue Conversion Factor	1.40414	N/A
7b	Property Tax Factor	N/A	1.05333
8	Increase (Decrease) In Gross Revenue (L7 * L6)	\$ 691,210	\$ 170,345
9	Adjusted Test Year Revenue	\$ 3,096,775	\$ 3,096,775
10	Proposed Annual Revenue (L8 + L9)	\$ 3,787,985	\$ 3,267,120
11	Required Increase/(Decrease in Revenue) (%) (L8/L9)	22.32%	5.50%

References:

Column [A]: Company Schedules A-1, C-1, C-3, & D-1

Column [B]: Staff Schedules CSB-2 & CSB-7

RATE BASE - ORIGINAL COST

LINE NO.	(A)	(B)	(C)	
	COMPANY AS FILED	STAFF ADJ ADJUSTMENTS NO.	STAFF AS ADJUSTED	
1	Plant in Service	\$ 22,055,018	\$ (576,077) 1,2	\$ 21,478,941
2	Less: Accumulated Depreciation	11,546,833	(354,969) 3	11,191,864
3	Net Plant in Service	<u>\$ 10,508,185</u>	<u>\$ (221,108)</u>	<u>\$ 10,287,077</u>
<u>LESS:</u>				
4	Advances in Aid of Construction (AIAC)	\$ 285,313	\$ -	\$ 285,313
5	Service Line and Meter Advances	\$ -	\$ -	\$ -
6	Contributions in Aid of Construction (CIAC)	\$ 937,694	\$ -	\$ 937,694
7	Less: Accumulated Amortization of CIAC	578,092	-	578,092
8	Net CIAC	<u>\$ 359,602</u>	<u>-</u>	<u>\$ 359,602</u>
9	Total Advances and Contributions	\$ 644,915	\$ -	\$ 644,915
10	Customer Deposits	\$ -	\$ -	\$ -
11	Accumulated Deferred Income Taxes	\$ -	\$ -	\$ -
<u>ADD:</u>				
12	Cash Working Capital Allowance	\$ -	\$ -	\$ -
13	Materials and Supplies Inventories	\$ -	\$ -	\$ -
14	Prepayments	\$ -	\$ -	\$ -
15	Rounding	\$ 1	\$ -	\$ 1
16	Total Rate Base	<u>\$ 9,863,271</u>	<u>\$ (221,108)</u>	<u>\$ 9,642,163</u>

References:

Column [A], Company Schedule B-1, Page 1
Column [B]: Schedule CSB-3
Column [C]: Column [A] + Column [B]

SUMMARY OF RATE BASE ADJUSTMENTS

LINE NO.	PLANT IN SERVICE Acct. No. Plant Description	[A]	[B]	[C]	[D]	[E]
		COMPANY AS FILED	Excess Capacity Costs	Expensed Plant Costs	Accumulated Depreciation	STAFF AS ADJUSTED
		Ref: Sch B-2, 3.19	Ref: Sch CSB-4	Ref: Sch CSB-5	Ref: Sch CSB-6	
1	351 Organization	\$ -	\$ -	\$ -	\$ -	\$ -
2	353 Land and Land Rights	91,528	-	-	-	91,528
3	354 Structures and Improvements	250,433	-	-	-	250,433
4	360 Collections Sewers - Force	97,523	-	-	-	97,523
5	361.1 Collections Sewers - Gravity	3,854,512	-	-	-	3,854,512
6	361.2 Manholes & Cleanouts	1,791,722	-	-	-	1,791,722
7	363 Services to Customers	632,249	-	-	-	632,249
8	370 Receiving Wells	226,251	-	-	-	226,251
9	371.1 Pumping Equipment - Lift Stations	1,544,146	-	22,391	-	1,566,537
10	371.2 Other Pumping Equipment	103,441	-	-	-	103,441
11	371.3 Pumping Equipment - Recharge Wells	1,436,200	-	-	-	1,436,200
12	375 Reuse Transmission & Distribution	137,444	-	-	-	137,444
13	380 Treatment & Disposal Equipment	9,884,071	(598,468)	-	-	9,285,603
14	389 Other Plant and Miscellaneous Equipment	972,509	-	-	-	972,509
15	390 Office Furniture and Equipment	6,529	-	-	-	6,529
16	390.1 Computers and Software	10,884	-	-	-	10,884
17	391 Transportation Equipment	21,830	-	-	-	21,830
18	393 Tools, Shop, and Garage Equipment	156,200	-	-	-	156,200
19	394 Laboratory Equipment	1,993	-	-	-	1,993
20	396 Communication Equipment	118,828	-	-	-	118,828
21	Post-in-service AFUDC	716,722	-	-	-	716,722
22		-	-	-	-	-
23	Rounding	3	-	-	-	3
24	Total Plant in Service	\$ 22,055,018	\$ (598,468)	\$ 22,391	\$ -	\$ 21,478,941
25	Less: Accumulated Depreciation	\$ 11,546,833	\$ -	\$ -	\$ (354,969)	11,191,864
26	Net Plant in Service	\$ 10,508,185	\$ (598,468)	\$ 22,391	\$ 354,969	\$ 10,287,077
27						
28	<u>LESS:</u>					
29	Advances in Aid of Construction (AIAC)	\$ 285,313	\$ -	\$ -	\$ -	\$ 285,313
30	Meter Deposits - Service Line & Meter Advances	\$ -	-	-	-	-
31						
32	Contributions in Aid of Construction (CIAC)	\$ 937,694	-	-	-	\$ 937,694
33	Less: Accumulated Amortization of CIAC	\$ 578,092	-	-	-	\$ 578,092
34	Net CIAC	\$ 359,602	\$ -	\$ -	\$ -	\$ 359,602
35						
36	Total Advances and Net Contributions	\$ 644,915	\$ -	\$ -	\$ -	\$ 644,915
37						
38	Customer Deposits	\$ -	-	-	-	\$ -
39	Accumulated Deferred Taxes	\$ -	-	-	-	\$ -
40						
41	<u>ADD:</u>					
42	Cash Working Capital Allowance	\$ -	-	-	-	\$ -
43	Materials and Supplies Inventories	\$ -	-	-	-	\$ -
44	Prepayments	\$ -	-	-	-	\$ -
45	Rounding	\$ 1	-	-	-	\$ 1
46	Total Rate Base	\$ 9,863,271	\$ (598,468)	\$ 22,391	\$ 354,969	\$ 9,642,163

RATE BASE ADJUSTMENT NO. 1 - EXCESS CAPACITY PLANT COSTS

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Acct. No. 380 -Treatment & Disposal Equipment	\$ 9,285,603	\$ -	\$ 9,285,603
2	1998 Phase 2 Water Reclamation Facility	\$ 598,468	\$ (598,468)	\$ -
3	Total Acct. No. 380 -Treatment & Disposal Equip	\$ 9,884,071	\$ (598,468)	\$ 9,285,603

References:

Column A: Company Schedule C-2

Column B: Testimony, CSB; Company Data Request Responses to CSB 5.16 Revised

Column C: Column [A] + Column [B]

RATE BASE ADJUSTMENT NO. 2 - EXPENSED PLANT

LINE NO.	Plant Account Number	Description	[A]	[B]	[C]
			COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED (Col A + Col B)
1	371.1	Pumping Equipment - Lift Stati	\$ 1,544,146	\$ 22,391	\$ 1,566,537
2	380	Treatment & Disposal Equipm	\$ 9,884,071	\$ -	\$ 9,884,071
3					
4		Total	\$ 11,428,217	\$ 22,391	\$ 11,450,608

FROM MATERIALS AND SUPPLIES (CSB 1.34)

Acct. No.	Vendor Name	Description	Amount
9	371.1-Pumping Equipment James, Cooke & Hobso	LS Impellor	\$ 1,169.43
10	371.1-Pumping Equipment James, Cooke & Hobso	LS Impellor	\$ 1,169.43
11	371.1-Pumping Equipment James, Cooke & Hobso	LS Impellor	\$ 1,169.43
12	371.1-Pumping Equipment James, Cooke & Hobso	S Alma flyght pump	\$ 5,670.48
13		Subtotal	\$ 9,178.77
15	380-Treatment & Dispo: Dana Kepner Company	WWTP flow rate + totalizer for flow rate	\$ 776.43
16	380-Treatment & Dispo: HD Supply Waterwork	WWTP-filter handrails (Ins requir)	\$ 2,733.25
17	380-Treatment & Dispo: HD Supply Waterwork	WWTP-pour slab	\$ 537.50
18	380-Treatment & Dispo: HD Supply Waterwork	WWTP-Ultrasonic level sensor@filters	\$ 909.00
19	380-Treatment & Dispo: Summit-Electric Supp	Replace Gallery PLC	\$ 3,351.31
20	380-Treatment & Dispo: Summit-Electric Supp	Replace Gallery PLC	\$ 1,410.52
21	380-Treatment & Dispo: Kooltronic Inc.	A/C cabinet 3000BTU-pplymer SCADA \	\$ 2,309.16
22	380-Treatment & Dispo: WW Grainger Inc	Digester Replace	\$ 1,184.84
23		Subtotal	\$ 13,212.01
25		Total for Materials and Supplies	\$ 22,390.78

FROM CONTRACTUAL SERVICES , ENGINEERING (CSB 1.36)

Acct. No.	Vendor Name	Description	Amount
30	Construction Work In Progres B&R Engineering, Inc.	Capitalize to CWIP-Hunt Highway Force	\$ 5,892.47
31	Construction Work In Progres B&R Engineering, Inc.	Capitalize to CWIP-Hunt Highway Force	\$ 6,944.73
32	Construction Work In Progres B&R Engineering, Inc.	Capitalize to CWIP-Hunt Highway Force	\$ 1,350.02
33	Construction Work In Progres B&R Engineering, Inc.	Capitalize to CWIP-Hunt Highway Force	\$ 2,104.46
34	Construction Work In Progres B&R Engineering, Inc.	Capitalize to CWIP-Hunt Highway Force	\$ 75.41
35	Construction Work In Progres B&R Engineering, Inc.	Capitalize to CWIP-Hunt Highway Force	\$ 2,946.22
36	Construction Work In Progres B&R Engineering, Inc.	Capitalize to CWIP-Hunt Highway Force	\$ 210.44
37		Total for Contractual Services, Engineering	\$ 19,523.75 *

*CWIP is not included in rate base.

References:

- Column A: Company Schedule B-2, P. 3.19
- Column B: Testimony, CSB, Company Data Request Responses CSB 1.11, 1.34, & 1.36
- Column C: Column [A] + Column [B]

RATE BASE ADJUSTMENT NO. 3 - ACCUMULATED DEPRECIATION

LINE NO.	DESCRIPTION	[A]		[B]		[C]	
		PER COMPANY	STAFF ADJUSTMENTS	AS ADJUSTED	AS ADJUSTED	AS ADJUSTED	AS ADJUSTED
1	Accumulated Depreciation	\$ 11,546,833	\$ (354,969)	\$ 11,191,864			
2							
3							
4							
5							
6							
7	Acct.						
8	No. Plant Description	Accumulated Depr. AS FILED	Accumulated Depr. Excess Capacity Plant Costs	Accumulated Depr. Increase for Plant Capitalized from Operating Exp.	STAFF AS ADJUSTED	Accumulated Depr.	
9		Ref: Sch B-2, P.4	Ref: Sch CSB-7, P.2	Ref: Sch CSB-7, P.2			
10	351 Organization	\$ -	\$ -	\$ -		\$ -	
11	353 Land and Land Rights	84,144	-	-		84,144	
12	354 Structures and Improvements	-	-	-		-	
13	355 Power Generation Equipment	15,117	-	-		15,117	
14	360 Collections Sewers - Force	1,206,261	-	-		1,206,261	
15	361.1 Collections Sewers - Gravity	529,549	-	-		529,549	
16	361.2 Manholes & Cleanouts	-	-	-		-	
17	362 Special Collecting Structures	146,469	-	-		146,469	
18	363 Services to Customers	-	-	-		-	
19	367 Reuse Meters and Installations	126,073	-	-		126,073	
20	370 Receiving Wells	1,250,667	-	-		1,250,667	
21	371.1 Pumping Equipment - Lift Stations	36,728	-	1,120		37,848	
22	371.2 Other Pumping Equipment	1,142,980	-	-		1,142,980	
23	371.3 Pumping Equipment - Recharge Wells	-	-	-		-	
24	374 Reuse Distribution Reservoirs	36,340	-	-		36,340	
25	375 Reuse Transmission & Distribution	5,730,039	-	-		5,730,039	
26	380 Treatment & Disposal Equipment	-	(356,088)	-		(356,088)	
27	382 Outfall Sewer Lines	585,769	-	-		585,769	
28	389 Other Plant and Miscellaneous Equipment	896	-	-		896	
29	390 Office Furniture and Equipment	8,564	-	-		8,564	
30	390.1 Computers and Software	21,830	-	-		21,830	
31	391.0 Transportation Equipment	-	-	-		-	
32	392.0 Stores Equipment	134,132	-	-		134,132	
33	393 Tools, Shop, and Garage Equipment	1,694	-	-		1,694	
34	394 Laboratory Equipment	(1,016)	-	-		(1,016)	
35	395 Power Operated Equipment	69,450	-	-		69,450	
36	396 Communication Equipment	-	-	-		-	
37	Post-in-service AFUDC	421,146	-	-		421,146	
38	Rounding	1	-	-		1	
39	Total Accumulated Depreciation	\$ 11,546,833	\$ (356,088)	\$ 11,191,864	\$ 1,120	\$ 11,191,864	

References:

- Column A: Company Schedule B-2
- Column B: Testimony, CSB; Data Request Response CSB 2-1, Schedule CSB-6, Page 2
- Column C: Column [A] + Column [B]

**RATE BASE ADJUSTMENT NO. 4 - ACCUMULATED DEPRECIATION
 CONTINUED**

TO REFLECT ACCUMULATED DEPRECIATION RELATED TO EXCESS CAPACITY PLANT COSTS									
	Year Placed	In Service	Acct No.	Description	Plant Cost	No. of Interim Years @ 3%	Depreciation Rate	No. of Interim Years @ 5%	Accumulated Depreciation
11	1998		380	Treatment & Disposal Equipment	\$598,468	1.5	3.00%	11	\$356,088.46
12									
13									
14									
15									
TO REFLECT ACCUMULATED DEPRECIATION RELATED TO EXPENSED PLANT									
	Year Placed	In Service	Acct No.	Description	Plant Cost	Number of Interim Years	Depreciation Rate	Accumulated Depreciation	
16	2010		371.1	Pumping Equipment - Lift Station:	\$22,391	0.5	10.00%	\$1,119.54	
17									
18									
19									

References:

- Column A: Company Schedule B-2
- Column B: Testimony, CSB; Data Request Response CSB 2-1, Schedule CSB-6
- Column C: Column [A] + Column [B]

OPERATING INCOME - TEST YEAR AND STAFF RECOMMENDED

LINE NO.	DESCRIPTION	[A] COMPANY TEST YEAR AS FILED	[B] STAFF TEST YEAR ADJUSTMENTS	ADJ NO.	[C] STAFF TEST YEAR AS ADJUSTED	[D] STAFF PROPOSED CHANGES	[E] STAFF RECOMMENDED
REVENUES:							
1	Flat Rate Revenues	\$ 2,997,389	\$ -		\$ 2,997,389	\$ 170,345	\$ 3,167,734
2	Metered Revenues	93,356	-		93,356		93,356
3	Other Revenues	6,030	-		6,030	-	6,030
4	Total Revenues	\$ 3,096,775	\$ -		\$ 3,096,775	\$ 170,345	\$ 3,267,120
5		-					
EXPENSES:							
7	Salaries and Wages - Employees	\$ 345,644	\$ -		\$ 345,644	\$ -	\$ 345,644
8	Salaries and Wages - Officers and Directors	90,294	\$ (76,608)	1	13,686	-	13,686
9	Employee Pensions and Benefits	115,720	\$ (1,378)	2	114,342	-	114,342
10	Purchased Power	134,337	\$ -		134,337	-	134,337
11	Chemicals	84,059	\$ -		84,059	-	84,059
12	Materials and Supplies	184,532	\$ (22,391)	3	162,141	-	162,141
13	Office Supplies & Expenses	188,906	\$ (460)	4	188,446	-	188,446
14	Contractual Services - Engineering	20,305	\$ (19,524)	5	781	-	781
15	Contractual Services - Accounting	3,067	\$ -		3,067	-	3,067
16	Contractual Services - Legal	108	\$ -		108	-	108
17	Contractual Services - Other	61,500	\$ (7,138)	6	54,362	-	54,362
18	Contractual Services - Water Testing	15,729	\$ 12,157	7	27,886	-	27,886
19	Rents - Equipment	698	\$ -		698	-	698
20	Transportation Expenses	28,808	\$ -		28,808	-	28,808
21	Insurance - Vehicle	3,067	\$ -		3,067	-	3,067
22	Insurance - General Liability	20,916	\$ -		20,916	-	20,916
23	Insurance - Worker's Comp	222	\$ -		222	-	222
24	Reg. Comm. Exp.	-	\$ -		-	-	-
25	Reg. Comm. Exp. - Rate Case	50,000	\$ (10,000)	8	40,000	-	40,000
26	Bad Debt Expense	9,509	\$ -		9,509	-	9,509
27	Miscellaneous Expense	2,174	\$ -		2,174	-	2,174
28	Depreciation Expense	1,010,700	\$ 63,556	9	1,074,256	-	1,074,256
29	Amortization of Deferred Operating Costs	62,925	\$ -		62,925	-	62,925
30	Tax - Other Than Income	10,449	\$ -		10,449	-	10,449
31	Property Taxes	125,916	\$ (1,394)	10	124,522	8,624	133,146
32	Income Taxes	85,405	\$ (85,405)	11	-	0	0
33	Rounding	1	\$ -		1	-	1
34	Operating Expenses	\$ 2,654,991	\$ (148,585)		\$ 2,506,406	\$ 8,624	\$ 2,515,031
37		-					
38	Operating Income (Loss)	\$ 441,784	\$ 148,585		\$ 590,369	\$ 161,720	\$ 752,089

References:

Column (A): Company Schedule C-1, Page 2
Column (B): Schedule CSB-8
Column (C): Column (A) + Column (B)
Column (D): Schedules CSB-1 and CSB-18
Column (E): Column (C) + Column (D)

SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] ADJ #1 Salaries & Wages Officers & Directors Ref. Sch CSB-9	[C] ADJ #2 Pensions and Benefits Ref. Sch CSB-10	[D] ADJ #3 Materials and Supplies Ref. Sch CSB-11	[E] ADJ #4 Office Supplies and Expenses Ref. Sch CSB-12	[F] ADJ #5 Contract Services Engineering Ref. Sch CSB-13	[G] ADJ #6 Contract Services Other Ref. Sch CSB-14	[H] ADJ #7 Contract Services Water Testing Ref. Sch CSB-15	[I] Subtotal
1	REVENUES:									
1	Flat Rate Revenues	\$ 2,997,389								\$ 2,997,389
2	Metered Revenues	93,356								93,356
3	Other Revenues	6,030								6,030
4	Total Revenues	\$ 3,096,775								\$ 3,096,775
5	OPERATING EXPENSES:									
6	Salaries and Wages - Employees	\$ 345,644								345,644
7	Salaries and Wages - Officers and Directors	90,294								13,686
8	Employee Pensions and Benefits	115,720		(1,378)						114,342
9	Purchased Power	134,337								134,337
10	Chemicals	84,059								84,059
11	Materials and Supplies	184,532								162,141
12	Office Supplies & Expenses	188,906		(460)						188,446
13	Contractual Services - Engineering	20,305								781
14	Contractual Services - Accounting	3,067								3,067
15	Contractual Services - Legal	108								108
16	Contractual Services - Other	61,500								54,362
17	Contractual Services - Water Testing	15,729					(7,138)			27,886
18	Rents - Equipment	698								698
19	Transportation Expenses	28,808								28,808
20	Insurance - Vehicle	3,067								3,067
21	Insurance - General Liability	20,916								20,916
22	Insurance - Worker's Comp	222								222
23	Reg. Comm. Exp.									
24	Reg. Comm. Exp. - Rate Case	50,000								50,000
25	Bad Debt Expense	9,509								9,509
26	Miscellaneous Expense	2,174								2,174
27	Depreciation Expense	1,010,700								1,010,700
28	Amortization of Deferred Operating Costs	62,925								62,925
29	Tax - Other Than Income	10,449								10,449
30	Property Taxes	125,916								125,916
31	Income Taxes	85,405								85,405
32	Rounding	1								1
33	Total Operating Expenses	\$ 2,654,991	\$ (76,608)	\$ (1,378)	\$ (22,391)	\$ (460)	\$ (19,524)	\$ (7,138)	\$ 12,157	\$ 2,539,649
34	Operating Income (Loss)	\$ 441,784	\$ 76,608	\$ 1,378	\$ 22,391	\$ 460	\$ 19,524	\$ 7,138	\$ (12,157)	\$ 557,126

SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR CONTINUED

LINE NO.	DESCRIPTION	[J] ADJ #8	[K] ADJ #9	[L] ADJ #10	[M] ADJ #11	[N]
		Rate Case Expense Ref. Sch CSB-16	Depreciation Expense Ref. Sch CSB-17	Property Taxes Ref. Sch CSB-18	Income Taxes Ref. Sch CSB-19	STAFF ADJUSTED
1	REVENUES:					
1	Metered Water Sales	\$ -	\$ -	\$ -	\$ -	\$ 2,997,389
2	Water Sales - Unmetered	-	-	-	-	93,356
3	Other Operating Revenues	-	-	-	-	6,030
4	Total Revenues	\$ -	\$ -	\$ -	\$ -	\$ 3,096,775
5						
6	OPERATING EXPENSES:					
7	Salaries and Wages - Employees	-	-	-	-	345,644
8	Salaries and Wages - Officers and Directors	-	-	-	-	13,686
9	Employee Pensions and Benefits	-	-	-	-	114,342
10	Purchased Power	-	-	-	-	134,337
11	Chemicals	-	-	-	-	84,059
12	Materials and Supplies	-	-	-	-	162,141
13	Office Supplies & Expenses	-	-	-	-	188,446
14	Contractual Services - Engineering	-	-	-	-	781
15	Contractual Services - Accounting	-	-	-	-	3,067
16	Contractual Services - Legal	-	-	-	-	108
17	Contractual Services - Other	-	-	-	-	54,362
18	Contractual Services - Water Testing	-	-	-	-	27,886
19	Rents - Equipment	-	-	-	-	698
20	Transportation Expenses	-	-	-	-	28,808
21	Insurance - Vehicle	-	-	-	-	3,067
22	Insurance - General Liability	-	-	-	-	20,916
23	Insurance - Worker's Comp	-	-	-	-	222
24	Reg. Comm. Exp.	-	-	-	-	-
25	Reg. Comm. Exp. - Rate Case	(10,000)	-	-	-	40,000
26	Bad Debt Expense	-	-	-	-	9,509
27	Miscellaneous Expense	-	-	-	-	2,174
28	Depreciation Expense	-	63,556	-	-	1,074,256
29	Amortization of Deferred Operating Costs	-	-	-	-	62,925
30	Tax - Other Than Income	-	-	(1,394)	-	10,449
31	Property Taxes	-	-	-	-	124,522
32	Income Taxes	-	-	-	(85,405)	-
33	Rounding	-	-	-	-	1
34	Total Operating Expenses	\$ (10,000)	\$ 63,556	\$ (1,394)	\$ (85,405)	\$ 2,506,406
35						
36	Operating Income (Loss)	\$ 10,000	\$ (63,556)	\$ 1,394	\$ 85,405	\$ 590,369

OPERATING INCOME ADJUSTMENT NO. 1 - SALARY AND WAGES, OFFICERS AND DIRECTORS

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Salary & Wages, Officers and Directors	90,294	\$ (76,608)	\$ 13,686
2				
3				
4				
5				
6				
7	RCI Salaries & Wages - Accounting and Finance		\$ 24,015	
8	RCI Salary & Wages -IT Department		\$ 1,327	
9	RCI Salary & Wages - Human Resources and Payroll		\$ 2,303	
10	RCI Salary & Wages - Executive and Legal		\$ 17,975	
11	Total RCI Salaries & Wages Expense for Pima Sewer		\$ 45,620	
12		Multiplied by	30%	
13			\$ 13,686	

Chairman of the Board Salary Calculation
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References:

- Column A: Company Schedule C-2
- Column B: Testimony, CSB; CSB 1-24
- Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 2 - EMPLOYEE PENSIONS AND BENEFITS

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS (Col C - Col A)	STAFF AS ADJUSTED
1	Employee Pensions and Benefits	\$ 113,842	\$ -	\$ 113,842
2	Employee Pensions & Benefits, Chairman of I	\$ 1,878	\$ (1,378)	\$ 500
3		\$ 115,720	\$ (1,378)	\$ 114,342

4
5
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12
13
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15
16
17

Pension & Benefits Calculation

RCI Salaries & Wages - Accounting and Finance	\$ 24,015
RCI Salary & Wages -IT Department	\$ 1,327
RCI Salary & Wages - Human Resources and Payroll	\$ 2,303
RCI Salary & Wages - Executive and Legal	\$ 17,975
Total RCI Salaries & Wages Expense for Pima Sewer	\$ 45,620
Multiplied by	30%
	\$ 13,686
Multiplied by	3.655% Per CSB 5.2
Pensions and Benefits Per Staff	\$ 500

References:

- Column A: Company Schedule C-2
- Column B: Testimony, CSB; Company Data Request Responses to CSB 1-24
- Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 3 - MATERIALS & SUPPLIES

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS (Col C - Col A)	STAFF AS ADJUSTED
1	Materials and Supplies	\$ 184,532	\$ -	\$ 184,532
2	Expensed Plant		(22,391)	(22,391)
3	Total Materials and Supplies	\$ 184,532	\$ (22,391)	\$ 162,141
4				
5				
6	MATERIALS AND SUPPLIES (CSB 1.34)			
7	Acct. No.	Vendor Name	Description	Amount
8	371.1	Pumpin James, Cooke & Hobso	LS Impellor	\$ 1,169.43
9	371.1	Pumpin James, Cooke & Hobso	LS Impellor	\$ 1,169.43
10	371.1	Pumpin James, Cooke & Hobso	LS Impellor	\$ 1,169.43
11	371.1	Pumpin James, Cooke & Hobso	S Alma flyght pump	\$ 5,670.48
12			Subtotal	\$ 9,178.77
13				
14	380-Treatr	Dana Kepner Company	WWTP flow rate + totalizer for flow rate	\$ 776.43
15	380-Treatr	HD Supply Waterwork	WWTP-filter handrails (Ins requir)	\$ 2,733.25
16	380-Treatr	HD Supply Waterwork	WWTP-pour slab	\$ 537.50
17	380-Treatr	HD Supply Waterwork	WWTP-Ultrasonic level sensor@filters	\$ 909.00
18	380-Treatr	Summit-Electric Supp	Replace Gallery PLC	\$ 3,351.31
19	380-Treatr	Summit-Electric Supp	Replace Gallery PLC	\$ 1,410.52
20	380-Treatr	Kooltronic Inc.	A/C cabinet 3000BTU-pplymer SCADA works	\$ 2,309.16
21	380-Treatr	WW Grainger Inc	Digester Replace	\$ 1,184.84
22			Subtotal	\$ 13,212.01
23				
24			Total for Materials and Supplies	\$ 22,390.78

References:

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

OPERATING INCOME ADJUSTMENT NO. 4 - OFFICE SUPPLIES AND EXPENSES

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Office Supplies and Expense	\$ 188,906	\$ (460)	\$ 189,366
2				
3		From General Ledger Account No. 721		
4		Office Supplies and Expense		
5		Jan-10	Coffee Service	\$ 30.52
6		Feb-10	Coffee Service	\$ 40.48
7		Mar-10	Coffee Service	\$ 31.26
8		Apr-10	Coffee Service	\$ 32.43
9		May-10	Coffee Service	\$ 56.35
10		Jun-10	Coffee Service	\$ 25.15
11		Jul-10	Coffee Service	\$ 29.26
12		Aug-10	Coffee Service	\$ 38.66
13		Sep-10	Coffee Service	\$ 24.23
14		Oct-10	Coffee Service	\$ 34.54
15		Nov-10	Coffee Service	\$ 46.29
16		Dec-10	Coffee Service	\$ 71.13
17				\$ 460.30

References:

- Column A: Company Schedule C-1
- Column B: Testimony, CSB
- Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 5- CONTRACT SERVICES, ENGINEERING

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Contract Services, Engineering	\$ 20,305	\$ -	\$ 20,305
2	Construction Work In Progress	-	(19,524)	(19,524)
3		\$ 20,305	\$ (19,524)	\$ 781
4				
5				
6	FROM CONTRACTUAL SERVICES , ENGINEERING (CSB 1.36)			
7	Acct. No.	Vendor Name	Description	Amount
8	Construction \	B&R Engineering, Inc.	Capitalize to CWIP-Hunt Highway For	\$ 5,892.47
9	Construction \	B&R Engineering, Inc.	Capitalize to CWIP-Hunt Highway For	\$ 6,944.73
10	Construction \	B&R Engineering, Inc.	Capitalize to CWIP-Hunt Highway For	\$ 1,350.02
11	Construction \	B&R Engineering, Inc.	Capitalize to CWIP-Hunt Highway For	\$ 2,104.46
12	Construction \	B&R Engineering, Inc.	Capitalize to CWIP-Hunt Highway For	\$ 75.41
13	Construction \	B&R Engineering, Inc.	Capitalize to CWIP-Hunt Highway For	\$ 2,946.22
14	Construction \	B&R Engineering, Inc.	Capitalize to CWIP-Hunt Highway For	\$ 210.44
15			Total for Contractual Services, Engineering	\$ 19,523.75

References:

- Column A: Company Schedule C-1
- Column B: Testimony, CSB
- Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 6 - CONTRACT SERVICES, OTHER

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS (Col C - Col A)	STAFF AS ADJUSTED
1	Contract Services, Other	\$ 61,500	\$ -	\$ 61,500
2	IDA Bond Fees		\$ (6,700)	\$ (6,700)
3	Bonuses		\$ (438)	\$ (438)
4	Total	\$ 61,500	\$ (7,138)	\$ 54,362

References:

- Column A: Company Schedule C-2
- Column B: Testimony, CSB: CSB 1-39
- Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 7 - CONTRACT SERVICES, WATER TESTING

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS (Col C - Col A)	STAFF AS ADJUSTED
1	Contract Services, Testing	\$ 15,729	\$ -	\$ 15,729
2	Recharge Well Water Testing		\$ 12,157	\$ 12,157
3		\$ 15,729	\$ 12,157	\$ 27,886

References:

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

OPERATING INCOME ADJUSTMENT NO. 8 - RATE CASE EXPENSE

LINE NO.	Description	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Rate Case Expense	\$ 50,000	\$ (10,000)	\$ 40,000
2				
3				
4				
5				
6		Per Company	Difference	Per Staff
7		\$ 200,000	\$ -	\$ 200,000
8	Divided by	4	1	5
9		50,000	(10,000)	40,000

References:

- Column A: Company Schedule C-1
- Column B: Testimony, CSB
- Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 9 - DEPRECIATION EXPENSE ON TEST YEAR PLANT

LINE NO.	DESCRIPTION	[A] PLANT In SERVICE Per Staff	[B] NonDepreciable & Fully Depreciated PLANT	[C] DEPRECIABLE PLANT (Col A - Col B)	[D] DEPRECIATION RATE	[E] DEPRECIATION EXPENSE (Col C x Col D)
1	351 Organization	\$ -	\$ -	\$ -	0.00%	\$ -
2	353 Land and Land Rights	91,528	91,528	-	0.00%	-
3	354 Structures and Improvements	250,433	-	250,433	3.33%	8,339
4	360 Collections Sewers - Force	97,523	-	97,523	2.00%	1,950
5	361.1 Collections Sewers - Gravity	3,854,512	-	3,854,512	2.00%	77,090
6	361.2 Manholes & Cleanouts	1,791,722	-	1,791,722	2.00%	35,834
7	363 Services to Customers	632,249	-	632,249	2.00%	12,645
8	370 Receiving Wells	226,251	-	226,251	3.33%	7,534
9	371.1 Pumping Equipment - Lift Stations	1,566,537	-	1,566,537	12.50%	195,817
10	371.2 Other Pumping Equipment	103,441	-	103,441	12.50%	12,930
11	371.3 Pumping Equipment - Recharge Wells	1,436,200	-	1,436,200	12.50%	179,525
12	375 Reuse Transmission & Distribution	137,444	-	137,444	2.50%	3,436
13	380 Treatment & Disposal Equipment	9,285,603	-	9,285,603	5.00%	464,280
14	389 Other Plant and Miscellaneous Equipment	972,509	-	972,509	6.67%	64,866
15	390 Office Furniture and Equipment	6,529	-	6,529	6.67%	435
16	390.1 Computers and Software	10,884	-	10,884	20.00%	2,177
17	391 Transportation Equipment	21,830	-	21,830	20.00%	4,366
18	393 Tools, Shop, and Garage Equipment	156,200	-	156,200	5.00%	7,810
19	394 Laboratory Equipment	1,993	-	1,993	10.00%	199
20	396 Communication Equipment	118,828	-	118,828	10.00%	11,883
21	Post-in-service AFUDC	716,722	-	716,722	4.52%	32,386
22						
23	Rounding	1	-	-		
24	Total Plant	\$ 21,478,939	\$ -	\$ 21,387,410		\$ 1,123,515
25						
26						
27						
28	Composite Depreciation Rate (Depr Exp / Depreciable Plant):	5.25%				
29	CIAC: \$	937,694				
30	Amortization of CIAC (Line 28 x Line 29):	\$ 49,259				
31						
32	Depreciation Expense Before Amortization of CIAC:	\$ 1,123,515				
33	Less Amortization of CIAC:	\$ 49,259				
34	Test Year Depreciation Expense - Staff:	\$ 1,074,256				
35	Depreciation Expense - Company:	1,010,700				
36	Staff's Total Adjustment:	\$ 63,556				

Depreciation Expense Before Amortization of CIAC: \$ 1,123,515
 Less Amortization of CIAC: \$ 49,259
 Test Year Depreciation Expense - Staff: \$ 1,074,256
 Depreciation Expense - Company: 1,010,700
 Staff's Total Adjustment: \$ 63,556

References:
 Column [A]: Schedule CSB-4
 Column [B]: From Column [A]
 Column [C]: Column [A] - Column [B]
 Column [D]: Engineering Staff Report
 Column [E]: Column [C] x Column [D]

OPERATING INCOME ADJUSTMENT NO. 10 - PROPERTY TAX EXPENSE

LINE NO.	Property Tax Calculation	[A] STAFF AS ADJUSTED	[B] STAFF RECOMMENDED
1	Staff Adjusted Test Year Revenues	\$ 3,096,775	\$ 3,096,775
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	6,193,550	\$ 6,193,550
4	Staff Recommended Revenue, Per Schedule CSB-1	3,096,775	\$ 3,267,120
5	Subtotal (Line 4 + Line 5)	9,290,325	9,460,670
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	3,096,775	\$ 3,153,557
8	Department of Revenue Multiplier	2	2
9	Revenue Base Value (Line 7 * Line 8)	6,193,550	\$ 6,307,113
10	Plus: 10% of CWIP -	20,190	20,190
11	Less: Net Book Value of Licensed Vehicles	21,830	\$ 21,830
12	Full Cash Value (Line 9 + Line 10 - Line 11)	6,191,910	\$ 6,305,473
13	Assessment Ratio	20.0%	21.0%
14	Assessment Value (Line 12 * Line 13)	1,238,382	\$ 1,324,149
15	Composite Property Tax Rate	10.0552%	10.0552%
			\$ -
16	Staff Test Year Adjusted Property Tax (Line 14 * Line 15)	\$ 124,522	
17	Company Proposed Property Tax	125,916	
18	Staff Test Year Adjustment (Line 16-Line 17)	\$ (1,394)	
19	Property Tax - Staff Recommended Revenue (Line 14 * Line 15)		\$ 133,146
20	Staff Test Year Adjusted Property Tax Expense (Line 16)		\$ 124,522
21	Increase in Property Tax Expense Due to Increase in Revenue Requirement		\$ 8,624
22	Increase to Property Tax Expense		\$ 8,624
23	Increase in Revenue Requirement		170,345
24	Increase to Property Tax per Dollar Increase in Revenue (Line 19/Line 20)		5.062725%

OPERATING INCOME ADJUSTMENT NO. 11 - INCOME TAXES

		[A]	[B]	[C]
LINE NO.	DESCRIPTION	COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Income Taxes	\$ 85,405	\$ (85,405)	\$ -

References:

- Column A: Company Schedule C-1
- Column B: Testimony, CSB
- Column C: Column [A] + Column [B]

RATE DESIGN

	Present	Company Proposed	Staff Recommended
<u>Sewer Services - Monthly Charge</u>			
5/8 Inch x 3/4 Inch	\$ 22.73	\$ 27.79	\$ 24.05
3/4 Inch	\$ 35.33	\$ 43.19	\$ 35.33
1 Inch	\$ 59.33	\$ 72.53	\$ 59.33
1 1/2 Inch	\$ 117.33	\$ 143.44	\$ 117.33
2 Inch	\$ 187.33	\$ 229.01	\$ 187.33
3 Inch	NT	\$ 444.60	\$ 384.82
4 Inch	NT	\$ 694.69	\$ 601.28
6 Inch	NT	\$ 1,389.37	\$ 1,202.55
<u>Effluent Sales</u>			
Monthly Minimum	\$ 180.00	\$ 232.56	\$ 230.00
Gallons In Minimum	100,000	-	-
Charge per 1,000 gallons	\$ 0.58	\$ 0.70	\$ 0.70
<u>Recovered Effluent Sales</u>			
Monthly Minimum	NT	\$ 232.56	\$ 230.00
Gallons In Minimum	NT	-	-
Charge per 1,000 gallons	NT	\$ 0.70	\$ 0.70
<u>Service Charges</u>			
Impact Fee (new connection one-time only)	\$ 260	NT	Remove from Tariff
Establishment Fee	NT	\$ 25	\$ 25
Reestablishment (within 12 months)	NT	*	*
Deferred payment (per month)	1.50%	1.50%	1.50%
Deposit	**	**	**
Deposit Interest	**	**	**
NSF check	\$ 15	\$ 15	\$ 15
Late payment fee (per month)***	1.50%	1.50%	1.50%
Disconnect/Reconnect (delinquent account)	\$ 500	NT	Remove from Tariff
Reconnection (Delinquent)	NT	\$ 25	\$ 25
After Hours Service Charge (At the Customer's Request)	NT	\$ 50	\$ 50

* Number of months off the system times the applicable sewer charge.

** Per Commission Rule R14-2-603.B.7 and 603.B.3

*** Late payment charge based upon balance owing at the end of the billing cycle which is added to next bill.

NT = No Tariff

Pima Utility Company-Wastewater Division
Docket No. SW-02199-11-0330
Test Year Ended December 31, 2010

Schedule CSB-21

TYPICAL BILL ANALYSIS
Residential Service (5/8" X 3/4" Meter)

	<u>Present</u> <u>Rates</u>	<u>Proposed</u> <u>Rates</u>	<u>Dollar</u> <u>Increase</u>	<u>Percent</u> <u>Increase</u>
Company	\$ 22.73	\$ 27.79	\$5.06	22.3%
Staff	\$22.73	\$ 24.05	\$1.32	5.8%

BEFORE THE ARIZONA CORPORATION COMMISSION

GARY PIERCE
Chairman
BOB STUMP
Commissioner
SANDRA D. KENNEDY
Commissioner
PAUL NEWMAN
Commissioner
BRENDA BURNS
Commissioner

IN THE MATTER OF THE APPLICATION OF) DOCKET NO. W-02199A-11-0329
PIMA UTILITY COMPANY, AN ARIZONA)
CORPORATION, FOR A DETERMINATION)
OF THE FAIR VALUE OF ITS UTILITY)
PLANTS AND PROPERTY AND FOR)
INCREASES IN ITS WATER RATES AND)
CHARGES FOR UTILITY SERVICE BASED)
THEREON.)

IN THE MATTER OF THE APPLICATION OF) DOCKET NO. W-02199A-11-0330
PIMA UTILITY COMPANY, AN ARIZONA)
CORPORATION, FOR A DETERMINATION)
OF THE FAIR VALUE OF ITS UTILITY)
PLANTS AND PROPERTY AND FOR)
INCREASES IN ITS WASTEWATER RATES)
AND CHARGES FOR UTILITY SERVICE)
BASED THEREON.)

DIRECT
TESTIMONY
OF
JOHN A. CASSIDY
PUBLIC UTILITIES CONSULTANT
UTILITIES DIVISION
ARIZONA CORPORATION COMMISSION

APRIL 3, 2012

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**EXECUTIVE SUMMARY
PIMA UTILITY COMPANY
DOCKET NO. W-02199A-11-0329, ET AL.**

The direct testimony of Staff witness John A. Cassidy addresses the following issues:

Capital Structure – Staff recommends that the Commission adopt a capital structure for Pima Utility Company (“Company”) for this proceeding consisting of 37.9 percent debt and 62.1 percent equity.

Cost of Equity – Staff recommends that the Commission adopt a 9.1 percent return on equity (“ROE”) for the Company. Staff’s estimated ROE for the Company is based on the average of its discounted cash flow method (“DCF”) and capital asset pricing model (“CAPM”) cost of equity methodology estimates for the sample companies ranging from 9.0 percent for the CAPM to 9.1 percent for the DCF.

Cost of Debt – Staff recommends that the Commission adopt a 5.5 percent cost of debt for the Company. Staff’s recommended cost of debt reflects the maximum anticipated interest rate on the Company’s proposed \$8,370,000 long-term debt.

Overall Rate of Return – Staff recommends that the Commission adopt a 7.8 percent overall rate of return.

Mr. Bourassa’s Testimony – The Commission should reject the Company’s proposed 10.50 percent ROE for the following reasons:

Mr. Bourassa’s Future Growth DCF estimates rely exclusively on analysts’ forecasts for earnings per share growth, and his Past and Future Growth DCF estimates are based, in part, on historical average share price appreciation. In both DCF models, he overstates the current dividend yield (D_0/P_0) by failing to properly account for a 2-for-1 stock split for one of his sample companies. In his Past and Future Growth DCF model, his expected dividend growth rate (g) is overstated due to a mathematical error. Mr. Bourassa’s CAPM estimates are derived using a forecasted risk-free rate.

1 **I. INTRODUCTION**

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

3 A. My name is John A. Cassidy. I am a Public Utilities Consultant employed by the Arizona
4 Corporation Commission (“Commission”) in the Utilities Division (“Staff”). My business
5 address is 1200 West Washington Street, Phoenix, Arizona 85007.

6
7 **Q. Briefly describe your responsibilities as a Public Utilities Analyst.**

8 A. I am responsible for the examination of financial and statistical information included in
9 utility rate applications and other financial matters, including studies to estimate the cost
10 of capital component in rate filings used to determine the overall revenue requirement, and
11 for preparing written reports, testimonies and schedules to present Staff’s
12 recommendations to the Commission on these matters.

13
14 **Q. Please describe your educational background and professional experience.**

15 A. I hold a Bachelor of Arts degree in History from Arizona State University, a Master of
16 Library Science degree from the University of Arizona, and an MBA degree with an
17 emphasis in Finance from Arizona State University. While pursuing my MBA degree, I
18 was inducted into Beta Gamma Sigma, the National Business Honor Society. I have
19 passed the CPA exam, but opted not to pursue certification. I have worked professionally
20 as a librarian, financial consultant, tax auditor, and, as a former Commission employee,
21 served as Staff’s cost of capital witness in rate case evidentiary proceedings.

22
23 **Q. What is the scope of your testimony in this case?**

24 A. My testimony provides Staff’s recommended capital structure, return on equity (“ROE”)
25 and overall rate of return (“ROR”) for establishing the revenue requirements for Pima
26 Utility Company’s (“Pima” or “Company”) pending water and wastewater applications.

1 **Q. Please provide a brief description of Pima.**

2 A. Pima is a public service corporation engaged in providing water and wastewater utility
3 services in portions of Maricopa County, Arizona pursuant to certificates of convenience
4 and necessity granted by the Commission. During the Test Year, Pima served
5 approximately 10,175 water and 10,050 wastewater service connections.
6

7 **Summary of Testimony and Recommendations**

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

9 A. Staff's cost of capital testimony is presented in eleven sections. Section I is this
10 introduction. Section II discusses the concept of weighted average cost of capital
11 ("WACC"). Section III presents the concept of capital structure and presents Staff's
12 recommended capital structure for Pima in this proceeding. Section IV presents Staff's
13 cost of debt for Pima. Section V discusses the concepts of ROE and risk. Section VI
14 presents the methods employed by Staff to estimate Pima's ROE. Section VII presents the
15 findings of Staff's ROE analysis. Section VIII presents Staff's final cost of equity
16 estimates for Pima. Section IX presents Staff's ROR recommendation. Section X
17 presents Staff's comments on the direct testimony of the Company's witness, Mr. Thomas
18 J. Bourassa. Finally, section XI presents the conclusions.
19

20 **Q. Have you prepared any exhibits to accompany your testimony?**

21 A. Yes. I prepared ten schedules (JAC-1 to JAC-10) that support Staff's cost of capital
22 analysis and exhibit JAC-A to present a restatement of the Company's schedule D-4.8 as
23 discussed later.

1 **Q. What is Staff's recommended rate of return for Pima?**

2 A. Staff recommends a 7.8 percent overall ROR, as shown in Schedule JAC-1. Staff's ROR
3 recommendation is based on cost of equity estimates for Pima that range from 9.0 percent
4 using the capital asset pricing method ("CAPM") to 9.1 percent using the discounted cash
5 flow method ("DCF").
6

7 **Pima's Proposed Overall Rate of Return**

8 **Q. Briefly summarize Pima's proposed capital structure, cost of debt, ROE and overall
9 ROR for this proceeding.**

10 A. Table 1 summarizes the Company's proposed capital structure, cost of debt, ROE and
11 overall ROR in this proceeding:
12

13 **Table 1**

	Weight	Cost	Weighted Cost
Long-term Debt	31.08%	7.182%	2.23%
Common Equity	68.92%	10.50%	<u>7.24%</u>
Cost of Capital/ROR			9.47%

14
15 Pima is proposing an overall rate of return of 9.47 percent.
16

17 **II. THE WEIGHTED AVERAGE COST OF CAPITAL**

18 **Q. Briefly explain the cost of capital concept.**

19 A. The cost of capital is the opportunity cost of choosing one investment over others with
20 equivalent risk. In other words, the cost of capital is the return that stakeholders expect
21 for investing their financial resources in a determined business venture over another
22 business venture.
23

1 **Q. What is the overall cost of capital?**

2 A. The cost of capital to a company issuing a variety of securities (i.e., stock and
3 indebtedness) is an average of the cost rates on all issued securities adjusted to reflect the
4 relative amounts for each security in the company's entire capital structure. Thus, the
5 overall cost of capital is the WACC.

6
7 **Q. How is the WACC calculated?**

8 A. The WACC is calculated by adding the weighted expected returns of a firm's securities.
9 The WACC formula is:

10 Equation 1.

11
12
$$\text{WACC} = \sum_{i=1}^n W_i * r_i$$

13

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

16
17 **Q. Can you provide an example demonstrating application of Equation 1?**

18 A. Yes. For this example, assume that an entity has a capital structure composed of 60
19 percent debt and 40 percent equity. Also, assume that the embedded cost of debt is 6.0
20 percent and the expected return on equity, i.e., the cost of equity, is 10.5 percent.
21 Calculation of the WACC is as follows:

22
$$\text{WACC} = (60\% * 6.0\%) + (40\% * 10.5\%)$$

23
$$\text{WACC} = 3.60\% + 4.20\%$$

24
$$\text{WACC} = 7.80\%$$

25

1 The weighted average cost of capital in this example is 7.80 percent. The entity in this
2 example would need to earn an overall rate of return of 7.80 percent to cover its cost of
3 capital.

4 5 **III. CAPITAL STRUCTURE**

6 **Background**

7 **Q. Please explain the capital structure concept.**

8 A. The capital structure of a firm is the relative proportions of each type of security—short-
9 term debt, long-term debt (including capital leases), preferred stock and common stock—
10 that are used to finance the firm's assets.

11
12 **Q. How is the capital structure expressed?**

13 A. The capital structure of a company is expressed as the percentage of each component of
14 the capital structure (capital leases, short-term debt, long-term debt, preferred stock and
15 common stock) relative to the entire capital structure.

16
17 As an example, the capital structure for an entity that is financed by \$20,000 of short-term
18 debt, \$85,000 of long-term debt (including capital leases), \$15,000 of preferred stock and
19 \$80,000 of common stock is shown in Table 2.

20 **Table 2**

21
22

Component			%
Short-Term Debt	\$20,000	(\$20,000/\$200,000)	10.0%
Long-Term Debt	\$85,000	(\$85,000/\$200,000)	42.5%
Preferred Stock	\$15,000	(\$15,000/\$200,000)	7.5%
Common Stock	\$80,000	(\$80,000/\$200,000)	40.0%
Total	\$200,000		100%

1 The capital structure in this example is composed of 10.0 percent short-term debt, 42.5
2 percent long-term debt, 7.5 percent preferred stock and 40.0 percent common stock.

3
4 **Pima's Capital Structure**

5 **Q. What capital structure does Pima propose?**

6 A. The Company proposes a pro forma capital structure composed of 31.08 percent debt and
7 68.92 percent common equity. Pima's proposal to use a pro forma capital structure relates
8 to events expected to take place subsequent to the Company's December 31, 2010, test
9 year end; events which would render use of its actual capital structure as of that date to be
10 no longer valid for purposes of this proceeding. Specifically, on November 8, 2011, the
11 Company filed a financing application¹ seeking authority to issue evidence of
12 indebtedness in an amount not to exceed \$8,370,000. As contemplated in that application,
13 Pima plans to refinance its existing (\$4,370,000) IDA bonds with lower cost debt, and
14 obtain additional debt (\$4,000,000) financing through a loan with Wells Fargo at an
15 interest rate not to exceed 5.5 percent. Of this additional debt, \$1,500,000 will be used to
16 fund infrastructure improvements to the Company's water and wastewater systems, while
17 \$2,500,000 will be used to rebalance the Company's equity-rich capital structure to reflect
18 a higher portion of debt. Pima's proposed pro forma capital structure is intended to give
19 recognition to these prospective events.

20
21 **Q. How does Pima's pro forma capital structure compare to capital structures of**
22 **publicly-traded water utilities?**

23 A. Schedule JAC-4 shows the capital structures of six publicly-traded water companies
24 ("sample water companies" or "sample water utilities") as of December 2010. The

¹ Docket Nos. W-02199A-11-0403 and SW-02199A-11-0404.

1 average capital structure for the sample water utilities is comprised of approximately 51.6
2 percent debt and 48.4 percent equity.

3
4 **Staff's Capital Structure**

5 **Q. What is Staff's recommended capital structure for Pima?**

6 A. Staff recommends a pro forma capital structure composed of 37.9 percent debt and 62.1
7 percent equity. Staff presents its capital structure to only one decimal place while the
8 Company presents its capital structure to two decimal places.

9
10 **Q. Does Staff agree that use of a pro forma capital structure is appropriate in this**
11 **proceeding?**

12 A. Yes. Unless an unforeseen event preempts Pima's anticipated refinancing, a pro forma
13 capital structure giving recognition to the prospective events noted above better reflects
14 the Company's on-going capital costs. Use of a pro forma capital structure reflects a
15 lower cost of debt and overall reduced cost of capital and, ultimately, a lower revenue
16 requirement.

17
18 **Q. Why is Staff recommending a different pro forma capital structure from the one**
19 **proposed by Pima?**

20 A. Upon review of Company witness Bourassa's Schedule D-1, Staff determined that
21 adjustments made to Pima's test year ended December 31, 2010, Stockholder's Equity
22 erroneously served to increase, rather than decrease, common equity, as appropriate.
23 Specifically, when making an adjustment for accumulated depreciation to Pima's Water
24 division plant, Mr. Bourassa erroneously decreased Shareholder's equity by \$588,942 and,
25 when making a comparable adjustment to the Company's Wastewater division plant, he
26 erroneously increased Shareholder equity by \$2,219,610. As a consequence, the net effect

1 of the two adjustments served to increase, instead of decrease as it should have, Pima's
2 common equity by \$1,630,668 (\$2,219,610 - \$588,942). Since Staff witness Crystal S.
3 Brown accepted Mr. Bourassa's accumulated depreciation adjustments for purposes of her
4 testimony, it is necessary for Staff to make a double adjustment to correctly restate Pima's
5 common equity: first, to reverse Mr. Bourassa's erroneous adjustment, and second, to
6 properly apply the correct accounting adjustment. Details of Staff's net \$3,261,336
7 (\$1,630,668 x 2) correction to Pima's common equity for Witness Bourassa's accumulated
8 depreciation adjustments are shown in Schedule JAC-10.

9
10 **Q. Did Staff make other adjustments to Pima's pro forma capital structure?**

11 A. Yes. In her direct testimony, Staff witness Brown made several adjustments to the
12 Company's Water and Wastewater plant and accumulated depreciation balances which, in
13 turn, necessitated making additional adjustments to common equity. For the Wastewater
14 Division, the net adjustment increases common equity by \$6,128, and for the Water
15 Division, the net adjustment decreases common equity by \$1,580,905. Details of these
16 Staff adjustments to common equity are presented in Schedule JAC-10.

17
18 **Q. What was the total adjustment made by Staff to Pima's common equity?**

19 A. In total, Staff's adjustments reduced the Company's common equity by \$4,836,113. As
20 shown in Schedule JAC-10, Staff recommends a capital structure consisting of
21 \$13,726,959 in common equity.

22
23 **Q. Did Staff make other adjustments to Pima's capital structure?**

24 A. No, it did not. Staff recommends a capital structure consisting of \$8,370,000 debt and
25 \$13,726,959 common equity for a total capitalization of \$22,096,959, as shown in
26 Schedule JAC-10.

1 **IV. COST OF DEBT**

2 **Q. What is the basis for the Company's proposed 7.18 percent cost of debt?**

3 A. The Company's proposed cost of debt reflects its embedded cost of existing debt.

4
5 **Q. Is the Company's proposed cost of debt consistent with its proposed pro forma capital structure?**

6
7 A. No. As previously discussed, the Company proposes a capital structure that reflects
8 refinancing all of its existing debt as well as retiring equity. Matching the anticipated debt
9 cost with the pro forma debt refinancing is appropriate.

10

11 **Q. What is the anticipated interest rate on the pro forma debt refinancing?**

12 A. The Company's financing application² states that the maximum anticipated interest rate is
13 5.5 percent.

14

15 **Q. What cost of debt is Staff recommending?**

16 A. Staff provisionally recommends 5.5 percent, the Company's anticipated highest cost, for
17 its proposed debt refinancing.³ Staff may update its recommendation pending the actual
18 interest rate on the refinancing.

19

20 **V. RETURN ON EQUITY**

21 **Background**

22 **Q. Please define the term "cost of equity capital."**

23 A. The cost of equity is the rate of return that investors expect to earn on their investment in a
24 business entity given its risk. In other words, the cost of equity to the entity is the
25 investors' expected rate of return on other investments of similar risk. As investors have a

² Docket Nos. W-02199A-11-0403 and SW-02199A-11-0404.

³ On March 8, 2012, Staff filed a report recommending approval of the Company financing request.

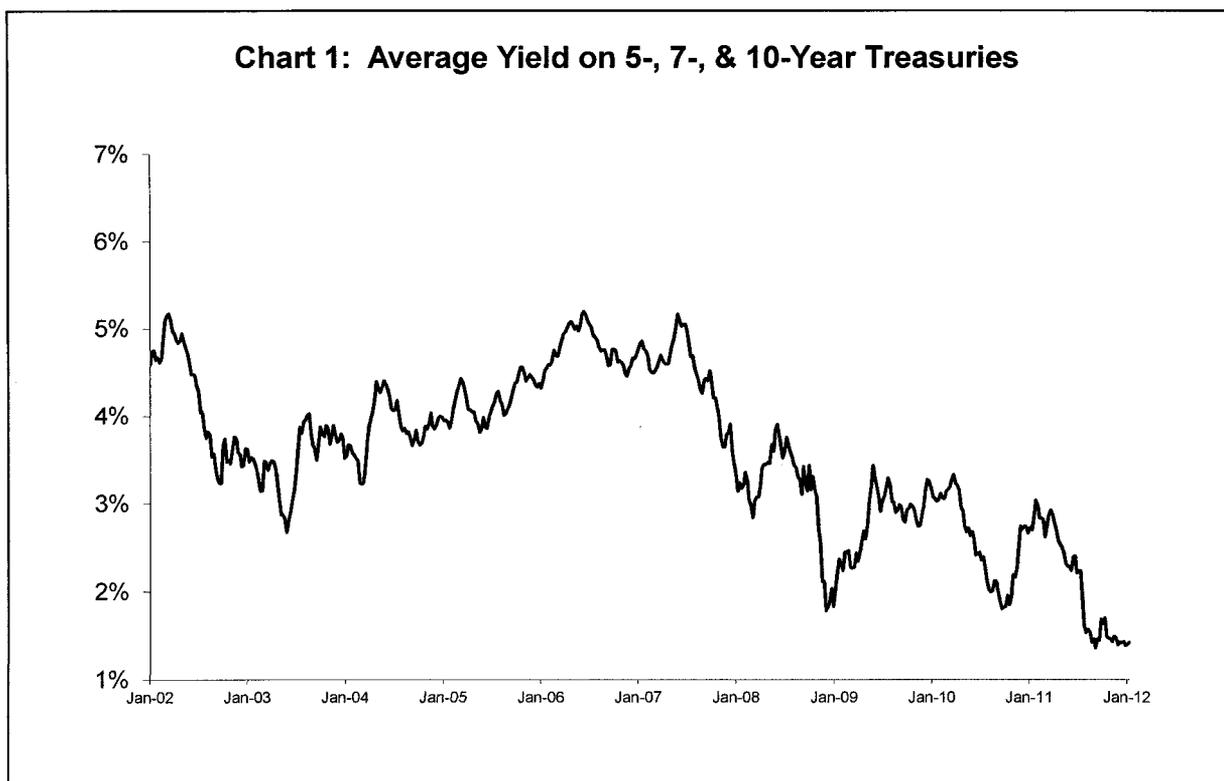
1 wide selection of stocks to choose from, they will choose stocks with similar risks but
2 higher returns. Therefore, the market determines the entity's cost of equity.

3
4 **Q. Is there a correlation between interest rates and the cost of equity?**

5 A. Yes, there is a positive correlation between interest rates and the cost of equity, as the two
6 tend to move in the same direction. This relationship is reflected in the CAPM formula.
7 The CAPM is a market-based model employed by Staff for estimating the cost of equity.
8 The CAPM is further discussed in Section VI of this testimony.

9
10 **Q. What has been the general trend of interest rates in recent years?**

11 A. A chronological chart of interest rates is a good tool to show interest rate history and
12 identify trends. Chart 1 graphs intermediate U.S. treasury rates from January 18, 2002, to
13 January 27, 2012.



1 Chart 1 shows that intermediate-term interest rates trended downward from 2002 to mid-
2 2003, trended upward through early-2008, trended downward through early-2009, trended
3 upward through mid-2010, trended downward through late 2010, trended upward to mid-
4 2011, and are currently trending down from the existing, relatively low rates.

5

6 **Q. What has been the general trend in interest rates longer term?**

7 A. U.S. Treasury rates from December 1961 - December 2011 are shown in Chart 2. The
8 chart shows that interest rates trended upward through the mid-1980s and have trended
9 downward over the last 25 years.

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Source: Federal Reserve

1 **Q. Do these trends suggest anything in terms of cost of equity?**

2 A. Yes. As previously noted, interest rates and cost of equity tend to move in the same
3 direction; therefore, the cost of equity has declined in the past 25 years.

4
5 **Q. Do actual returns represent the cost of equity?**

6 A. No. The cost of equity represents investors' *expected* returns and not realized returns.

7
8 **Q. Is there any information available that leads to an understanding of the relationship**
9 **between the equity returns required for a regulated water utility and those required**
10 **in the market as a whole?**

11 A. Yes. A comparison of betas, a component of the CAPM discussed in Section VI, for the
12 water utility industry and the market provide insight into this relationship. In theory, the
13 market has a beta value of 1.0, with stocks bearing greater risk (less risk) than the market
14 having beta values higher than (lower than) 1.0, respectively. Furthermore, in accordance
15 with the CAPM, the cost of equity capital moves in the same direction as beta. Therefore,
16 because the average beta value (0.72)⁴ for a water utility is less than 1.0, the required
17 return on equity for a regulated water utility is below that of the market as a whole.

18
19 **Risk**

20 **Q. Please define risk in relation to cost of capital.**

21 A. Risk, as it relates to an investment, is the variability or uncertainty of the returns on a
22 particular security. Investors are risk averse and require a greater potential return to invest
23 in relatively greater risk opportunities, i.e., investors require compensation for taking
24 on additional risk. Risk is generally separated into two components. Those components

⁴ See Schedule JAC-7.

1 are market risk (systematic risk) and non-market risk (diversifiable risk or firm-specific
2 risk).

3
4 **Q. What is market risk?**

5 A. Market risk or systematic risk is the risk of an investment that cannot be reduced through
6 diversification. Market risk stems from factors that affect all securities, such as
7 recessions, war, inflation and high interest rates. Since these factors affect the entire
8 market they cannot be eliminated through diversification. Market risk does not impact
9 each security to the same degree. The degree to which a given security's return is affected
10 by market fluctuations can be measured using Beta. Beta reflects the business risk and the
11 financial risk of a security.

12
13 **Q. Please define business risk.**

14 A. Business risk is the fluctuation of earnings inherent in a firm's operations and
15 environment, such as competition and adverse economic conditions that may impair its
16 ability to provide returns on investment. Companies in the same or similar line of
17 business tend to experience the same fluctuations in business cycles.

18
19 **Q. Please define financial risk.**

20 A. Financial risk is the fluctuation of earnings, inherent in the use of debt financing, that may
21 impair a firm's ability to provide adequate return; the higher the percentage of debt in a
22 company's capital structure, the greater its exposure to financial risk.

23
24 **Q. Do business risk and financial risk affect the cost of equity?**

25 A. Yes.

26

1 **Q. Is a firm subject to any other risk?**

2 A. Yes. Firms are also subject to unsystematic or firm-specific risk. Examples of
3 unsystematic risk include losses caused by labor problems, nationalization of assets, loss
4 of a big client or weather conditions. Investors can eliminate firm-specific risk by holding
5 a diverse portfolio; thus, it is not of concern to diversified investors.

6
7 **Q. How does Pima's financial risk exposure compare to that of Staff's sample group of
8 water companies?**

9 A. JAC-4 shows the capital structures of the six sample water companies as of September 30,
10 2011, and Pima's adjusted capital structure as of the end of the test year, December 31,
11 2010. As shown, the sample water utilities were capitalized with approximately 51.6
12 percent debt and 48.4 percent equity, while Pima's capital structure consists of
13 approximately 37.9 percent debt and 62.1 percent equity. Thus, Pima bears less financial
14 risk than does Staff's sample companies.

15
16 **Q. Is firm-specific risk measured by beta?**

17 A. No. Firm-specific risk is not measured by beta.

18
19 **Q. Is the cost of equity affected by firm-specific risk?**

20 A. No. Since firm-specific risk can be eliminated through diversification, it does not affect
21 the cost of equity.

22
23 **Q. Can investors expect additional returns for firm-specific risk?**

24 A. No. Investors who hold diversified portfolios can eliminate firm-specific risk and,
25 consequently, do not require any additional return. Since investors who choose to be less

1 than fully diversified must compete in the market with fully-diversified investors, the
2 former cannot expect to be compensated for unique risk.

3
4 **VI. ESTIMATING THE COST OF EQUITY**

5 **Introduction**

6 **Q. Did Staff directly estimate the cost of equity for Pima?**

7 A. No. Since Pima is not a publicly-traded company, Staff is unable to directly estimate its
8 cost of equity due to the unavailability of financial information. Instead, Staff uses an
9 average of a representative sample group to reduce the sample error resulting from random
10 fluctuations in the market at the time the information is gathered.

11
12 **Q. What companies did Staff select as proxies or comparables for Pima?**

13 A. Staff's sample consists of the following six publicly-traded water utilities: American
14 States Water, California Water, Connecticut Water Services, Middlesex Water, Aqua
15 America and SJW Corp. Staff chose these companies because they are publicly-traded
16 and receive the majority of their earnings from regulated operations.

17
18 **Q. What models did Staff implement to estimate Pima's cost of equity?**

19 A. Staff used two market-based models to estimate the cost of equity for Pima: the DCF
20 model and the CAPM.

21
22 **Q. Please explain why Staff chose the DCF and CAPM models.**

23 A. Staff chose to use the DCF and CAPM models because they are widely-recognized
24 market-based models and have been used extensively to estimate the cost of equity. An
25 explanation of the DCF and CAPM models follows.

1 **Discounted Cash Flow Model Analysis**

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

4 A. The DCF method of stock valuation is based on the theory that the value of an investment
5 is equal to the sum of the future cash flows generated from the aforementioned investment
6 discounted to the present time. This method uses expected dividends, market price and
7 dividend growth rate to calculate the cost of capital. Professor Myron Gordon pioneered
8 the DCF method in the 1960s. The DCF method has become widely used to estimate the
9 cost of equity for public utilities due to its theoretical merit and its simplicity. Staff used
10 the financial information for the relevant six sample companies in the DCF model and
11 averaged the results to determine an estimated cost of equity for the sample companies.

12
13 **Q. Does Staff use more than one version of the DCF?**

14 A. Yes. Staff uses two versions of the DCF model: the constant-growth DCF and the multi-
15 stage or non-constant growth DCF. The constant-growth DCF assumes that an entity's
16 dividends will grow indefinitely at the same rate. The multi-stage growth DCF model
17 assumes the dividend growth rate will change at some point in the future.

18
19 ***The Constant-Growth DCF***

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

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

Equation 2 :

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

where : K = the cost of equity
 D₁ = the expected annual dividend
 P₀ = the current stock price
 g = the expected infinite annual growth rate of dividends

1 Equation 2 assumes that the entity has a constant earnings retention rate and that its
2 earnings are expected to grow at a constant rate. According to Equation 2, a stock with a
3 current market price of \$10 per share, an expected annual dividend of \$0.45 per share and
4 an expected dividend growth rate of 3.0 percent per year has a cost of equity to the entity
5 of 7.5 percent reflected by the sum of the dividend yield ($\$0.45 / \$10 = 4.5$ percent) and the
6 3.0 percent annual dividend growth rate.

7
8 **Q. How did Staff calculate the expected dividend yield (D_1/P_0) component of the**
9 **constant-growth DCF formula?**

10 A. Staff calculated the expected yield component of the DCF formula by dividing the
11 expected annual dividend⁵ (D_1) by the spot stock price (P_0) after the close of market on
12 February 29, 2012, as reported by *MSN Money*.

13
14 **Q. Why did Staff use the February 29, 2012, spot price rather than a historical average**
15 **stock price to calculate the dividend yield component of the DCF formula?**

16 A. The current, rather than historic, market price is used in order to be consistent with
17 financial theory. In accordance with the Efficient Market Hypothesis, the current stock
18 price is reflective of all available information on a stock, and as such reveals investors'
19 expectations of future returns. Use of historical average stock prices illogically discounts
20 the most recent information in favor of less recent information. The latter is stale and is
21 representative of underlying conditions that may have changed.

22

⁵ *Value Line* Summary & Index, May 13, 2011.

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

3 A. The dividend growth component used by Staff is determined by the average of six
4 different estimation methods, as shown in Schedule JAC-8. Staff calculated historical and
5 projected growth estimates on dividend-per-share (“DPS”),⁶ earnings-per-share (“EPS”)⁷
6 and sustainable growth bases.

7
8 **Q. Why did Staff examine EPS growth to estimate the dividend growth component of**
9 **the constant-growth DCF model?**

10 A. Historic and projected EPS growth are used because dividends are related to earnings.
11 Dividend distributions may exceed earnings in the short run, but cannot continue
12 indefinitely. In the long term, dividend distributions are dependent on earnings.

13
14 **Q. How did Staff estimate historical DPS growth?**

15 A. Staff estimated historical DPS growth by calculating a compound annual DPS growth rate
16 for each of its sample companies over the 10-year period, 2001-2010. As shown in
17 Schedule JAC-5, the average historical DPS growth rate for the sample was 3.1 percent.

18
19 **Q. How did Staff estimate projected DPS growth?**

20 A. Staff calculated an average of the projected DPS growth rates for the sample water utilities
21 from *Value Line* through the period, 2014-2016. The average projected DPS growth rate
22 is 4.3 percent, as shown in Schedule JAC-5.

23

⁶ Derived from information provided by *Value Line*.

⁷ Derived from information provided by *Value Line*.

1 **Q. How did Staff estimate historical EPS growth rate?**

2 A. Staff estimated historical EPS growth by calculating a compound annual EPS growth rate
3 for each of its sample companies over the 10-year period, 2001-2010. As shown in
4 Schedule JAC-5, the average historical EPS growth rate for the sample was 4.5 percent.

5
6 **Q. How did Staff estimate projected EPS growth?**

7 A. Staff calculated an average of the projected EPS growth rates for the sample water utilities
8 from *Value Line* through the period, 2014-2016. The average projected EPS growth rate
9 is 6.7 percent, as shown in Schedule JAC-5.

10

11 **Q. How does Staff calculate its historical and projected sustainable growth rates?**

12 A. Historical and projected sustainable growth rates are calculated by adding their respective
13 retention growth rate terms (br) to their respective stock financing growth rate terms (vs),
14 as shown in Schedule JAC-6.

15

16 **Q. What is retention growth?**

17 A. Retention growth is the growth in dividends due to the retention of earnings. The
18 retention growth concept is based on the theory that dividend growth cannot be achieved
19 unless the company retains and reinvests some of its earnings. The retention growth is
20 used in Staff's calculation of sustainable growth shown in Schedule JAC-6.

21

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

23 A. The retention growth rate is the product of the retention ratio and the book/accounting
24 return on equity. The retention growth rate formula is:

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Equation 3 :

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

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

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

A. Staff calculated the mean of the 10-year average historical retention rate for each sample company over the period, 2001-2010. As shown in Schedule JAC-6, the historical average retention (br) growth rate for the sample is 2.9 percent.

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

A. Staff used the retention growth projections for the sample water utilities for the period, 2014-2016, from *Value Line*. As shown in Schedule JAC-6, the projected average retention growth rate for the sample companies is 4.5 percent.

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

A. The retention growth rate is a reasonable estimate of future dividend growth when the retention ratio is reasonably constant and the entity's market price to book value ("market-to-book ratio") is expected to be 1.0. The average retention ratio has been reasonably constant in recent years. However, the market-to-book ratio for the sample water utilities is 1.9, notably higher than 1.0, as shown in Schedule JAC-7.

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

2 A. Yes. A market-to-book ratio greater than 1.0 implies that investors expect an entity to
3 earn an accounting/book return on its equity that exceeds its cost of equity. The
4 relationship between required returns and expected cash flows is readily observed in the
5 fixed securities market. For example, assume an entity contemplating issuance of bonds
6 with a face value of \$10 million at either 6 percent or 8 percent and, thus, paying annual
7 interest of \$600,000 or \$800,000, respectively. Regardless of investors' required return on
8 similar bonds, investors will be willing to pay more for the bonds if issued at 8 percent
9 than if the bonds are issued at 6 percent. For example, if the current interest rate required
10 by investors is 6 percent, then they would bid \$10 million for the 6 percent bonds and
11 more than \$10 million for the 8 percent bonds. Similarly, if equity investors require a 9
12 percent return and expect an entity to earn accounting/book returns of 13 percent, the
13 market will bid up the price of the entity's stock to provide the required return of 9
14 percent.

15
16 **Q. How has Staff generally recognized a market-to-book ratio exceeding 1.0 in its cost of
17 equity analyses in recent years?**

18 A. Staff has assumed that investors expect the market-to-book ratio to remain greater than
19 1.0. Given that assumption, Staff has added a stock financing growth rate (vs) term to the
20 retention ratio (br) term to calculate its historical and projected sustainable growth rates.

21
22 **Q. Do the historical and projected sustainable growth rates Staff uses to develop its
23 DCF cost of equity in this case continue to include a stock financing growth rate
24 term?**

25 A. Yes.

26

1 **Q. What is stock financing growth?**

2 A. Stock financing growth is the growth in an entity's dividends due to the sale of stock by
3 that entity. Stock financing growth is a concept derived by Myron Gordon and discussed
4 in his book *The Cost of Capital to a Public Utility*.⁸ Stock financing growth is the product
5 of the fraction of the funds raised from the sale of stock that accrues to existing
6 shareholders (v) and the fraction resulting from dividing the funds raised from the sale of
7 stock by the existing common equity (s).

8
9 **Q. What is the mathematical formula for the stock financing growth rate?**

10 A. The mathematical formula for stock financing growth is:

Equation 4:

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

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

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

11

12 **Q. How is the variable v presented above calculated?**

13 A. Variable v is calculated as follows:

Equation 5:

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

14

⁸ MYRON J. GORDON, THE COST OF CAPITAL TO A PUBLIC UTILITY 31-35 (MSU Public Utilities Studies 1974).

1 For example, assume that a share of stock has a \$30 book value and is selling for \$45.
2 Then, to find the value of v , the formula is applied:

$$v = 1 - \left(\frac{30}{45} \right)$$

3 In this example, v is equal to 0.33.
4

5 **Q. How is the variable s presented above calculated?**

6 A. Variable s is calculated as follows:

7 Equation 6:

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

8
9
10
11 For example, assume that an entity has \$150 in existing equity, and it sells \$30 of stock.
12 Then, to find the value of s , the formula is applied:

$$s = \left(\frac{30}{150} \right)$$

13 In this example, s is equal to 20.0 percent.
14

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

16 A. A market-to-book ratio of 1.0 reflects that investors expect an entity to earn a
17 book/accounting return on its equity investment equal to the cost of equity. When the
18 market-to-book ratio is equal to 1.0, none of the funds raised from the sale of stock by the
19 entity accrues to the benefit of existing shareholders, i.e., the term v is equal to zero (0.0).
20 Consequently, the vs term is also equal to zero (0.0). When stock financing growth is
21 zero, dividend growth depends solely on the br term.

1 **Q. What is the effect of the v s term when the market-to-book ratio is greater than 1.0?**

2 A. A market-to-book ratio greater than 1.0 reflects that investors expect an entity to earn a
3 book/accounting return on its equity investment greater than the cost of equity. Equation
4 5 shows that, when the market-to-book ratio is greater than 1.0, the v term is also greater
5 than zero. The excess by which new shares are issued and sold over book value per share
6 of outstanding stock is a contribution that accrues to existing stockholders in the form of a
7 higher book value. The resulting higher book value leads to higher expected earnings and
8 dividends. Continued growth from the v s term is dependent upon the continued issuance
9 and sale of additional shares at a price that exceeds book value per share.

10
11 **Q. What v s estimate did Staff calculate from its analysis of the sample water utilities?**

12 A. Staff estimated an average stock financing growth of 2.3 percent for the sample water
13 utilities, as shown in Schedule JAC-6.

14
15 **Q. What would occur if an entity had a market-to-book ratio greater than 1.0 as a result
16 of investors expecting earnings to exceed its cost of equity, and subsequently
17 experienced newly-authorized rates equal only to its cost of equity?**

18 A. Holding all other factors constant, one would expect market forces to move the company's
19 stock price lower, closer to a market-to-book ratio of 1.0, to reflect investor expectations
20 of reduced expected future cash flows.

21
22 **Q. If the average market-to-book ratio of Staff's sample water utilities were to fall to 1.0
23 due to authorized ROEs equaling their cost of equity, would inclusion of the v s term
24 be necessary to Staff's constant-growth DCF analysis?**

25 A. No. As discussed above, when the market-to-book ratio is equal to 1.0, none of the funds
26 raised from the sale of stock by the entity accrues to the benefit of existing shareholders

1 because the v term equals to zero and, consequently, the vs term also equals zero. When
2 the market-to-book ratio equals 1.0, dividend growth depends solely on the br term.
3 Staff's inclusion of the vs term assumes that the market-to-book ratio continues to exceed
4 1.0 and that the water utilities will continue to issue and sell stock at prices above book
5 value with the effect of benefitting existing shareholders.

6
7 **Q. What are Staff's historical and projected sustainable growth rates?**

8 A. Staff's estimated historical sustainable growth rate is 5.3 percent based on an analysis of
9 earnings retention for the sample water companies. Staff's projected sustainable growth
10 rate is 7.1 percent based on retention growth projected by *Value Line*. Schedule JAC-6
11 presents Staff's estimates of the sustainable growth rate.

12
13 **Q. What is Staff's expected infinite annual growth rate in dividends?**

14 A. Staff's expected dividend growth rate (g) is 5.2 percent, which is the average of historical
15 and projected DPS, EPS, and sustainable growth estimates. Staff's calculation of the
16 expected infinite annual growth rate in dividends is shown in Schedule JAC-8.

17
18 **Q. What is Staff's constant-growth DCF estimate for the sample utilities?**

19 A. Staff's constant-growth DCF estimate is 8.5 percent, as shown in Schedule JAC-3.

20
21 ***The Multi-Stage DCF***

22 **Q. Why did Staff implement the multi-stage DCF model to estimate Pima's cost of**
23 **equity?**

24 A. Staff generally uses the multi-stage DCF model to consider the assumption that dividends
25 may not grow at a constant rate. The multi-stage DCF uses two stages of growth, the first

1 stage (near-term) having a duration of four years, followed by the second stage (long-
2 term) of constant growth.

3
4 **Q. What is the mathematical formula for the multi-stage DCF?**

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

Equation 7 :

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

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

6
7 **Q. What steps did Staff take to implement its multi-stage DCF cost of equity model?**

8 A. First, Staff projected future dividends for each of the sample water utilities using near-
9 term and long-term growth rates. Second, Staff calculated the rate (cost of equity) which
10 equates the present value of the forecasted dividends to the current stock price for each of
11 the sample water utilities. Lastly, Staff calculated an overall sample average cost of
12 equity estimate.

13
14 **Q. How did Staff calculate near-term (stage-1) growth?**

15 A. The stage-1 growth rate is based on *Value Line*'s projected dividends for the next twelve
16 months, when available, and on the average dividend growth (g) rate of 5.2 percent,
17 calculated in Staff's constant DCF analysis for the remainder of the stage.

1 **Q. How did Staff estimate long-term (stage-2) growth?**

2 A. Staff calculated the stage-2 growth rate using the arithmetic mean rate of growth in Gross
3 Domestic Product (“GDP”) from 1929 to 2011.⁹ Using the GDP growth rate assumes that
4 the water utility industry is expected to grow at the same rate as the overall economy.

5
6 **Q. What is the historical GDP growth rate that Staff used to estimate stage-2 growth?**

7 A. Staff used 6.5 percent to estimate the stage-2 growth rate.

8
9 **Q. What is Staff’s multi-stage DCF estimate for the sample utilities?**

10 A. Staff’s multi-stage DCF estimate is 9.7 percent, as shown in Schedule JAC-3.

11
12 **Q. What is Staff’s overall DCF estimate for the sample utilities?**

13 A. Staff’s overall DCF estimate is 9.1 percent. Staff calculated the overall DCF estimate by
14 averaging the constant growth DCF (8.5%) and multi-stage DCF (9.7%) estimates, as
15 shown in Schedule JAC-3.

16
17 **Capital Asset Pricing Model**

18 **Q. Please describe the CAPM.**

19 A. The CAPM is used to determine the prices of securities in a competitive market. The
20 CAPM model describes the relationship between a security’s investment risk and its
21 market rate of return. Under the CAPM, an investor requires the expected return of a
22 security to equal the rate on a risk-free security plus a risk premium. If the investor’s
23 expected return does not meet or beat the required return, the investment is not
24 economically justified. The model also assumes that investors will sufficiently diversify

⁹ www.bea.doc.gov.

1 their investments to eliminate any non-systematic or unique risk.¹⁰ In 1990, Professors
2 Harry Markowitz, William Sharpe, and Merton Miller earned the Nobel Prize in
3 Economic Sciences for their contribution to the development of the CAPM.

4
5 **Q. Did Staff use the same sample water utilities in its CAPM and DCF cost of equity**
6 **estimation analyses?**

7 A. Yes. Staff's CAPM cost of equity estimation analysis uses the same sample water
8 companies as its DCF cost of equity estimation analysis.

9
10 **Q. What is the mathematical formula for the CAPM?**

11 A. The mathematical formula for the CAPM is:

12
Equation 8:

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

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

13
14 The equation shows that the expected return (K) on a risky asset is equal to the risk-free
15 interest rate (R_f) plus the product of the market risk premium ($R_m - R_f$) multiplied by beta
16 (β) where beta represents the riskiness of the investment relative to the market.

17

¹⁰ The CAPM makes the following assumptions: 1) single holding period; 2) perfect and competitive securities market; 3) no transaction costs; 4) no restrictions on short selling or borrowing; 5) the existence of a risk-free rate; and 6) homogeneous expectations.

1 **Q. What is the risk-free rate?**

2 A. The risk-free rate is the rate of return of an investment free of default risk.

3
4 **Q. What does Staff use as surrogates to represent estimations of the risk-free rates of**
5 **interest in its historical and current market risk premium CAPM methods?**

6 A. Staff uses separate parameters as surrogates for the estimations of the risk-free rates of
7 interest for the historical market risk premium CAPM cost of equity estimation and the
8 current market risk premium CAPM cost of equity estimation. Staff uses the average of
9 three (5-, 7-, and 10-year) intermediate-term U.S. Treasury securities' spot rates in its
10 historical market risk premium CAPM cost of equity estimation, and the 30-year U.S.
11 Treasury bond spot rate in its current market risk premium CAPM cost of equity
12 estimation. Rates on U.S. Treasuries are largely verifiable and readily available.

13
14 **Q. What does beta measure?**

15 A. Beta measures the volatility, or systematic risk, of a security relative to the market. Since
16 systematic risk cannot be diversified away, it is the only risk that is relevant when
17 estimating a security's required return. Using a baseline market beta of 1.0, a security
18 with a beta less than 1.0 will be less volatile than the market. A security with a beta
19 greater than 1.0 will be more volatile than the market.

20
21 **Q. How did Staff estimate Pima's beta?**

22 A. Staff used the average of the *Value Line* betas for the sample water utilities as a proxy for
23 the Company's beta. Schedule JAC-7 shows the *Value Line* betas for each of the sample
24 water utilities. The 0.72 average beta for the sample water utilities is Staff's estimated
25 beta for Pima. A security with a 0.72 beta has less volatility than the market.

26

1 **Q. What is the market risk premium ($R_m - R_f$)?**

2 A. The market risk premium is the expected return on the market, minus the risk-free rate.
3 Simplified, it is the return an investor expects as compensation for market risk.

4
5 **Q. What did Staff use for the market risk premium?**

6 A. Staff uses separate calculations for the market risk premium in its historical and current
7 market risk premium CAPM methods.

8
9 **Q. How did Staff calculate an estimate for the market risk premium in its historical
10 market risk premium CAPM method?**

11 A. Staff uses the intermediate-term government bond income returns published in the
12 Ibbotson Associates' *Stocks, Bonds, Bills, and Inflation 2011 Yearbook* to calculate the
13 historical market risk premium. Ibbotson Associates calculates the historical risk
14 premium by averaging the historical arithmetic differences between the S&P 500 and the
15 intermediate-term government bond income returns for the period 1926-2010. Staff's
16 historical market risk premium estimate is 7.2 percent, as shown in Schedule JAC-3.

17
18 **Q. How did Staff calculate an estimate for the market risk premium in its current
19 market risk premium CAPM method?**

20 A. Staff solves equation 8 above to arrive at a market risk premium using a DCF-derived
21 expected return (K) of 14.67 (2.2 + 12.47¹¹) percent using the expected dividend yield (2.2
22 percent over the next twelve months) and the annual per share growth rate (12.47 percent)
23 that *Value Line* projects for all dividend-paying stocks under its review¹² along with the
24 current long-term risk-free rate (30-year Treasury note at 3.08 percent) and the market's

¹¹ The three to five year price appreciation is 60%. $1.60^{0.25} - 1 = 12.47\%$.

¹² February 24, 2012 issue date.

1 average beta of 1.0. Staff calculated the current market risk premium as 11.59 percent,¹³
2 as shown in Schedule JAC-3.

3
4 **Q. What is the result of Staff's historical market risk premium CAPM and current**
5 **market risk premium CAPM cost of equity estimations for the sample utilities?**

6 A. Staff's cost of equity estimates are 6.6 percent using the historical market risk premium
7 CAPM and 11.4 percent using the current market risk premium CAPM.

8
9 **Q. What is Staff's overall CAPM estimate for the sample utilities?**

10 A. Staff's overall CAPM cost of equity estimate is 9.0 percent which is the average of the
11 historical market risk premium CAPM (6.6 percent) and the current market risk premium
12 CAPM (11.4 percent) estimates, as shown in Schedule JAC-3.

13
14 **VII. SUMMARY OF STAFF'S COST OF EQUITY ANALYSIS**

15 **Q. What is the result of Staff's constant-growth DCF analysis to estimate the cost of**
16 **equity for the sample water utilities?**

17 A. Schedule JAC-3 shows the result of Staff's constant-growth DCF analysis. The result of
18 Staff's constant-growth DCF analysis is as follows:

19
20
$$k = 3.3\% + 5.2\%$$

21
22
$$k = 8.5\%$$

23
24 Staff's constant-growth DCF estimate of the cost of equity for the sample water utilities is
25 8.5 percent.

¹³ 14.67% = 3.08% + (1) (11.59%).

1 **Q. What is the result of Staff's multi-stage DCF analysis to estimate of the cost of equity**
2 **for the sample utilities?**

3 A. Schedule JAC-9 shows the result of Staff's multi-stage DCF analysis. The result of
4 Staff's multi-stage DCF analysis is:

5	Company	Equity Cost
6		Estimate (k)
7		
8	American States Water	9.6%
9	California Water	9.8%
10	Aqua America	9.4%
11	Connecticut Water	9.8%
12	Middlesex Water	10.5%
13	SJW Corp	<u>9.5%</u>
14		
15	Average	9.7%

16
17 Staff's multi-stage DCF estimate of the cost of equity for the sample water utilities is 9.7
18 percent.

19
20 **Q. What is Staff's overall DCF estimate of the cost of equity for the sample utilities?**

21 A. Staff's overall DCF estimate of the cost of equity for the sample utilities is 9.1 percent.
22 Staff calculated an overall DCF cost of equity estimate by averaging Staff's constant
23 growth DCF (8.5 percent) and Staff's multi-stage DCF (9.7 percent) estimates, as shown
24 in Schedule JAC-3.

25
26 **Q. What is the result of Staff's historical market risk premium CAPM analysis to**
27 **estimate of the cost of equity for the sample utilities?**

28 A. Schedule JAC-3 shows the result of Staff's CAPM analysis using the historical risk
29 premium estimate. The result is as follows:

30

$$k = 1.4\% + 0.72 * 7.2\%$$
$$k = 6.6\%$$

1 Staff's CAPM estimate (using the historical market risk premium) of the cost of equity to
2 the sample water utilities is 6.6 percent.

3

4 **Q. What is the result of Staff's current market risk premium CAPM analysis to**
5 **estimate the cost of equity for the sample utilities?**

6 A. Schedule JAC-3 shows the result of Staff's CAPM analysis using the current market risk
7 premium estimate. The result is:

8

$$k = 3.1\% + 0.72 * 11.6\%$$

9

$$k = 11.4\%$$

10

11 Staff's CAPM estimate (using the current market risk premium) of the cost of equity to the
12 sample water utilities is 11.4 percent.

13

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

15 A. Staff's overall CAPM estimate for the sample utilities is 9.0 percent. Staff's overall
16 CAPM estimate is the average of the historical market risk premium CAPM (6.6 percent)
17 and the current market risk premium CAPM (11.4 percent) estimates, as shown in
18 Schedule JAC-3.

19

20 **Q. Please summarize the results of Staff's cost of equity analysis for the sample utilities.**

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

22

Table 2

Method	Estimate
Average DCF Estimate	9.1%
Average CAPM Estimate	9.0%
Overall Average	9.1%

23

Staff's average estimate of the cost of equity to the sample water utilities is 9.1 percent.

1 **VIII. FINAL COST OF EQUITY ESTIMATES FOR PIMA**

2 **Q. Please compare Pima's capital structure to that of the six sample water companies.**

3 A. The average capital structure for the sample water utilities is composed of 48.4 percent
4 equity and 51.6 percent debt, as shown in Schedule JAC-4. Pima's capital structure is
5 composed of 62.1 percent equity and 37.9 percent debt. In this case, since Pima's capital
6 structure is less leveraged than that of the average sample water utilities' capital structure,
7 its stockholders bear less financial risk than the sample water utilities.

8
9 **Q. Does Pima's reduced financial risk affect its cost of equity?**

10 A. Yes. As previously discussed, financial risk is a component of market risk and investors
11 require compensation for market risk. Since Pima's financial risk is less than that of the
12 average sample water companies, its cost of equity is lower than that of the sample water
13 companies.

14
15 **Q. Is Staff recommending a downward financial risk adjustment to Pima's cost of
16 equity to recognize its lower financial risk?**

17 A. No. Staff normally applies two criteria in assessing whether application of a downward
18 financial risk adjustment is appropriate. The first consideration is whether the utility has a
19 reasonably economical capital structure. Staff considers a capital structure composed of
20 no more than 60 percent equity to meet this condition. If equity exceeds 60 percent, as it
21 does for Pima, Staff considers application of a downward financial risk adjustment to be
22 appropriate if the utility meets the second criterion. The second condition is whether the
23 utility has access to equity capital markets. Although Pima's equity exceeds 60 percent, it
24 does not have access to the equity capital markets; accordingly, Staff is not recommending
25 a downward financial risk adjustment to Pima's cost of equity. Staff's methodology for
26 applying a downward financial risk adjustment encourages a utility with access to the

1 equity capital markets to use that access to manage its capital structure with economical
2 efficiency and encourages a utility that lacks access to the equity capital markets to
3 maintain a healthy capital structure.

4
5 **IX. RATE OF RETURN RECOMMENDATION**

6 **Q. What overall rate of return did Staff determine for Pima?**

7 A. Staff determined a 7.8 percent ROR for the Company, as shown in Schedule JAC-1 and
8 the following table:

9 **Table 3**

10

	Weight	Cost	Weighted Cost
Long-term Debt	37.9%	5.5%	2.1%
Common Equity	62.1%	9.1%	<u>5.7%</u>
Overall ROR			<u>7.8%</u>

11
12 **X. STAFF RESPONSE TO COMPANY'S COST OF CAPITAL WITNESS MR.
13 THOMAS J. BOURRASSA**

14 **Q. Please summarize Mr. Bourassa's analyses and recommendations.**

15 A. Mr. Bourassa recommends a 10.50 percent ROE based on estimates derived from two
16 constant growth DCF analyses, two CAPM analyses, and a Build-up risk premium model
17 designed to serve as a check to his DCF and CAPM results for a sample group of six
18 publicly-traded water companies. His recommended ROE includes a downward 40-basis-
19 point financial risk adjustment, offset by an 80-basis-point small-company risk premium
20 to compensate the Company for small size.

21
22 In his Future Growth DCF model, Mr. Bourassa relies exclusively on analysts' forecasts
23 for EPS growth to estimate the expected dividend growth (g) component. Mr. Bourassa

1 considers analysts' estimates of growth to be "the best measure of growth for use in the
2 DCF for utility stocks," and only "reluctantly" presents DCF estimates based upon
3 historical measures of growth (see Bourassa Direct at 33, lines 11-13). In his Past and
4 Future Growth DCF model, he estimates (g) giving 50 percent weight to historical
5 measures of growth in annual share price, BVPS, EPS and DPS over a five-year period,
6 and 50 percent weight to the (g) value obtained from analysts' forecasts for EPS growth.

7
8 As discussed below, due to a mathematical error in TJB Schedule D-4.4, the expected
9 dividend growth (g) rate used in Mr. Bourassa's Past and Future Growth DCF model is
10 inflated. Moreover, in both his DCF models, Mr. Bourassa overstates the market cost of
11 equity by failing to properly account for a 2-for-1 stock split for one of his sample
12 companies (California Water) when calculating the current dividend yield (D_0/P_0)
13 component.

14
15 For purposes of his CAPM analyses, Mr. Bourassa presents estimates based upon both
16 historical and current market risk premia. In both, however, he uses a 5.0 percent
17 forecasted risk free (R_f) rate based, in part, upon estimates from *Value Line* and Blue
18 Chip Consensus Forecasts for the 30-year long-term Treasury yield covering the period
19 2012-2013. Lastly, Mr. Bourassa presents estimates from a build-up model based upon
20 the Duff and Phelps risk premium study designed as a check to his DCF and CAPM
21 estimates.

22
23 **Q. Does Staff have any comments on Mr. Bourassa's sole reliance on analysts' forecasts**
24 **to estimate DPS growth in his Future Growth DCF analysis?**

25 A. Yes. Generally, analysts' forecasts are known to be overly optimistic. Sole use of
26 analysts' forecasts to calculate the expected dividend growth rate, (g), serves to inflate that

1 component of the DCF model and, consequently, the estimated cost of equity. Also,
2 exclusive reliance on analysts' forecasts of earnings growth to forecast DPS is
3 inappropriate because it assumes that investors do not look at other relevant information
4 such as historical dividend and earnings growth.

5
6 **Q. Does the narrative of Mr. Bourassa's Direct testimony state that he relies exclusively**
7 **on analysts' forecasts of EPS growth to estimate the expected dividend growth rate**
8 **(g) in his Future Growth DCF model?**

9 A. No. He states only that he used "analyst growth forecasts," and that these "analyst
10 estimates of growth" could be found in Schedule D-4.6 (see Bourassa Direct at 31, lines
11 21-24). Only when referring to TJB Schedule D-4.6 does one learn that he has relied
12 exclusively on analysts' forecasts for EPS to estimate (g).

13
14 **Q. How does Staff respond to Mr. Bourassa's statement that "empirical evidence**
15 **indicates that analyst estimates of growth are the best measure of growth for use in**
16 **the DCF for utility stocks"¹⁴?**

17 A. The appropriate growth rate to use in the DCF model is the dividend growth rate expected
18 by *investors*, not by analysts. Investors are assumed to be rational, and as such will want
19 to take into consideration all relevant available information prior to making an investment
20 decision. Therefore, it is reasonable to assume that investors would consider both
21 historical measures of past growth, as well as analysts' forecasts of future growth.

22

¹⁴ Direct testimony of Mr. Thomas J. Bourassa, page 33, lines 12-13.

1 **Q. Does Staff have evidence to support its assertion that exclusive reliance on analysts'**
2 **forecasts of earnings growth in the DCF model would result in inflated cost of equity**
3 **estimates?**

4 A. Yes. Experts in the financial community have commented on the optimism in analysts'
5 forecasts of future earnings.¹⁵ A study cited by David Dreman in his book *Contrarian*
6 *Investment Strategies: The Next Generation* found that *Value Line* analysts were
7 optimistic in their forecasts by 9 percent annually, on average for the 1987 – 1989 period.
8 Another study conducted by David Dreman found that between 1982 and 1997, analysts
9 overestimated the growth of earnings of companies in the S&P 500 by 188 percent.

10 Burton Malkiel, of Princeton University, conducted a study of the 1- and 5-year earnings
11 forecasts made by some of the most respected names in the investment business. His
12 results showed that, when compared with actual earnings growth rates, the 5-year
13 forecasts made by professional analysts were far less accurate than estimates derived from
14 several naïve forecasting models, such as the long-run growth rate in national income. In
15 the following excerpt from his book, *A Random Walk Down Wall Street*, Professor
16 Malkiel discusses the results of his study:

17 When confronted with the poor record of their five-year growth
18 estimates, *the security analysts honestly, if sheepishly, admitted*
19 *that five years ahead is really too far in advance to make reliable*
20 *projections.* They protested that although long-term projections
21 are admittedly important, they really ought to be judged on their
22 ability to project earnings changes one year ahead. Believe it or
23 not, it turned out that their one-year forecasts were even worse than
24 their five-year projections.

25 The analysts fought back gamely. They complained that it was
26 unfair to judge their performance on a wide cross section of

¹⁵ See Seigel, Jeremy J. *Stocks for the Long Run*. 2002. McGraw-Hill. New York. p. 100. Dreman, David. *Contrarian Investment Strategies: The Next Generation*. 1998. Simon & Schuster. New York. pp. 97-98. Malkiel, Burton G. *A Random Walk Down Wall Street*. 2003. W.W. Norton & Co. New York. p. 175. Testimony of Professors Myron J. Gordon and Lawrence I. Gould, consultant to the Trial Staff (Common Carrier Bureau), FCC Docket 79-63, p. 95.

1 industries, because earnings for high-tech firms and various
2 "cyclical" companies are notoriously hard to forecast. "Try us on
3 utilities," one analyst confidently asserted. At the time they were
4 considered among the most stable group of companies because of
5 government regulation. So we tried it and they didn't like it. Even
6 the forecasts for the stable utilities were far off the mark.¹⁶
7 (Emphasis added).

8
9 **Q. Are investors aware of the problems related to analysts' forecasts?**

10 A. Yes. In addition to books, there are numerous published articles appearing in *The Wall*
11 *Street Journal* and other financial publications that cast doubt on the accuracy of research
12 analysts' forecasts.¹⁷ Investors, being keenly aware of these inherent biases in forecasts,
13 will use other methods to assess future growth.

14
15 **Q. Should DPS growth be considered in a DCF analysis?**

16 A. Yes. As previously stated in section VI of this testimony, the current market price of a
17 stock is equal to the present value of all expected future dividends, not future earnings.
18 Professor Jeremy Siegel from the Wharton School of Finance stated:

19
20 Note that the price of the stock is always equal to the present value
21 of all future *dividends* and not the present value of future earnings.
22 Earnings not paid to investors can have value only if they are paid
23 as dividends or other cash disbursements at a later date. Valuing
24 stock as the present discounted value of future earnings is
25 manifestly wrong and greatly overstates the value of the firm.¹⁸
26

27 For valuation purposes, therefore, earnings paid out in the form of a dividend have
28 paramount relevancy to investors. Dividends, unlike earnings, cannot be manipulated or

¹⁶ BURTON G. MALKIEL, *A RANDOM WALK DOWN WALL STREET 175* (W.W. Norton & Co. 2003).

¹⁷ See Smith, Randall & Craig, Suzanne. "Big Firms Had Research Ploy: Quiet Payments Among Rivals." *The Wall Street Journal*. April 30, 2003. 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.

¹⁸ Siegel, Jeremy J. *Stocks for the Long Run*. 2002. McGraw-Hill. New York. P. 93.

1 overstated. Thus, historical DPS growth should receive appropriate consideration when
2 estimating the market cost of equity in the DCF model.

3
4 **Q. How does Mr. Bourassa calculate the expected dividend growth rate (g) used in his
5 Past and Future Growth DCF model?**

6 A. Mr. Bourassa estimates the expected dividend growth rate (g) providing 50 percent weight
7 to historical measures of growth in average annual share price, book value per share,
8 earnings per share and dividends per share for his sample companies over a 5-year period
9 and 50 percent weight to the average of analysts' forecasts for EPS growth used in his
10 Future Growth DCF.

11
12 **Q. Does Staff have any comment on Mr. Bourassa's use of growth in average annual
13 share price to estimate the expected dividend growth (g) component in his Past and
14 Future Growth DCF model?**

15 A. Yes. Staff takes exception to the use of average annual stock price appreciation as a
16 growth parameter by which to estimate (g). In and of itself, share price appreciation is not
17 a determinant of growth, and for this reason Staff considers its use as a growth parameter
18 to be inappropriate.

19
20 **Q. Has Mr. Bourassa done anything which might serve to overstate the expected
21 dividend growth rate (g) in his Past and Future Growth DCF model?**

22 A. Yes. In reviewing TJB Schedule D-4.4, Staff determined that Mr. Bourassa made a
23 mathematical error when calculating the average 5-year growth rate in share price
24 appreciation, BVPS, EPS and DPS for American States Water, one of his sample
25 companies. Specifically, in column [5] of that schedule, he overstates average growth for
26 American States Water by 110-basis points, reporting it to be 6.9 percent when it should

1 be 5.8 percent. That error, in turn, served to inflate Mr. Bourassa's calculations of the
2 combined future and historical growth averages in column [7], resulting in an
3 overstatement of 9 basis points to his 5.27 percent expected dividend growth (g) rate.
4 When properly calculated, the sample average (g) value used in Mr. Bourassa's Past and
5 Future Growth DCF model is 5.18 percent.

6
7 **Q. How has Mr. Bourassa overstated the current dividend yield (D_0/P_0) in his DCF**
8 **analyses?**

9 A. In June, 2011, a 2-for-1 stock split was effectuated by California Water,¹⁹ one of Mr.
10 Bourassa's sample companies. In calculating the current dividend yield (D_0/P_0) for his
11 sample group of companies, however, a review of TJB Schedule D-4.7 shows that, while
12 Mr. Bourassa appropriately adjusted for the split by cutting the stock price in half, he
13 failed to do likewise to the current dividend (D_0). As a consequence, the current dividend
14 yield (D_0/P_0) reported for California Water, 6.43 percent, is twice what it should be,
15 resulting in a significant overstatement to Mr. Bourassa's calculated sample average
16 current dividend yield (D_0/P_0) of 3.77 percent. Properly calculated, his sample average
17 (D_0/P_0) is 3.25 percent, a value 52 basis points *lower* than that used in each of his two
18 DCF analyses.

19
20 **Q. Does this mean that Mr. Bourassa has overstated the estimated cost of equity in his**
21 **two DCF analyses?**

22 A. Yes, it does. The current dividend (D_0) is used to calculate next year's expected dividend
23 (D_1) in the following way:

24
$$(D_0) * (1 + g) = (D_1)$$

25

¹⁹ Value Line Investment Survey, July 22, 2011.

1 Thus, in failing to properly adjust California Water's current dividend (D_0) for the stock
2 split, the above noted 52-basis-point overstatement to Mr. Bourassa's 3.77 percent sample
3 average current dividend yield (D_0/P_0) flows through to his sample average expected
4 dividend yield (D_1/P_0), as well. Furthermore, for purposes of the cost of equity results
5 obtained by his Past and Future Growth DCF model, this overstatement is magnified by
6 the aforementioned mathematical error found in TJB Schedule D-4.4 which served to
7 inflate the expected dividend growth (g) rate.

8
9 **Q. Has Staff quantified the magnitude of the overstatement to Mr. Bourassa's DCF**
10 **results stemming from these two issues?**

11 A. Yes. After correcting for both the mathematical error to TJB Schedule D-4.4 and the
12 oversight regarding the California Water stock split in TJB Schedule D-4.7, Staff
13 determined that Mr. Bourassa's average DCF cost of equity would fall by 60 basis points,
14 as shown below:

	<u>Staff Adjusted</u>	<u>Bourassa</u>
DCF – Past and Future Growth	8.6%	9.2%
DCF – Future Growth	<u>9.2%</u>	<u>9.8%</u>
Average DCF	8.9%	9.5%

15
16
17
18
19
20 Details of Staff's adjustments can be found in Exhibit JAC-A.

21
22 **Q. In his testimony, does Mr. Bourassa give equal weight to the results derived from**
23 **each of his two constant growth DCF models?**

24 A. Yes. As presented in TJB Schedule D-4.8, Mr. Bourassa gives equal weight to the results
25 derived from his Past and Future Growth DCF and Future Growth DCF models, taking the
26 average of the two and carrying it forward to TJB Schedule D-4.1.

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Q. In his testimony, does Mr. Bourassa give equal weight to the results derived from his DCF and CAPM models?

A. Yes. As presented in TJB Schedule D-4.1, Mr. Bourassa gives equal weight to the results derived from both his DCF and CAPM models, using the average midpoint estimate for each in calculating a preliminary cost of equity for the Company.

Q. Turning to Mr. Bourassa's CAPM analyses, does Staff agree with his use of a forecasted risk-free interest rate?

A. No. The appropriate risk-free interest rate to be used is the current rate borne by investors in the market. Use of a forecasted risk-free rate only serves to overstate the estimated market cost of equity.

Q. What risk-free rate does Mr. Bourassa use in his CAPM analyses?

A. In both his historical and current market risk premia CAPM analyses, Mr. Bourassa uses a forecasted risk-free rate (R_f) based, in part, upon estimates from *Value Line* and Blue Chip Consensus Forecasts for the 30-year long-term Treasury yield covering the period, 2012-2013. The forecasted rate used by Mr. Bourassa in his CAPM analyses is 5.0 percent. At present, the current 30-year long-term Treasury yield is 3.08 percent, suggesting that he has overstated the risk-free rate in his CAPM analysis by some 190 basis points.

Q. Does Staff have any comment regarding the estimates derived from Mr. Bourassa's build-up model based upon the Duff and Phelps risk premium study?

A. Yes. The results of Mr. Bourassa's build-up model were designed as a check to his DCF and CAPM estimates. Staff concludes that his build-up risk premium model provides

1 little support for his recommended cost of equity because the results far exceed his DCF
2 and CAPM estimates.

3
4 **Q. Does Staff have any comment regarding Mr. Bourassa's proposed downward 40-**
5 **basis-point financial risk adjustment?**

6 A. Yes. As previously discussed in Section VIII, Staff does not support a downward
7 financial risk adjustment since Pima does not have access to the equity financial markets.

8
9 **Q. Does Staff have any comment regarding Mr. Bourassa's proposed 80-basis-point**
10 **small company risk premium?**

11 A. Yes. The Commission previously ruled in Decision No. 64282²⁰ for Arizona Water
12 Company that firm size does not warrant recognition of a risk premium stating, "We do
13 not agree with the Company's proposal to assign a risk premium to Arizona Water based
14 on its size relative to other publicly traded water utilities" The Commission affirmed
15 its previous ruling in Decision No. 64727²¹ for Black Mountain Gas Company, agreeing
16 with Staff that "the 'firm size phenomenon' does not exist for regulated utilities, and that
17 therefore there is no need to adjust for risk for small firm size in utility regulation." All
18 companies have firm-specific risks; therefore, the existence of unique risks for a company
19 does not lead to the conclusion that its total risk is greater than other entities. Moreover,
20 as previously discussed, investors cannot expect compensation for firm-specific risk since
21 it can be eliminated through diversification.

22

²⁰ Dated Dec. 28, 2001, Docket No. W-01445A-00-0962.

²¹ Dated Apr. 17, 2002, Docket No. G-03703A-01-0263.

1 **XI. CONCLUSION**

2 **Q. Please summarize Staff's recommendations.**

3 A. Staff recommends that the Commission adopt a 7.8 percent overall rate of return for the
4 Company based on a capital structure composed of 37.9 percent debt and 62.1 percent
5 equity, Staff's 9.1 percent cost of equity estimate and 5.5 percent cost of debt.

6
7 **Q. Does this conclude your direct testimony?**

8 A. Yes, it does.

Pima Utility Company Cost of Capital Calculation
Capital Structure
And Weighted Average Cost of Capital
Staff Recommended and Company Proposed

[A]	[B]	[C]	[D]
<u>Description</u>	<u>Weight (%)</u>	<u>Cost</u>	<u>Weighted Cost</u>
Staff Recommended Structure			
Debt	37.9%	5.5%	2.1%
Common Equity	62.1%	9.1%	5.7%
Weighted Average Cost of Capital			7.8%
Company Proposed Structure ¹			
Debt	31.1%	7.2%	2.2%
Common Equity	68.9%	10.5%	7.2%
Weighted Average Cost of Capital ²			9.5%

¹ Rounded to one decimal point.

² Rounded from 9.47 percent.

[D] : [B] x [C]

Supporting Schedules: JAC-3 and JAC-4.

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Pima Utility Company Cost of Capital Calculation
Final Cost of Equity Estimates
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]
DCF Method				
Constant Growth DCF Estimate		D_1/P_0 ¹	+ g ²	k
Multi-Stage DCF Estimate		3.3%	+ 5.2%	8.5%
Average DCF Estimate			=	9.7%
			=	9.1%
CAPM Method				
Historical Market Risk Premium ³	R_f	+	β ⁵ (R_p)	k
Current Market Risk Premium ⁴	1.4%	+	x 7.2% ⁶	6.6%
Average CAPM Estimate	3.1%	+	x 11.6% ⁷	11.4%
			=	9.0%
Average of Overall Estimates				9.1%
Financial risk adjustment				0.0%
Total				9.1%

¹ MSN Money and Value Line

² Schedule JAC-3

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

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

⁵ Value Line

⁶ Historical Market Risk Premium (Rp) calculated from Ibbotson Associates S&P 500 2011 Yearbook data

⁷ Testimony

Pima Utility Company Cost of Capital Calculation
Average Capital Structure of Sample Water Utilities

[A] <u>Company</u>	[B] <u>Debt</u>	[C] <u>Common Equity</u>	[D] <u>Total</u>
American States Water	46.6%	53.4%	100.0%
California Water	52.2%	47.8%	100.0%
Aqua America	54.7%	45.3%	100.0%
Connecticut Water	55.1%	44.9%	100.0%
Middlesex Water	44.3%	55.7%	100.0%
SJW Corp	<u>56.6%</u>	<u>43.4%</u>	<u>100.0%</u>
Average Sample Water Utilities	51.6%	48.4%	100.0%
Pima - Actual Capital Structure	37.9%	62.1%	100.0%

Source:

Sample Water Companies from Value Line

Pima Utility Company Cost of Capital Calculation
Growth in Earnings and Dividends
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]
Company	Dividends Per Share 2001 to 2010 <u>DPS¹</u>	Dividends Per Share Projected <u>DPS¹</u>	Earnings Per Share 2001 to 2010 <u>EPS^{1,2}</u>	Earnings Per Share Projected <u>EPS¹</u>
American States Water	1.9%	4.9%	5.7%	3.2%
California Water	0.8%	3.9%	3.3%	7.4%
Aqua America	7.7%	5.7%	6.7%	9.2%
Connecticut Water	1.5%	No Projection	0.9%	No Projection
Middlesex Water	1.7%	2.1%	6.5%	4.6%
SJW Corp	<u>5.2%</u>	<u>4.8%</u>	<u>3.8%</u>	<u>9.1%</u>
Average Sample Water Utilities	3.1%	4.3%	4.5%	6.7%

¹ Value Line

² Negative values are inconsistent with the DCF, accordingly, they are excluded from the average.

Pima Utility Company Cost of Capital Calculation
Sustainable Growth
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]
Company	Retention Growth 2001 to 2010 <u>br</u>	Retention Growth Projected <u>br</u>	Stock Financing Growth <u>vs</u>	Sustainable Growth 2001 to 2010 <u>br + vs</u>	Sustainable Growth Projected <u>br + vs</u>
American States Water	3.4%	5.8%	1.8%	5.2%	7.7%
California Water	2.2%	4.8%	3.4%	5.6%	8.2%
Aqua America	4.5%	5.7%	4.0%	8.5%	9.7%
Connecticut Water	2.3%	No Projection	1.0%	3.3%	No Projection
Middlesex Water	1.3%	3.7%	3.7%	4.9%	7.4%
SJW Corp	<u>3.9%</u>	<u>2.6%</u>	<u>0.1%</u>	<u>4.0%</u>	<u>2.7%</u>
Average Sample Water Utilities	2.9%	4.5%	2.3%	5.3%	7.1%

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

Pima Utility Company Cost of Capital Calculation
Selected Financial Data of Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[G]
Company	Symbol	Spot Price 2/29/2012	Book Value	Mkt To Book	Value Line Beta β	Raw Beta β_{raw}
American States Water	AWR	36.86	21.50	1.7	0.70	0.52
California Water	CWT	19.21	11.08	1.7	0.65	0.45
Aqua America	WTR	22.21	9.07	2.4	0.65	0.45
Connecticut Water	CTWS	28.82	13.37	2.2	0.75	0.60
Middlesex Water	MSEX	18.42	11.70	1.6	0.70	0.52
SJW Corp	SJW	23.89	14.75	1.6	0.85	0.75
Average				1.9	0.72	0.55

[C]: Mkt Money

[D]: Value Line

[E]: [C] / [D]

[F]: Value Line

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

Pima Utility Company Cost of Capital Calculation
 Calculation of Expected Infinite Annual Growth in Dividends
 Sample Water Utilities

[A]	[B]
<u>Description</u>	<u>g</u>
DPS Growth - Historical ¹	3.1%
DPS Growth - Projected ¹	4.3%
EPS Growth - Historical ¹	4.5%
EPS Growth - Projected ¹	6.7%
Sustainable Growth - Historical ²	5.3%
Sustainable Growth - Projected ²	<u>7.1%</u>
Average	5.2%

¹ Schedule JAC-5

² Schedule JAC-6

Pima Utility Company Cost of Capital Calculation
 Multi-Stage DCF Estimates
 Sample Water Utilities

[A] Company	[B] Current Mkt. Price (P_0) ¹ 2/29/2012	[C] d_1	[D] d_2	[E] d_3	[F] d_4	[H] Stage 2 growth ³ (g_n)	[I] Equity Cost Estimate (K) ⁴
		Projected Dividends ² (Stage 1 growth) (D_t)					
American States Water	36.9	1.16	1.22	1.29	1.35	6.5%	9.6%
California Water	19.2	0.65	0.68	0.72	0.75	6.5%	9.8%
Aqua America	22.2	0.67	0.70	0.74	0.78	6.5%	9.4%
Connecticut Water	28.8	0.98	1.03	1.08	1.14	6.5%	9.8%
Middlesex Water	18.4	0.75	0.79	0.83	0.87	6.5%	10.5%
SJW Corp	23.9	0.73	0.77	0.80	0.85	6.5%	9.5%
						Average	9.7%

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

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 [B] see Schedule JAC-7
 2 Derived from Value Line Information
 3 Average annual growth in GDP 1929 - 2011 in current dollars.
 4 Internal Rate of Return of Projected Dividends

Pima Utility Company Cost of Capital Calculation Capitalization		
	<u>Staff as Adjusted</u>	<u>Percentage of Capital Structure</u>
Total Debt	\$ 8,370,000	37.9%
Total Common Equity	\$ 13,726,959	62.1%
Total Capitalization	\$ 22,096,959	100.0%

Adjustments to Equity -

Applicant's Proposed Pro Forma End of Test Year Equity as of 12/31/10	\$ 18,563,072
Net Correction for Thomas J. Bourassa A/D Adjustments (a)	(3,261,336)
Net Correction for CSB Adjustments - Wastewater (b)	6,128
Net Correction for CSB Adjustments - Water (c)	<u>(1,580,905)</u>

Staff's Recommended Common Equity \$ 13,726,959

Equity Adjustments Corresponding with Thomas J. Bourassa A/D Adjustments:

Reverse Erroneous TJB Adjustment - Wastewater	\$ (2,219,610)	
Apply Correct Adjustment for TJB A/D Adjustment - Wastewater	(2,219,610)	
Reverse Erroneous TJB Adjustment - Water	588,942	
Apply Correct Adjustment for TJB A/D Adjustment - Water	<u>588,942</u>	
Net Equity Adjustment for TJB A/D Adjustments		\$ (3,261,336) (a)

Equity Adjustments Corresponding with Crystal S. Brown Adjustments - Wastewater:

CSB Unsupported Plant Adjustment - Wastewater	\$ (1,586,598)	
CSB Unsupported A/D Adjustment - Wastewater	1,571,455	
CSB Expensed Plant Adjustment - Wastewater	22,391	
CSB Expensed Plant A/D Adjustment - Wastewater	<u>(1,120)</u>	
Net Equity Adjustment for CSB Adjustments - Wastewater		6,128 (b)

Equity Adjustments Corresponding with Crystal S. Brown Adjustments - Water:

CSB Unsupported Plant Adjustment - Water	\$ (4,282,321)	
CSB Unsupported A/D Adjustment - Water	2,676,180	
CSB Expensed Plant Adjustment - Water	25,531	
CSB Expensed Plant A/D Adjustment - Water	<u>(295)</u>	
Net Equity Adjustment for CSB Adjustments - Water		<u>(1,580,905) (c)</u>

Total Staff Adjustment to Common Equity \$ (4,836,113)

Pima Utility Company
Discounted Cash Flow Analysis
DCF Constant Growth

Line No.	[1]	[2]	[3]	[4]
	Current Dividend Yield $(\frac{D_0}{P_0})$	Expected Dividend Yield $(\frac{D_1}{P_0})$	Expected Dividend Growth Rate (g)	Indicated Cost of Equity $([2] + [3])$ (K)
7	3.25%	3.41%	5.18%	8.6%
8				
9	3.25%	3.43%	5.79%	9.2%
10				
11	DCF Average			
12				8.9%
13				
14				

Notes: [1] Current Dividend Yield (D_0/P_0) as corrected for California Water 2-for-1 stock split (See TJB Schedule D-4.7)

[2] Expected Dividend Yield (D_1/P_0) calculated as: $[1] * (1 + [3])$

[3] Expected Dividend Growth Rate (g) as corrected for mathematical error (See TJB Schedule D-4.4)

[4] Resulting change to Company Witness Bourassa's DCF results after correcting for errors in TJB Schedules D-4.7 and D-4.4

BEFORE THE ARIZONA CORPORATION COMMISSION

GARY PIERCE
Chairman
BOB STUMP
Commissioner
SANDRA D. KENNEDY
Commissioner
PAUL NEWMAN
Commissioner
BRENDA BURNS
Commissioner

IN THE MATTER OF THE APPLICATION OF) DOCKET NO. W-02199A-11-0329
PIMA UTILITY COMPANY, AN ARIZONA)
CORPORATION, FOR A DETERMINATION OF)
THE FAIR VALUE OF ITS UTILITY PLANT AND)
PROPERTY AND FOR INCREASES IN ITS)
WATER RATES AND CHARGES FOR UTILITY)
SERVICE BASED THEREON.)

IN THE MATTER OF THE APPLICATION OF) DOCKET NO. SW-02199A-11-0330
PIMA UTILITY COMPANY, AN ARIZONA)
CORPORATION, FOR A DETERMINATION OF)
THE FAIR VALUE OF ITS UTILITY PLANT AND)
PROPERTY AND FOR INCREASES IN ITS)
WASTEWATER RATES AND CHARGES FOR)
UTILITY SERVICE BASED THEREON.)

DIRECT TESTIMONY

OF

MARLIN SCOTT, JR

UTILITIES ENGINEER

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

APRIL 3, 2012

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**EXECUTIVE SUMMARY
PIMA UTILITY COMPANY
DOCKET NOS. W-02199A-11-0329 AND SW-02199A-11-0330**

WATER DIVISION

Conclusions

- A. The Pima Utility Company's ("Company") water system has a water loss of 9.25 percent, which is within the acceptable limit of 10 percent.
- B. The water system's current source and storage capacity are adequate to serve the present customer base and reasonable growth.
- C. Maricopa County Environmental Services Department reported the Company's water system had no deficiencies and is compliant with its regulations.
- D. The Company is located in the Arizona Department of Water Resources' ("ADWR") Phoenix Active Management Area and reported the Company's system is in compliance with its requirements governing water providers and/or community water systems.
- E. According to the Utilities Division Compliance Section, the Company had no delinquent Arizona Corporation Commission ("ACC") compliance issues.
- F. On March 1, 2012, the Company filed a curtailment tariff under Docket No. 12-0079 and this tariff will become effective on March 31, 2012.
- G. On March 1, 2012, the Company filed a new application under Docket No. 12-0080 in order to update its backflow prevention tariff ("BPT") using the renumbered Arizona Department of Environmental Quality ("ADEQ") Rule R18-4-215. This updated BPT will become effective on March 31, 2012.

Recommendations

- 1. Staff recommends an annual water testing expense of \$8,925 be adopted for this proceeding. Staff further recommends that \$12,157 be reclassified into the Wastewater Division's operating expense.
- 2. Staff recommends that the Company file with Docket Control, as a compliance item in this docket, within 90 days of the effective date of a decision in this proceeding, at least seven Best Management Practices ("BMPs") in the form of tariffs that substantially conform to the templates created by Staff for Commission review and consideration. These BMP templates are available on the Commission's website. The Company may submit the approved six ADWR BMPs and Public Education Program as part of the seven.

3. Staff recommends that the Company use Staff's recommended water depreciation rates by individual National Association of Regulatory Utility Commissioners category as shown in Water Division Table H-1.
4. Staff recommends approval of the proposed charges as shown in Water Division's Table I-1, with separate installation charges for the service line and meter installations.

WASTEWATER DIVISION

Conclusions

- A. The Arizona Department of Environmental Quality ("ADEQ") has reported the Company has no deficiencies and in compliance with ADEQ regulations.
- B. According to the Utilities Division Compliance Section, the Company had no delinquent ACC compliance issues.

Recommendations

1. Staff considered the 2.4 million gallon per day ("MGD") Water Reclamation Facility ("WRF") as having excess capacity at this time. Staff recommends that the \$8,547,798 for the 1.6 MGD WRF established in the prior rate case in Docket No. 98-0578 remain the same (with Staff adjustments in this rate case, if needed) for the 1.6 MGD WRF which Staff considers used and useful treatment plant capacity in this proceeding.
2. As stated in the Water Division section of the report, Staff discovered that the Company included the Wastewater Division's recharge well water testing of \$12,157 with the potable water testing. Staff recommends that the \$12,157 be reclassified into the Wastewater Division's operating expense.
3. Staff recommends that the Company use Staff's recommended wastewater depreciation rates by individual NARUC category as shown in Wastewater Division Table G-1.

1 **INTRODUCTION**

2 **Q. Please state your name, place of employment and job title.**

3 A. My name is Marlin Scott, Jr. My place of employment is the Arizona Corporation
4 Commission ("Commission" or "ACC"), Utilities Division, 1200 West Washington Street,
5 Phoenix, Arizona 85007. My job title is Utilities Engineer.

6
7 **Q. How long have you been employed by the Commission?**

8 A. I have been employed by the Commission since November 1987.

9
10 **Q. Please list your duties and responsibilities.**

11 A. As a Utilities Engineer, specializing in water and wastewater engineering, my
12 responsibilities include: the inspection, investigation, and evaluation of water and
13 wastewater systems; preparing reconstruction cost new and/or original cost studies, cost of
14 service studies and investigative reports; providing technical recommendations and
15 suggesting corrective action for water and wastewater systems; and providing written and
16 oral testimony on rate applications and other cases before the Commission.

17
18 **Q. How many cases have you analyzed for the Utilities Division?**

19 A. I have analyzed approximately 570 cases covering various responsibilities for the Utilities
20 Division.

21
22 **Q. Have you previously testified before this Commission?**

23 A. Yes, I have testified in 88 proceedings before this Commission.

1 **Q. What is your educational background?**

2 A. I graduated from Northern Arizona University in 1984 with a Bachelor of Science degree
3 in Civil Engineering Technology.

4
5 **Q. Briefly describe your pertinent work experience.**

6 A. Prior to my employment with the Commission, I was Assistant Engineer for the City of
7 Winslow, Arizona, for about two years. Prior to that, I was a Civil Engineering
8 Technician with the U.S. Public Health Service in Winslow for approximately six years.

9
10 **Q. Please state your professional membership, registrations, and licenses.**

11 A. I am a member of the National Association of Regulatory Utility Commissioners' Staff
12 Subcommittee on Water.

13

14 **PURPOSE OF TESTIMONY**

15 **Q. Were you assigned to provide the Utilities Division Staff ("Staff") engineering**
16 **analysis and recommendation for the Pima Utility Company ("Company") in this**
17 **proceeding?**

18 A. Yes. I reviewed the Company's application, reviewed responses to data requests, and
19 inspected the water and wastewater systems on December 1, 2011. This testimony and its
20 attachment present Staff's engineering evaluation.

21

22 **ENGINEERING REPORT**

23 **Q. Please describe the attached Engineering Report, Exhibit MSJ.**

24 A. Exhibit MSJ presents the details and analyses of Staff's findings for the water and
25 wastewater divisions, and is attached to this Direct Testimony. Exhibit MSJ contains the
26 following water division major topics: (1) a description of the water system, (2) water

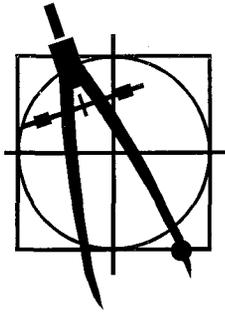
1 use, (3) growth, (4) compliance with the rules of the Maricopa County Environmental
2 Services Department, Arizona Department of Water Resources, and the ACC, (5)
3 depreciation rates, (6) service line and meter installation charges, and (7) tariff filings.

4
5 Exhibit MSJ also contains the following wastewater division major topics: (1) a
6 description of the wastewater system, (2) wastewater flows, (3) growth, (4) compliance
7 with the rules of the Arizona Department of Environmental Quality and the ACC, (5)
8 plant-in-service adjustments, (6) depreciation rates, and (7) tariff filings.

9
10 My conclusions and recommendations from the Engineering Report are contained in the
11 “Executive Summary”, above.

12
13 **Q. Does this conclude your Direct Testimony?**

14 **A. Yes, it does.**



**Engineering Report for Pima Utility Company
Docket No. W-02199A-11-0329 (Rates)**

WATER DIVISION

March 6, 2012

A. LOCATION OF PIMA UTILITY COMPANY (“COMPANY”)

The Company is located south of the City of Chandler (“Chandler”) and provides water service to the community of Sun Lakes. Figure A-1 shows the location of the Company within Maricopa County and Figure A-2 shows the approximate 5.75 square-miles of water certificated area. This certificated area is completely surrounded by Chandler and the Gila River Indian Community.

B. DESCRIPTION OF WATER SYSTEM

This water system was field inspected on December 1, 2011, by Arizona Corporation Commission (“ACC” or “Commission”) Staff member Marlin Scott, Jr., in the accompaniment of Steve Soriano, Dave Voorhees and Ray Jones, representing the Company. The operation of this water system consists of six wells, four storage tanks, three booster systems and a distribution system serving approximately 10,175 customers during the test year ending December 2010. The Company also operates two irrigation wells for golf course and landscape watering. A detailed plant facility description is as follows:

Table W-1. Potable Well Data

Well No.	ADWR ID No.	Turbine Pumps	Flow, GPM	Casing Size & Depth	Meter Size
#27	55-520891	150-Hp sub.	1,700	20”/16” x 900’	10”
#29A	55-806730	250-Hp	1,400	16” x 861’	12”
#29B	55-566937	200-Hp	1,500	20” x 910’	12”
#31	55-625798	125-Hp	1,100	20” x 820’	10”
#33	55-625800	150-Hp	1,600	14” x 502’	8”
#34	55-514527	150-Hp	1,500	20”/16” x 874’	8”
		Total:	8,800 GPM		

Table W-2. Irrigation Well Data

Well No.	ADWR ID No.	Turbine Pumps	Flow, GPM	Casing Size & Depth	Meter Size
Irrigation #29	55-625796	150-Hp	1,700	20" x 600'	10"
Irrigation #32	55-625799	250-HP	2,200	16" x 750'	10"
		Total:	3,900 GPM		

Table W-3. Storage Tanks

Capacity	Quantity (Each)	Location
400,000	1	@ Water Plant #1
600,000	1	@ Water Plant #2
750,000	2	@ Water Plant #3
Total: 2,500,000 gallons	4	

Table W-4. Pumping Facilities

Location	Booster System	Storage Tanks (From Table W-2 above)
Water Plant #1	Two 20-Hp booster pumps, two 75-Hp booster pumps, and 5,000 gallon surge tank.	400,000 gallon storage tank
Water Plant #2	Six 25-Hp booster pumps and one 75-Hp booster pump	600,000 gallon storage tank
Water Plant #3	Two 40-Hp booster pumps, two 75-Hp booster pumps, one 125-Hp fire pump, and 15,000 gallon surge tank.	Two 750,000 gallon storage tanks

Table W-5. Water Mains

MAINS		
Size	Material	Length (feet)
2"	PVC	221
4"	PVC	7,031
6"	PVC	306,747
8"	PVC	96,682
10"	PVC	43,488
12"	PVC	13,527
	Total:	467,696 feet or 88.6 miles

Table W-6. Customer Meters

Size	Quantity
5/8 x 3/4-inch	9,806
3/4-inch	4
1-inch	267
1-1/2-inch	11
2-inch	97
3-inch	-
4-inch	-
6-inch	-
Total:	10,185

Table W-7. Fire Hydrants

Size	Quantity
Standard	709

Table W-8. Structures and Treatment Equipment

Location	Structures & Treatment Equipment
Water Plant #1 (Well #31)	Gas chlorination, block fencing
Water Plant #2 (Well #34)	Gas chlorination, block fencing, shed: 20' x 20'
Water Plant #3 (Well #29A)	Gas chlorination, block fencing, building: 25' x 40'
Well #27	Gas chlorination, block fencing
Well #29B	Gas chlorination, block fencing
Well #33	Gas chlorination, block fencing
Irrigation Well #29	Chain link fencing
Irrigation Well #32	Block fencing

C. WATER USE

Water Sold

Based on the information provided by the Company, water use for the test year ending December 2010 is presented in Figure C-1. The customer consumption experienced a high monthly average water use of 785 gallons per day (“GPD”) per connection in June and a low monthly average water use of 261 GPD per connection in January for an average annual use of 512 GPD per connection.

Non-Account Water

Non-account water should be 10 percent or less. In the water use data sheet (“ACC report”), the Company reported 2,159,802 gallons (6,628.19 acre-feet) pumped and 1,904,720 gallons (5,845.37 acre-feet) sold during the test year, resulting in a difference of 11.8 percent. In response to Staff’s Data Request MSJ-3.4, the Company stated it inadvertently omitted the following sales from the ACC report; 1) 2,643.19 acre-feet for sales to the Oakwood Golf Course, 2) 95.88 acre-feet for industrial usage as unbilled potable water used at the Company’s wastewater treatment plant, and 3) 19.53 acre-feet used for flushing, fire fighting and tank cleaning. As a result, the water sold would increase from 5,845.37 acre-feet to 6,014.97 acre-feet, which calculates to a water loss of 9.25 percent $((6,628.18 - 6,014.97) / 6,628.18 =)$. This 9.25 percent is within the acceptable limit of 10 percent.

System Analysis

The water system's current source capacity of 8,800 GPM and storage capacity of 2.5 million gallons is adequate.

D. GROWTH

Figure D-1 depicts the customer growth using the number of customers that was obtained from annual reports submitted to the Commission. At the end of the test year December 2010, the Company had 10,175 customers and according to the Company, the built-out customer count is estimated at 10,250.

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

Compliance

On January 6, 2012, MCESD reported the Company's system, PWS #07-120, had no deficiencies and the system was compliant with MCESD regulations.

Water Testing Expense

The Company does not participate in the Monitoring Assistance Program and reported its water testing expense at \$18,737 during the test year. In its review, Staff discovered that the Company included the Wastewater Division's recharge well water testing of \$12,157 with the potable water testing of \$6,580. In response to Staff's Data Request MSJ-3.6, the Company provided a calculated annual water testing expense of \$8,925 as shown in Table E-1. Staff recommends this annual water testing expense of \$8,925 be used for the purpose of this application. Staff further recommends that the \$12,157 be reclassified into the Wastewater Division's operating expense.

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

Compliance

The Company's water system is located in the Phoenix Active Management Area ("AMA"). According to the ADWR Water Provider Compliance Report, dated December 8, 2011, ADWR has determined that this system is currently compliant with its requirements governing water providers and/or community water systems.

Best Management Practice Tariffs

In the Company's rate application, the Company stated that it is enrolled as a regulated tier II municipal provider in ADWR's Modified Non-Per Capita Conservation Program ("NPCCP"). Under this program, the Company was required to implement the Public Education

Program (“PEP”) and five additional Best Management Practices (“BMPs”) and on August 24, 2009, ADWR approved the following BMPs:

1. PEP
2. BMP 3.6 – Customer High Water Use Inquiry Resolution
3. BMP 3.7 – Customer High Water Use Notification
4. BMP 3.8 – Water Waste Investigations and Information
5. BMP 4.1 – Leak Detection Program
6. BMP 4.2 – Meter Repair and/or Replacement Program

In Staff’s Data Request MSJ 4.1, Staff requested copies of the approved ADWR documents. The Company responded by providing an ADWR letter, dated August 24, 2009, showing a “list” of the above BMP for approval. These BMPs however were not in tariff form.

Staff recommends that the Company file with Docket Control, as a compliance item in this docket and within 90 days of the effective date of a decision in this proceeding, at least seven BMPs in the form of tariffs that substantially conform to the templates created by Staff for Commission review and consideration. These BMP templates are available on the Commission’s website. The Company may submit the approved six ADWR BMPs and PEP as part of the seven.

G. ARIZONA CORPORATION COMMISSION (“ACC”) COMPLIANCE

On January 4, 2012, the Utilities Division Compliance Section reported that the Company had no delinquent ACC compliance issues.

H. DEPRECIATION RATES

In this proceeding, the Company has adopted Staff’s typical and customary water depreciation rates. These rates are presented in Table H-1 and it is recommended that the Company use these depreciation rates by individual National Association of Regulatory Utility Commissioners category.

I. SERVICE LINE AND METER INSTALLATION CHARGES

The Company currently has no tariffs for service line and meter installation charges. In this proceeding, the Company has adopted Staff’s customary installation charges. These charges are presented in Table I-1 and Staff recommends approval of these proposed charges with separate installation charges for the service line and meter.

J. CURTAILMENT TARIFF

On March 1, 2012, the Company filed a curtailment tariff under Docket No. 12-0079 and this tariff will become effective on March 31, 2012.

K. BACKFLOW PREVENTION TARIFF

Under the Arizona Administrative Code's old R18-4-232, the Company has an approved Backflow Prevention Tariff ("BPT") with an effective date of September 21, 1994. This old R18-4-232 was renumbered by ADEQ to R18-4-215, effective August 30, 2008.

On March 1, 2012, the Company filed a new application under Docket No. 12-0080 in order to update its BPT using the renumbered R18-4-215. This updated BPT will become effective on March 31, 2012.

FIGURES

Maricopa County Map Figure A-1

Certificated Area Figure A-2

Water System Use Figure C-1

Water System Growth Figure D-1

TABLES

Water Testing Expense Table E-1

Water Depreciation Rates Table H-1

Service Line and Meter Installation Charges Table I-1

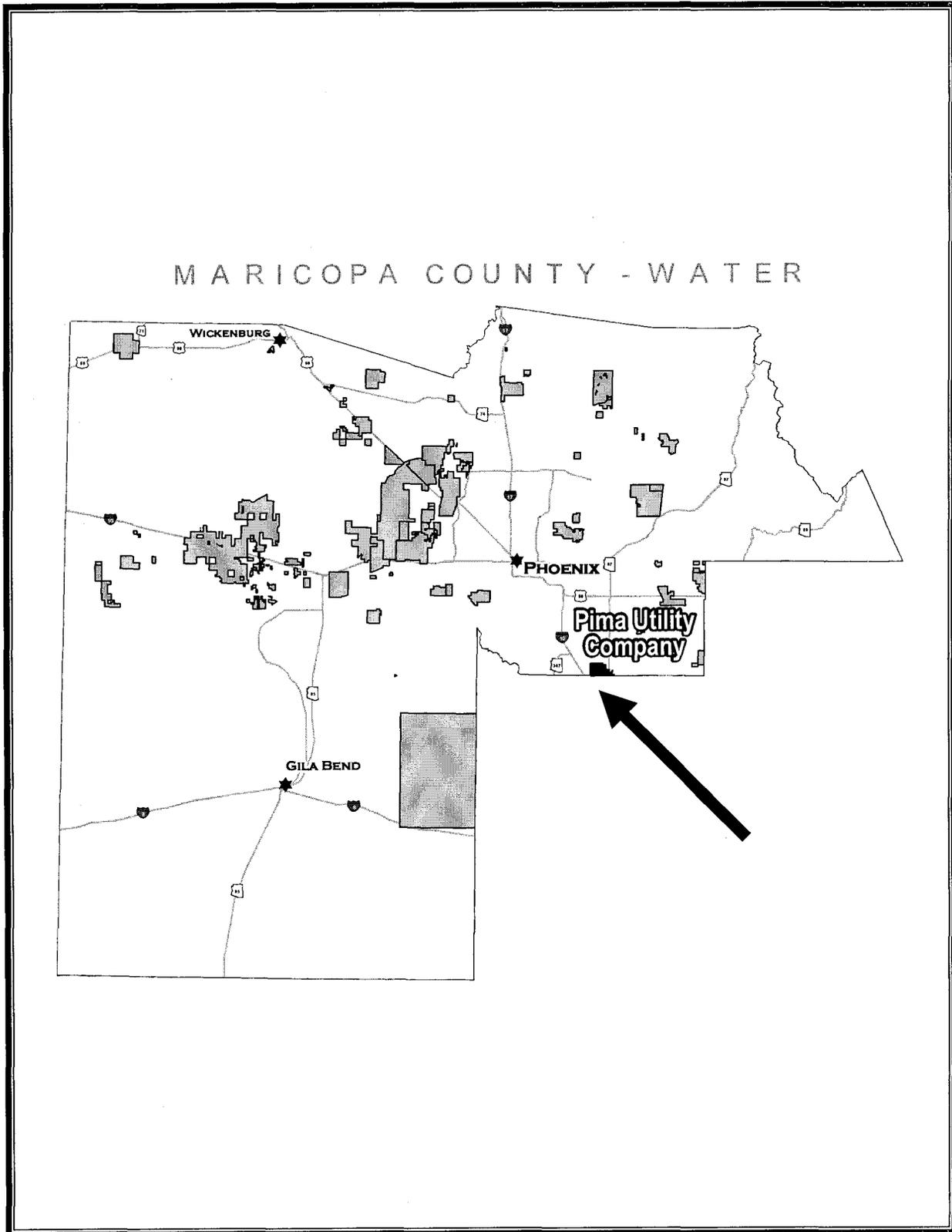


Figure A-1. Maricopa County Map

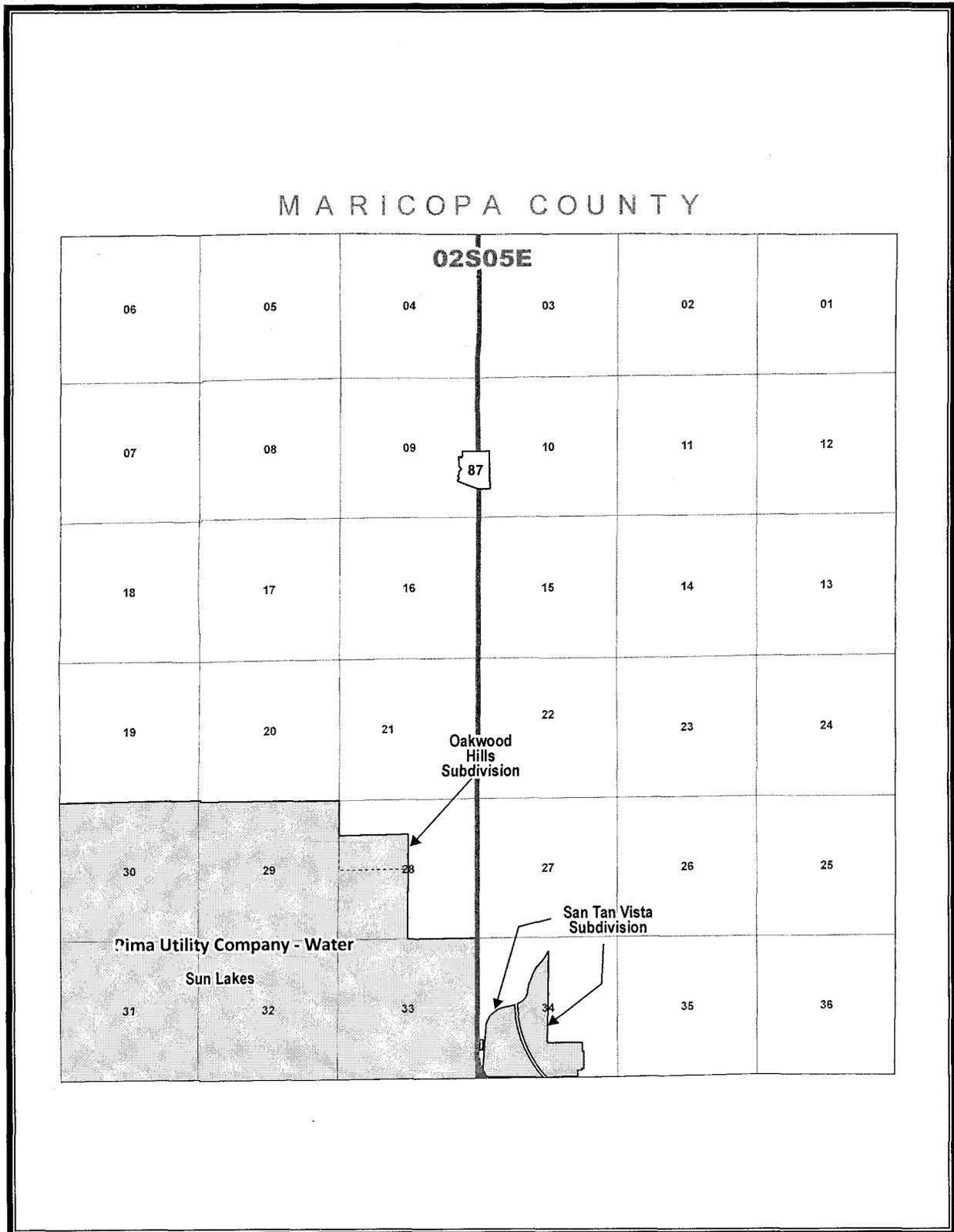


Figure A-2. Certificated Area

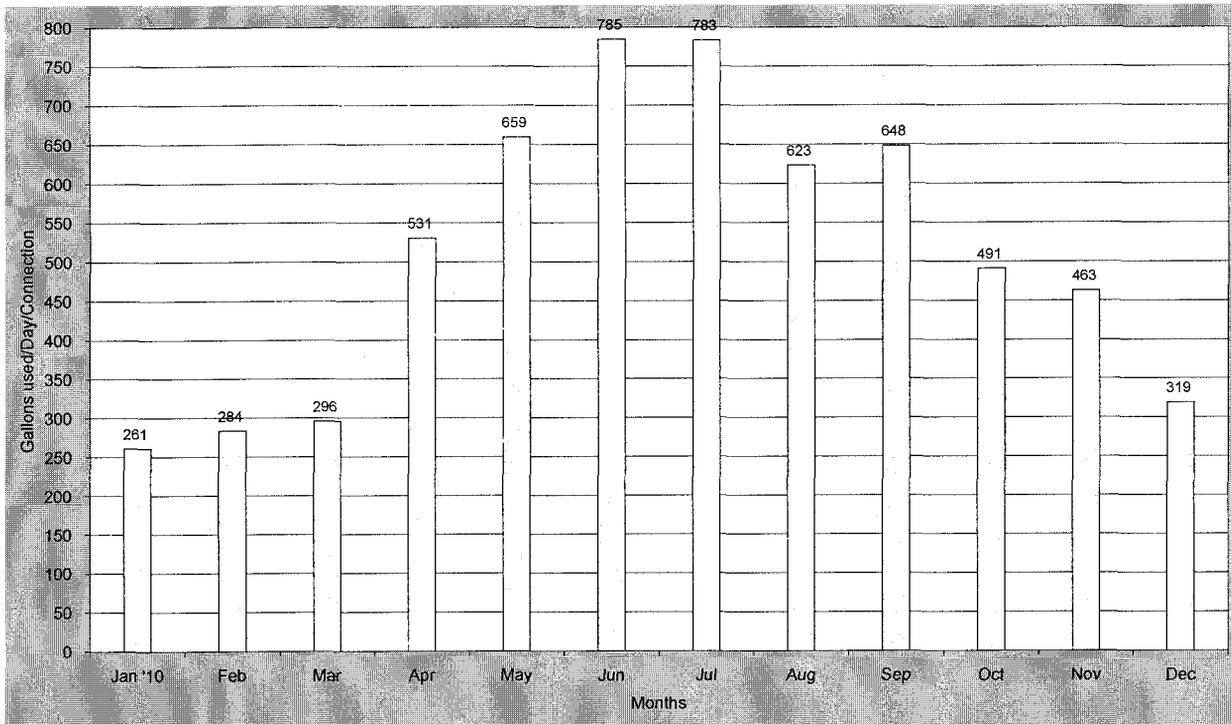


Figure C-1. Water System Use

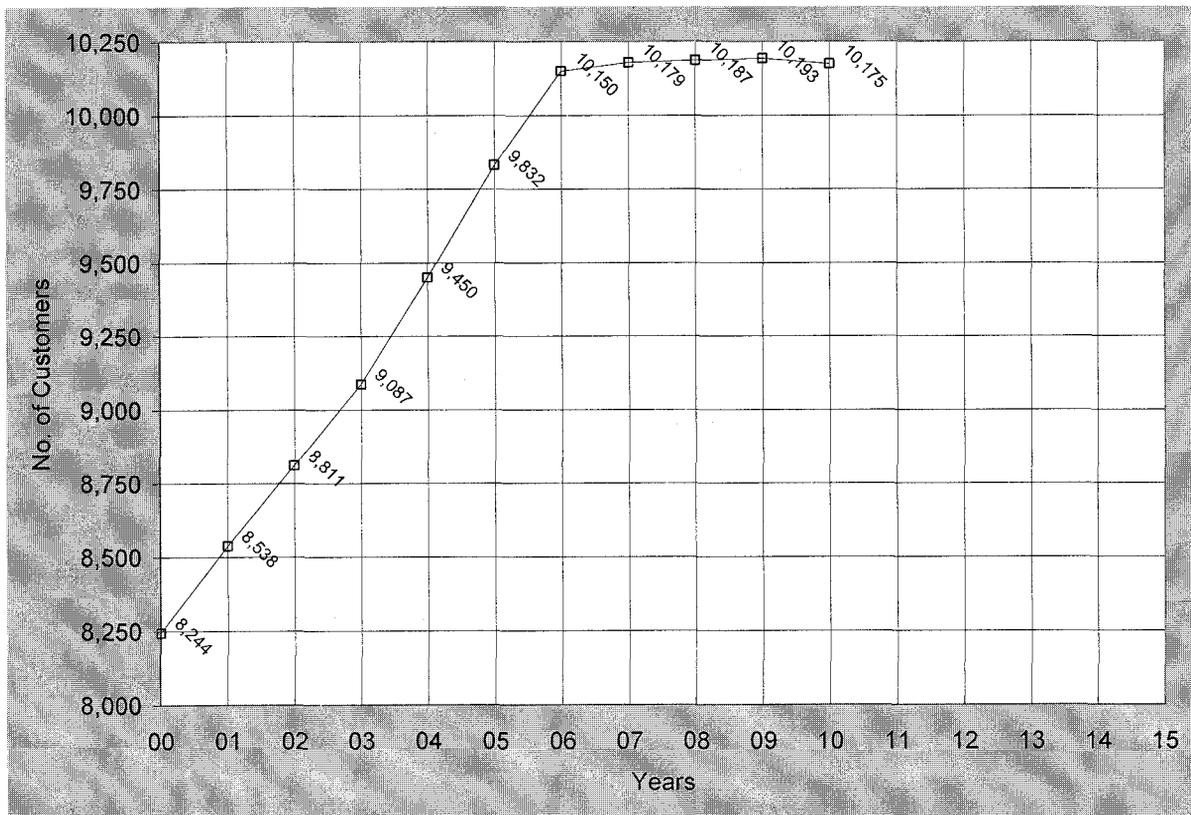


Figure D-1. Water System Growth

Table E-1. Water Testing Expense

MONITORING (Test per 3 years, unless noted)		Legend Lab Cost per Test	No. of Test	Annual Cost
Potable wells - 6 each with 3 POEs				
Total Coliform - 20 samples monthly		\$14	240	\$3,360
Inorganics - Priority Pollutants	C	\$252	3	\$252
Radiochemical				
Gross Alpha	C	\$60	3	\$60
Radium 226 & Radium 228	C	\$220	3	\$220
Phase II and V:				
Nitrate - annual (POE 3 quarterly)	C	\$32	6	\$192
Nitrite - per 9 years	C	\$32	3	\$11
Asbestos - per 9 years	C	\$128	3	\$43
VOC's	C	\$176	3	\$176
Inorganics - Ba, CN, F	-	-	-	\$0
Composite Fee	-	-	-	\$0
Pesticides/PCB's/Unreg./SOC's:				
EDB & DBCP	NC	\$128	6	\$256
Pesticides [505]	NC	\$160	6	\$320
Herbicides [515.3]	NC	\$160	6	\$320
Organic Compounds [525.2]	NC	\$280	6	\$560
Carbamates [531.2]	NC	\$144	6	\$288
Glyphosate [547]	NC	\$144	6	\$288
Endothall [548]	NC	\$144	6	\$288
Diquat [549.2]	NC	\$144	6	\$288
Dioxin [1613]	NC	\$480	6	\$960
Sulfate - per 5 years	C	\$16	3	\$10
Lead & Copper - per 3 years		\$17	30	\$170
Trihalomethane - annual	NC	\$88	3	\$264
HAA5 - annual	NC	\$200	3	\$600
Irrigation wells - 2 each				
(No monitoring required)				
Total:				\$8,925

NC = no composite

C = composite

Table H-1. Water Depreciation Rates

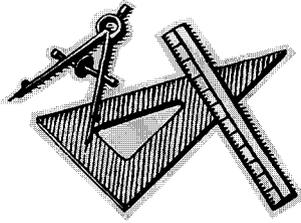
NARUC Acct. No.	Depreciable Plant	Average Service Life (Years)	Annual Accrual Rate (%)
304	Structures & Improvements	30	3.33
305	Collecting & Impounding Reservoirs	40	2.50
306	Lake, River, Canal Intakes	40	2.50
307	Wells & Springs	30	3.33
308	Infiltration Galleries	15	6.67
309	Raw Water Supply Mains	50	2.00
310	Power Generation Equipment	20	5.00
311	Pumping Equipment	8	12.5
320	Water Treatment Equipment		
320.1	Water Treatment Plants	30	3.33
320.2	Solution Chemical Feeders	5	20.0
330	Distribution Reservoirs & Standpipes		
330.1	Storage Tanks	45	2.22
330.2	Pressure Tanks	20	5.00
331	Transmission & Distribution Mains	50	2.00
333	Services	30	3.33
334	Meters	12	8.33
335	Hydrants	50	2.00
336	Backflow Prevention Devices	15	6.67
339	Other Plant & Misc Equipment	15	6.67
340	Office Furniture & Equipment	15	6.67
340.1	Computers & Software	5	20.00
341	Transportation Equipment	5	20.00
342	Stores Equipment	25	4.00
343	Tools, Shop & Garage Equipment	20	5.00
344	Laboratory Equipment	10	10.00
345	Power Operated Equipment	20	5.00
346	Communication Equipment	10	10.00
347	Miscellaneous Equipment	10	10.00
348	Other Tangible Plant	---	---

NOTE: Acct. 348 – Other Tangible Plant may vary from 5% to 50%. The depreciation rate would be set in accordance with the specific capital items in this account.

Table I-1. Service Line and Meter Installation Charges

Meter Size	Current Total Charges	Proposed Service Line Charges	Proposed Meter Charges	Proposed Total Charges
5/8 x3/4-inch	N/T	\$385	\$135	\$520
3/4-inch	N/T	\$415	\$205	\$620
1-inch	N/T	\$465	\$265	\$730
1-1/2-inch	N/T	\$520	\$475	\$995
2-inch Turbine	N/T	\$800	\$995	\$1,795
2-inch Compound	N/T	\$800	\$1,840	\$2,640
3-inch Turbine	N/T	\$1,015	\$1,620	\$2,635
3-inch Compound	N/T	\$1,135	\$2,495	\$3,630
4-inch Turbine	N/T	\$1,430	\$2,570	\$4,000
4-inch Compound	N/T	\$1,610	\$3,545	\$5,155
6-inch Turbine	N/T	\$2,150	\$4,925	\$7,075
6-inch Compound	N/T	\$2,270	\$6,820	\$9,090

Note: N/T = No tariff.



**Engineering Report for Pima Utility Company
Docket No. SW-02199A-11-0330 (Rates)**

WASTEWATER DIVISION

March 6, 2012

A. LOCATION OF PIMA UTILITY COMPANY (“COMPANY”)

The Company is located south of Chandler and provides wastewater service to the community of Sun Lakes. Figure A-1 shows the location of the Company within Maricopa County and Figure A-2 shows the approximate 5.75 square-miles of wastewater certificated area. This certificated area is completely surrounded by Chandler and the Gila River Indian Community.

B. DESCRIPTION OF WASTEWATER SYSTEM

The Company has a wastewater system consisting of a Water Reclamation Facility (“WRF”), reuse system and collection system. This plant and its system was field inspected on December 1, 2011, by Commission Staff member Marlin Scott, Jr., in the accompaniment of Steve Soriano, Dave Voorhees and Ray Jones, representing the Company.

The operation of the WRF consists of a 2.4 million gallon per day (“MGD”) sequential batch reactor (“SBR”) treatment plant and wastewater collection system consisting of 15 collection lift stations, and approximately 99.6 miles of wastewater collection mains serving approximately 10,050 service laterals during the test year ending December 2010. Effluent from the WRF is recycled by direct delivery of reclaimed water to the Oakwood Golf Course. The effluent reuse system includes five recharge/recovery wells. The recharge/recovery wells are used to deliver recovered effluent to the Oakwood Golf Course and to a homeowners’ association for landscape watering. All remaining effluent is recharged into the groundwater aquifer directly beneath the Company’s service area. The wastewater system schematic is shown in Figures B-1 with detailed plant facility descriptions as follows:

Table WW-1. Water Reclamation Facility

Name	Plant Capacity	Location
WRF	2.4 MGD sequential batch reactor facility that includes aerobic digesters, equalization basin, sand filtration and ultra-violet disinfection. Effluent system includes five recharge/recovery wells.	Riggs Road & Old Price Road

Table WW-2. Recharge/Recovery Wells

Well No.	Casing & Depth	Pump (Hp)	Capacity (GPM)	Year Built	Location
RR Well #1 – 55-554079	12" x 210'	20	400	1998	On Oakwood Golf Course at Desert Dr./Cedar Waxing Dr.
RR Well #2 – 55-561907	14" x 220'	20	400	1998	On Oakwood GC on E.J. Robson Blvd.
RR Well #3 – 55-211808	16" x 218'	20	400	2008	In southeast corner of RV storage facility.
RR Well #4 – 55-561906	14" x 220'	20	400	1998	On Oakwood GC on Champagne Dr.
RR Well #5 – 55-566383	14" x 220'	20	400	1998	On Oakwood GC on Arrow Vale Dr.

Table WW-3. Lift Stations

Lift Station No. and Name	No. of Pumps	Horsepower per Pump	Capacity per Pump (GPM)	Wet Well Capacity (gals.)
Lift Station #1 – Maryland	2	20	650	14,960
Lift Station #2 – Dobson	2	25	750	1,878
Lift Station #3 – Cochise	2	5	375	2,900
Lift Station #4 – S. Brentwood	2	3.5	250	2,900
Lift Station #5 – N. Brentwood	2	5	350	2,900
Lift Station #6 – N. Alma School	2	2.5	250	3,229
Lift Station #7 – S. Alma School	2	5	300	3,229
Lift Station #8 – San Tan	2	3.5	250	3,229
Lift Station #9 – Sunnydale	2	3.5	250	3,229
Lift Station #10 – Unit 27	2	7.5	500	18,700
Lift Station #11 – Unit 31	2	10	500	18,700
Lift Station #12 – Unit 32	2	30	900	134,640
Lift Station #13 – Yard	2	10	500	2,000
Lift Station #14 – McDonalds	2	5	300	2,000
Lift Station #15 – San Tan Vista	2	5	300	2,000

Table WW-4. Force Mains

Diameter	Material	Length (ft.)
	(Included in collection system.)	

Table WW-5. Collection Mains

Diameter	Material	Length (ft.)
2-inch	PVC	200
4-inch	PVC	18,401
6-inch	PVC	19,102
8-inch	PVC	392,322
10-inch	PVC	62,042
12-inch	PVC	31,076
15-inch	PVC	2,541
	Total:	525,684 ft. or 99.6 miles

Table WW-6. Manholes

Size	Quantity
Standard	1,396
Drop	-

Table WW-7. Cleanouts

Quantity
220 each

Table WW-8. Service Laterals

Lateral Size	Quantity
4-inch	9,958
6-inch	93
Total:	10,051

C. WASTEWATER FLOWS

Wastewater Flows

Based on the information provided by the Company, wastewater flows for the test year ending December 2010 are presented in Figure C-1. For the average daily flows, March experienced the highest flow of 1,227,677 gallons per day (“GPD”). For the peak day flows, January had the highest flow when 1,438,000 gallons were treated in one day.

System Analysis

As shown in the wastewater flows in Figure C-1, the existing 2.4 MGD WRF appears to be excessive. To further evaluate the WRF capacity by using the January peak day flow of 1,438,000 GPD and converting to 143 GPD per service lateral, the WRF’s capacity of 2.4 MGD could serve up to approximately 16,780 service laterals. According to the Company, the build-out customer count is estimated at 10,135 and if this build-out count was used, this system should experience a peak day flow of 1,449,305 GPD (= 10,135 x 143).

Excess Treatment Plant Capacity

Based on Figure C-1 and the System Analysis, Staff concludes that the 2.4 MGD WRF capacity includes excess treatment capacity at this time. In the prior rate case under Docket No. 98-0578, the new WRF was built in two phases; Phase I for the 1.6 MGD WRF at approximately \$8,546,000 and Phase II for the 2.4 MGD WRF at a total cost of approximately \$9,184,000. It was also reported that the Company was only asking for rate recovery for the Phase I costs, which was adjusted to \$8,547,798 by Staff in its Supplemental Surrebuttal.

As a result, Staff recommends that the \$8,547,798 for the 1.6 MGD WRF established in the prior rate case remain the same (with Staff adjustments in this rate case, if needed) for the 1.6 MGD WRF which Staff considers used and useful treatment plant capacity in this proceeding.

D. GROWTH

Figure D-1 depicts the customer growth using the number of customers that was obtained from annual reports submitted to the Commission. At the end of the test year December 2010, the Company had 10,050 customers and according to the Company, the built-out customer count is estimated at 10,135.

E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (“ADEQ”) COMPLIANCECompliance

On December 12, 2011, ADEQ reported the Company’s WRF, Inventory No. 100557, was in compliance with ADEQ regulations.

Wastewater Testing Expense

As stated in the Water Division section of the report, Staff discovered that the Company included the Wastewater Division’s recharge well water testing of \$12,157 with the potable water testing. Staff recommends that the \$12,157 be reclassified into the Wastewater Division’s operating expense.

F. ARIZONA CORPORATION COMMISSION (“ACC”) COMPLIANCE

On January 4, 2012, the Utilities Division Compliance Section reported that the Company had no delinquent ACC compliance issues.

G. DEPRECIATION RATES

In this proceeding, the Company has adopted Staff’s typical and customary wastewater depreciation rates. These rates are presented in Table G-1 and it is recommended that the Company use these depreciation rates by individual National Association of Regulatory Utility Commissioners category.

FIGURES

Maricopa County Map Figure A-1

Certificated Area Figure A-2

Wastewater System Flows Figure C-1

Wastewater System Growth Figure D-1

TABLE

Wastewater Depreciation Rates Table G-1

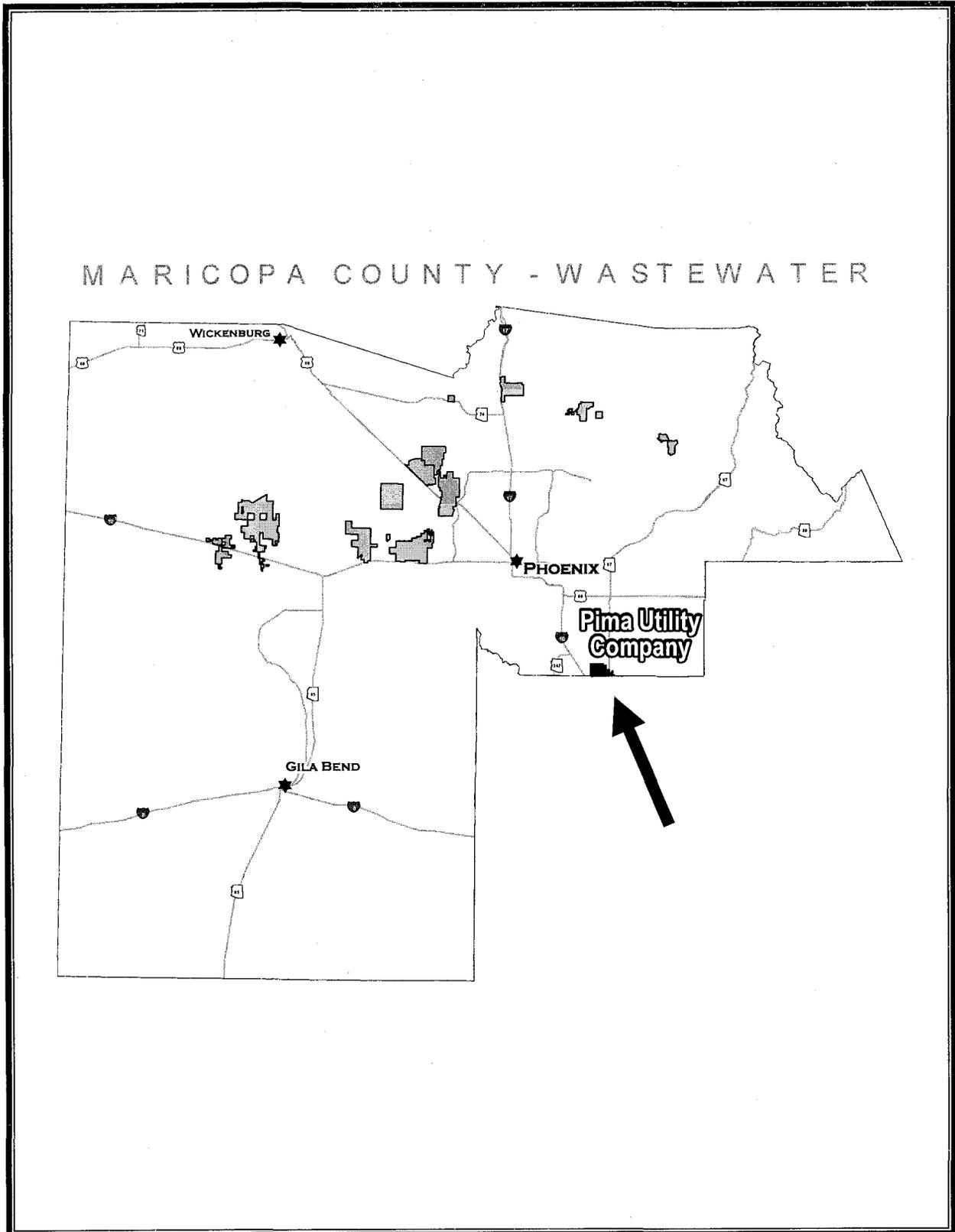


Figure A-1. Maricopa County Map

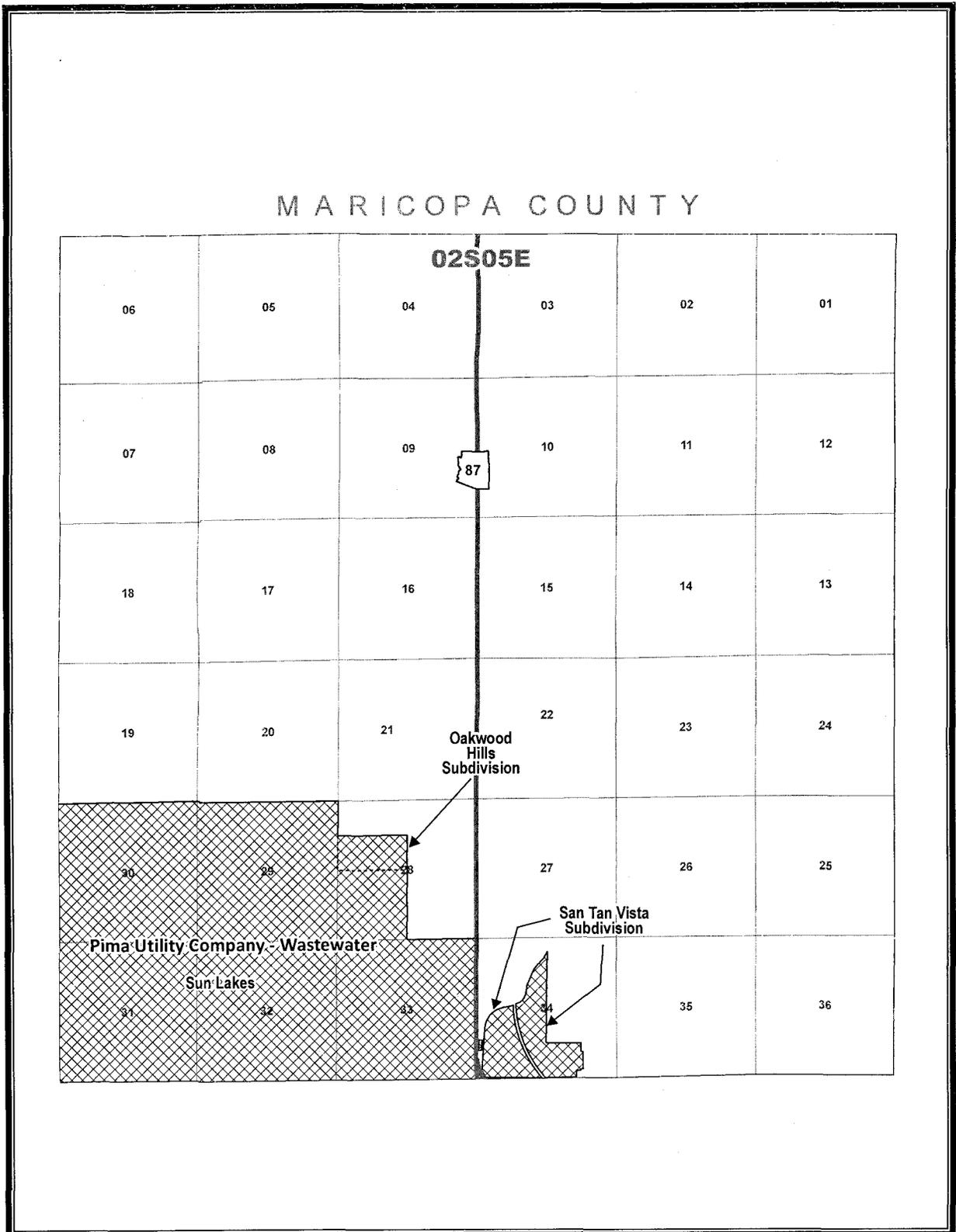


Figure A-2. Certificated Area

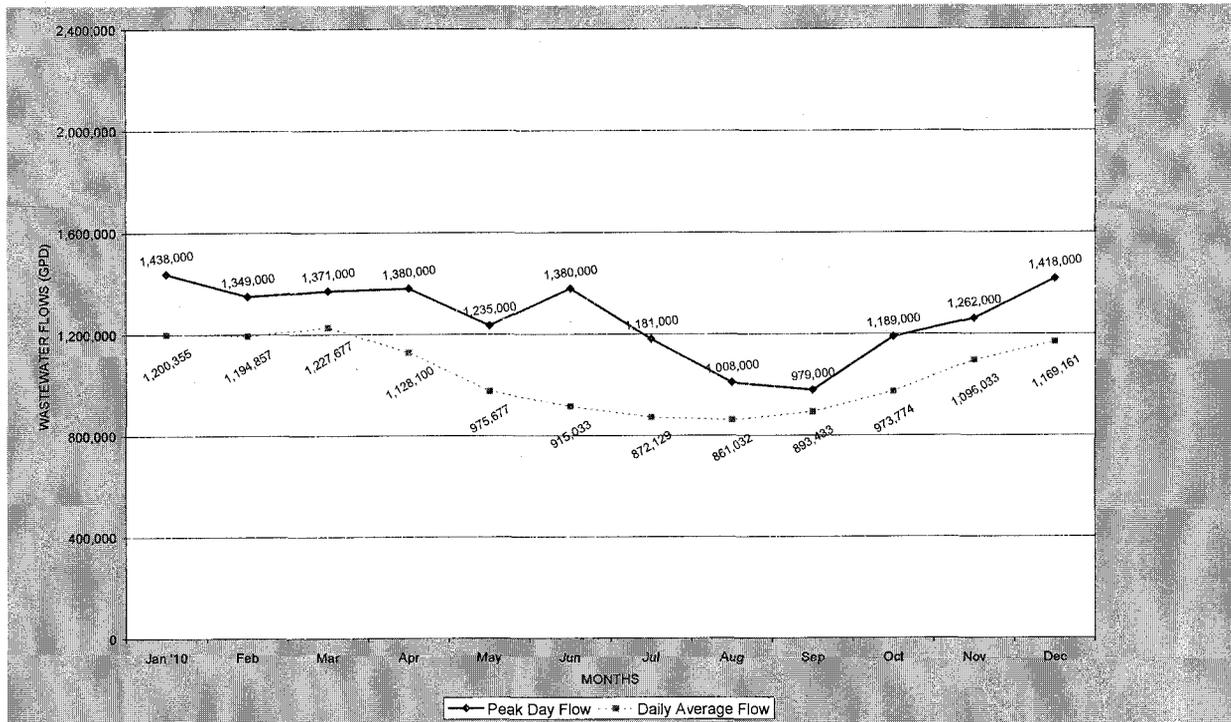


Figure C-1. Wastewater System Flows

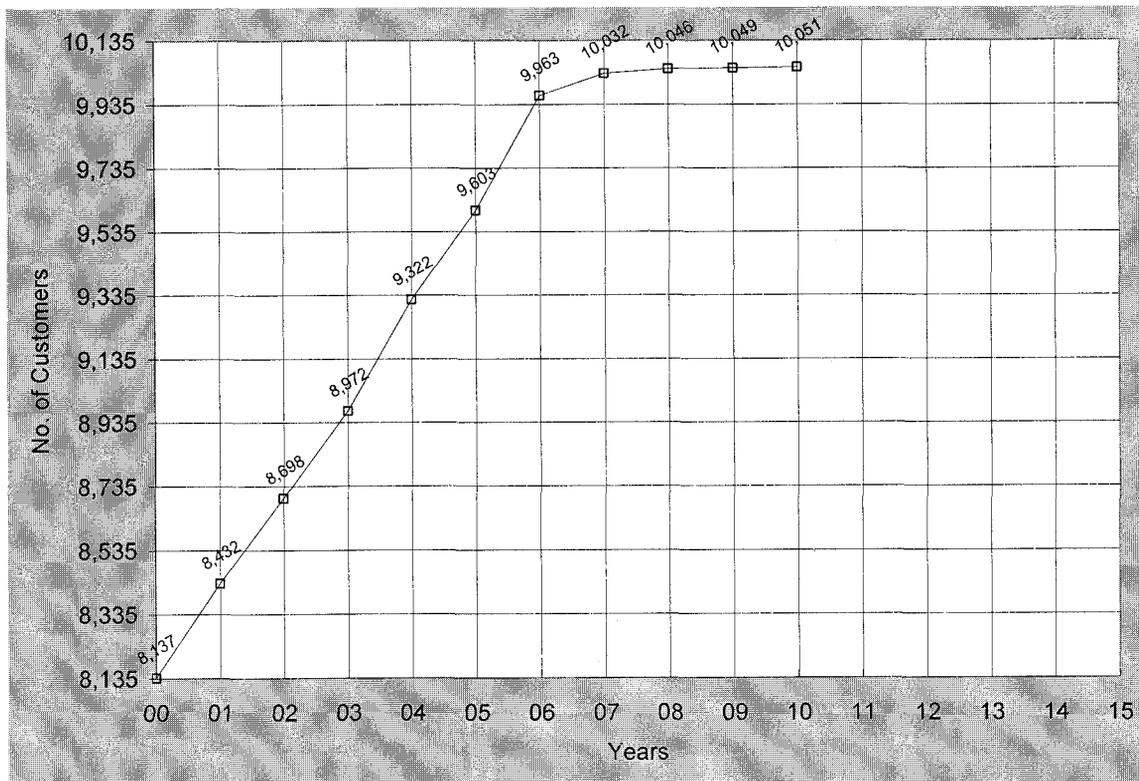


Figure D-1. Wastewater System Growth

Table G-1. Wastewater Depreciation Rates

NARUC Acct. No.	Depreciable Plant	Average Service Life (Years)	Annual Accrual Rate (%)
354	Structures & Improvements	30	3.33
355	Power Generation Equipment	20	5.00
360	Collection Sewers – Force	50	2.0
361	Collection Sewers- Gravity	50	2.0
362	Special Collecting Structures	50	2.0
363	Services to Customers	50	2.0
364	Flow Measuring Devices	10	10.00
365	Flow Measuring Installations	10	10.00
366	Reuse Services	50	2.00
367	Reuse Meters & Meter Installations	12	8.33
370	Receiving Wells	30	3.33
371	Pumping Equipment	8	12.50
374	Reuse Distribution Reservoirs	40	2.50
375	Reuse Transmission & Distribution System	40	2.50
380	Treatment & Disposal Equipment	20	5.0
381	Plant Sewers	20	5.0
382	Outfall Sewer Lines	30	3.33
389	Other Plant & Miscellaneous Equipment	15	6.67
390	Office Furniture & Equipment	15	6.67
390.1	Computers & Software	5	20.0
391	Transportation Equipment	5	20.0
392	Stores Equipment	25	4.0
393	Tools, Shop & Garage Equipment	20	5.0
394	Laboratory Equipment	10	10.0
395	Power Operated Equipment	20	5.0
396	Communication Equipment	10	10.0
397	Miscellaneous Equipment	10	10.0
398	Other Tangible Plant	----	----

NOTE: Acct. 398 – Other Tangible Plant may vary from 5 percent to 50 percent. The depreciation rate would be set in accordance with the specific capital items in this account.