

ORIGINAL



0000115562

BEFORE THE ARIZONA CORPORATION COMMISSION

RECEIVED

COMMISSIONERS

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

2010 AUG -9 P 2:25

RECEIVED
DOCKET CONTROL

IN THE MATTER OF THE APPLICATION OF LAS QUINTAS SERENAS WATER COMPANY FOR DETERMINATION OF THE FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY, AND AN INCREASE IN ITS WATER RATES AND CHARGES FOR WATER UTILITY SERVICE.

DOCKET NO. W-01583A-09-0589

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

The Utilities Division of the Arizona Corporation Commission ("Staff") hereby files the Direct Testimony of Staff Witnesses Crystal S. Brown, Juan C. Manrique, and Marlin Scott, Jr. in the above-referenced matter.

RESPECTFULLY submitted this 9th day of August, 2010.

Robin R. Mitchell, Staff Attorney
Kimberly Ruht, Staff Attorney
Legal Division
1200 West Washington Street
Phoenix, Arizona 85007
Telephone: (602) 542-3402

Original and thirteen (13) copies of the foregoing were filed this 9th day of August, 2010 with:

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

Copy of the foregoing mailed this 9th day of August, 2010 to:

Lawrence V. Robertson, Jr., Esq.
P.O. Box 1448
Tubac, Arizona 85646

Arizona Corporation Commission

DOCKETED

AUG 9 2010

DOCKETED BY

BEFORE THE ARIZONA CORPORATION COMMISSION

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

IN THE MATTER OF THE APPLICATION OF) DOCKET NO. W-01583A-09-0589
LAS QUINTAS SERENAS WATER CO., AN)
ARIZONA CORPORATION, FOR (i) A)
DETERMINATION OF THE FAIR VALUE OF)
ITS UTILITY PLANT AND PROPERTY AND)
(ii) AN INCREASE IN ITS WATER RATES)
AND CHARGES FOR WATER UTILITY SERVICE))
BASED THEREON.)
_____)

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

AUGUST 9, 2010

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
BACKGROUND	2
CONSUMER SERVICE.....	3
COMPLIANCE.....	3
SUMMARY OF PROPOSED REVENUES	3
RATE BASE.....	5
<i>Fair Value Rate Base</i>	5
<i>Rate Base Summary</i>	6
<i>Rate Base Adjustment No. 1 – Plant Retirement</i>	6
<i>Rate Base Adjustment No. 2 – Debt Issuance Costs</i>	6
<i>Rate Base Adjustment No. 3 – Not Used and Useful Plant</i>	7
<i>Rate Base Adjustment No. 4 – Accumulated Depreciation</i>	8
<i>Rate Base Adjustment No. 5 – Customer Deposits</i>	8
<i>Rate Base Adjustment No. 6 – Accumulated Deferred Income Tax (“ADIT”)</i>	9
OPERATING INCOME	11
<i>Operating Income Summary</i>	11
<i>Operating Income Adjustment No. 1 – Water Testing Expense</i>	11
<i>Operating Income Adjustment No. 2 – Rate Case Expense</i>	11
<i>Operating Income Adjustment No. 3 – Depreciation Expense</i>	12
<i>Operating Income Adjustment No. 4 – Property Taxes</i>	13
<i>Operating Income Adjustment No. 5 – Income Taxes</i>	14
RATE DESIGN	15
<i>Other Service Charges</i>	16
<i>Arsenic Surcharge</i>	17
<i>Arsenic Impact Hook-Up Fee</i>	17
<i>Offsite Facilities Hook-Up Fee</i>	17

SCHEDULES

Revenue Requirement	CSB-1
Gross Revenue Conversion Factor	CSB-2
Rate Base – Original Cost	CSB-3
Summary of Rate Base Adjustments	CSB-4
Rate Base Adjustment No. 1 – Plant Retirement.....	CSB-5
Rate Base Adjustment No. 2 – Debt Issuance Costs	CSB-6
Rate Base Adjustment No. 3 – Not Used and Useful Plant	CSB-7
Rate Base Adjustment No. 4 – Accumulated Depreciation	CSB-8
Rate Base Adjustment No. 5 – Customer Deposits	CSB-9
Rate Base Adjustment No. 6 – Accumulated Deferred Income Taxes (“ADIT”)	CSB-10
Operating Income Statement – Test Year and Staff Recommended	CSB-11
Summary of Operating Income Adjustments – Test Year.....	CSB-12
Operating Income Adjustment No. 1 – Water Testing Expense.....	CSB-13
Operating Income Adjustment No. 2 – Rate Case Expense	CSB-14

Operating Income Adjustment No. 3 – Depreciation Expense..... CSB-15
Operating Income Adjustment No. 4 – Property Taxes..... CSB-16
Operating Income Adjustment No. 5 – Income Taxes CSB-17
Rate Design CSB-18
Typical Bill Analysis..... CSB-19

EXECUTIVE SUMMARY
LAS QUINTAS SERENAS WATER COMPANY
DOCKET NO. W-01583A-09-0589

Las Quintas Serenas Water Company ("Las Quintas" or "Company") is an Arizona public service corporation engaged in providing water utility services to approximately 1,027 customers within the municipal boundaries of the Town of Sahuarita, Arizona. Las Quintas' current rates were approved in Decision No. 67455, dated January 4, 2005.

The Company proposes a \$203,528, or 41.68 percent revenue increase from \$488,270 to \$691,799. The proposed revenue increase would produce an operating income of \$190,491 for a 9.03 percent rate of return on an original cost rate base ("OCRB") of \$2,109,539. The Company's proposed rates would increase the typical residential 5/8 x 3/4 inch meter bill having a median usage of 8,500 gallons from \$30.35 to \$38.40, for an increase of \$8.06 or 26.54 percent.

Staff recommends a \$160,064 or 32.78 percent revenue increase from \$488,270 to \$648,334. Staff's recommended revenue increase would produce an operating income of \$162,490 for an 8.50 percent rate of return on an OCRB of \$1,911,646. Staff's recommended rates would increase the typical residential 5/8 x 3/4 inch meter bill having a median usage of 8,500 gallons from \$30.35 to \$33.85, for an increase of \$3.51 or 11.55 percent, as shown on Schedule CSB-19.

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.
25

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 the Las Quintas Serenas Water
4 Company, Inc.'s ("Las Quintas" or "Company") application for a permanent rate increase.
5 Staff witness Juan Manrique is presenting Staff's cost of capital recommendations. Staff
6 witness Marlin Scott, Jr. is presenting Staff's engineering analysis and recommendations.

7
8 **Q. What is the basis of your recommendations?**

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

15
16 **BACKGROUND**

17 **Q. Please provide a brief description of Las Quintas and the service it provides.**

18 A. Las Quintas is an Arizona public service corporation, serving approximately 1,027
19 customers within the municipal boundaries of the Town of Sahuarita, Arizona. Las
20 Quintas' current rates were approved in Decision No. 67455, dated January 4, 2005.

21
22 **Q. What are the primary reasons for Las Quintas' requested permanent rate increase?**

23 A. According to Las Quintas, the primary reason is to earn an adequate rate of return.
24

1 **CONSUMER SERVICE**

2 **Q. Please provide a brief history of customer complaints received by the Commission**
3 **regarding Las Quintas.**

4 A. Staff reviewed the Commission's records and found no complaints and one opinion
5 opposed to the rate increase as of July 9, 2010.
6

7 **COMPLIANCE**

8 **Q. Please provide a summary of the compliance status of Las Quintas.**

9 A. A check of the Compliance database indicates that there are currently no delinquencies for
10 Las Quintas.
11

12 **SUMMARY OF PROPOSED REVENUES**

13 **Q. Please summarize the Company's filing.**

14 A. The Company proposes a \$203,528, or 41.68 percent revenue increase from \$488,270 to
15 \$691,799. The proposed revenue increase would produce an operating income of
16 \$190,491 for a 9.03 percent rate of return on an original cost rate base ("OCRB") of
17 \$2,109,539. The Company's proposed rates would increase the typical residential 5/8 x
18 3/4 inch meter bill having a median usage of 8,500 gallons from \$30.35 to \$38.40, for an
19 increase of \$8.06 or 26.54 percent.
20

21 **Q. Please summarize Staff's recommended revenue.**

22 A. Staff recommends a \$160,064 or 32.78 percent revenue increase from \$488,270 to
23 \$648,334. Staff's recommended revenue increase would produce an operating income of
24 \$162,490 for an 8.50 percent rate of return on an OCRB of \$1,911,646. Staff's
25 recommended rates would increase the typical residential 5/8 x 3/4 inch meter bill having
26 a median usage of 8,500 gallons from \$30.35 to \$33.85, for an increase of \$3.51 or 11.55
27 percent, as shown on Schedule CSB-19.

1 **Q. What test year did Las Quintas utilize in this filing?**

2 A. Las Quintas' rate filing is based on the twelve months ended June 30, 2009 ("test year").
3

4 **Q. Please summarize Staff's rate base and operating income adjustments for Las**
5 **Quintas.**

6 A. My testimony discusses the following adjustments:
7

8 **Rate Base Adjustments:**

9 Plant Retirement – This adjustment decreases plant in service by \$7,488 to reflect plant
10 that was taken out of service.
11

12 Debt Issuance Costs – This adjustment decreases plant in service by \$185,625 to reflect
13 debt issuance costs that the Company had incorrectly included in water treatment plant.
14

15 Not Used and Useful – This adjustment decreases plant in service by \$41,000 to remove
16 plant that is not used and useful.
17

18 Accumulated Depreciation – This adjustment decreases accumulated depreciation by
19 \$75,002 to reflect Staff's calculation of accumulated depreciation based on Staff's
20 adjustments to plant and to reflect six months rather than nine months of depreciation
21 expense in 2009.
22

23 Customer Deposits – This adjustment decreases rate base by \$7,475 to reflect test year-
24 end customer deposits.
25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

Accumulated Deferred Income Taxes (“ADITs”) – This adjustment decreases rate base by \$31,307 to reflect Staff’s calculation of the ADIT.

Operating Income Adjustments:

Water Testing – This adjustment decreases operating expenses by \$3,161 to reflect Staff’s recommended annual water testing costs.

Rate Case Expense – This adjustment decreases operating expenses by \$6,667 to reflect Staff’s recommended normalized rate case expense.

Depreciation Expense – This adjustment increases operating expenses by \$6,714 to reflect Staff’s calculation of depreciation expense based upon Staff’s recommended plant balances.

Property Tax Expense – This adjustment decreases operating expense by \$3,249 to reflect Staff’s calculation of the Company’s property tax expense.

Income Tax Expense – This adjustment increases operating expenses by \$10,030 to reflect the income tax obligation on Staff’s adjusted test year taxable income.

RATE BASE

Fair Value Rate Base

Q. Did the Company prepare schedules showing the elements of Reconstruction Cost New Rate Base?

A. No, the Company did not. Las Quintas requested that its OCRB be treated as its fair value rate base.

1 *Rate Base Summary*

2 **Q. Please summarize Staff's adjustments to Las Quintas' rate base shown on Schedules**
3 **CSB-3 and CSB-4.**

4 A. Staff's adjustments to Las Quintas' rate base resulted in a net decrease of \$197,893, from
5 \$2,109,539 to \$1,911,646. This decrease was primarily due to Staff removing \$185,625 in
6 debt issuance costs.

7
8 *Rate Base Adjustment No. 1 – Plant Retirement*

9 **Q. Did Las Quintas' plant balance reflect all retirements related to its pumping**
10 **equipment?**

11 A. No, it did not. The Company indicated in response to Staff data request CSB 2.7 that it
12 replaced a bowl assembly for a pump in 2008 at a cost of \$10,282. The Company assumes
13 that the pump was installed in 1998.

14
15 **Q. What is the amount of retirement?**

16 A. The Company estimates the cost to be \$7,488.

17
18 **Q. What is Staff recommending?**

19 A. Staff recommends decreasing plant in service by \$7,488 as shown on Schedules CSB-4
20 and CSB-5.

21
22 *Rate Base Adjustment No. 2 – Debt Issuance Costs*

23 **Q. What are debt issuance costs?**

24 A. In general, debt issuance costs, are underwriting, legal, and administrative fees associated
25 with issuing debt.

1 **Q. Did Las Quintas include debt issuance costs in Account No. 320.1, Water Treatment**
2 **Plant balance?**

3 A. Yes. The Company included \$185,625 in debt issuance costs in Account No. 321, water
4 treatment plant.

5

6 **Q. Does Las Quintas agree that the debt issuance costs should be removed from plant?**

7 A. Yes. In response to Staff data request CSB 2.9, the Company indicated that the amount
8 should be removed.

9

10 **Q. What is Staff recommending?**

11 A. Staff recommends decreasing plant in service by \$185,625 as shown on Schedules CSB-4
12 and CSB-6.

13

14 *Rate Base Adjustment No. 3 – Not Used and Useful Plant*

15 **Q. Did the Company include in rate base plant that was not used and useful?**

16 A. Yes, Staff identified \$41,000 in plant that was not used and useful as shown on Schedules
17 CSB-4 and CSB-7.

18

19 **Q. What was the basis of Staff's determination?**

20 A. Marlin Scott, Jr., Staff's Engineer, inspected the entire system and identified certain
21 individual plant items that were not serving customers during the test year.

22

23 **Q. What is Staff recommending?**

24 A. Staff recommends decreasing plant in service by \$41,000 to remove all plant from rate
25 base that was not used and useful as shown on Schedules CSB-4 and CSB-7.

26

1 *Rate Base Adjustment No. 4 – Accumulated Depreciation*

2 **Q. What adjustments did Staff make to accumulated depreciation?**

3 A. Staff adjusted accumulated depreciation to reflect the Staff-recommended plant balances
4 adjusted to remove an unrecorded plant retirement, not used and useful plant, and to
5 reflect six months rather than nine months of depreciation expense in 2009.

6
7 **Q. What is Staff recommending?**

8 A. Staff recommends decreasing accumulated depreciation by \$75,002 as shown on
9 Schedules CSB-4, and CSB-8.

10

11 *Rate Base Adjustment No. 5 – Customer Deposits*

12 **Q. Is Las Quintas proposing to include customer deposits in the rate base calculation?**

13 A. No, it is not.

14

15 **Q. Are customer deposits normally treated as a reduction to rate base?**

16 A. Yes. Customer deposits are a reduction in the calculation of rate base.

17

18 **Q. Why are customer deposits normally a reduction to rate base?**

19 A. Customer deposits are a reduction to rate base in order to recognize customer-provided
20 capital.

21

22 **Q. What was the Company's customer deposit balance at the end of the test year?**

23 A. The Company's customer deposit balance was \$7,475 at the end of the test year.

24

1 **Q. What is Staff recommending?**

2 A. Staff recommends decreasing rate base by \$7,475 to reflect the test year-end customer
3 deposit balance in rate base as shown on Schedules CSB-4 and CSB-9.
4

5 *Rate Base Adjustment No. 6 – Accumulated Deferred Income Tax (“ADIT”)*

6 **Q. What are ADITs?**

7 A. ADITs are the accumulated temporary tax differences between income taxes calculated for
8 rate-making purposes and the actual income taxes that a company pays to the United
9 States Treasury and the State of Arizona.

10

11 **Q. Did the Company propose an ADIT in its Direct Testimony?**

12 A. No, it did not. In response to Staff data request CSB 2.9, the Company indicated that it
13 had not finalized its 2009 tax returns when the application was prepared and thus did not
14 include any deferred income taxes in rate base.

15

16 **Q. Did the Company calculate an ADIT in response to a Staff data request?**

17 A. Yes. In response to Staff data request CSB 2.9, the Company calculated an ADIT asset of
18 \$154,268.

19

20 **Q. Did Staff make any adjustments to the Company’s ADIT calculation?**

21 A. Yes. Staff added back \$185,625 to the book value of assets because the Company had
22 inadvertently removed the amount twice. Staff also removed the net operating loss
23 (“NOL”) carry forward as it represents a one-sided transaction.

24

1 **Q. Did Staff prepare a schedule showing the Company's calculation and Staff's**
2 **adjustments?**

3 A. Yes. The Company's calculation and Staff's adjustments are shown on Schedule CSB-10.
4

5 **Q. What does Staff recommend?**

6 A. Staff recommends an ADIT liability of \$31,307 as shown on Schedules CSB-4 and CSB-
7 10.
8

9 **OPERATING INCOME**

10 *Operating Income Summary*

11 **Q. What are the results of Staff's analysis of test year revenues, expenses and operating**
12 **income?**

13 A. As shown on Schedules CSB-11 and CSB-12 Staff's analysis resulted in test year
14 revenues of \$488,270, expenses of \$444,387 and operating income of \$43,883.
15

16 *Operating Income Adjustment No. 1 – Water Testing Expense*

17 **Q. What did the Company propose for water testing expense?**

18 A. The Company proposed \$7,408 for water testing expense.
19

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

21 A. Staff adjusted annual water testing costs to reflect Staff's recommended amount as
22 discussed in greater detail by Staff witness Marlin Scott, Jr.
23

24 **Q. What is Staff recommending?**

25 A. Staff recommends decreasing water testing expense by \$3,161 as shown on Schedules
26 CSB-12 and CSB-13.

1 *Operating Income Adjustment No. 2 – Rate Case Expense*

2 **Q. What annual amount of rate case expense did the Company propose?**

3 A. The Company proposes annual rate case expense of \$26,667.

4
5 **Q. How did the Company calculate the amount?**

6 A. The Company divided the total estimated rate case expense of \$80,000 by three years.

7
8 **Q. Is the three-year period reasonable?**

9 A. No, it is not.

10
11 **Q. For the Company's three most recent rate cases, please discuss the number of years
12 between each filing.**

13 A. The earliest of the three most recent rate cases was filed in 1985 (Decision No. 54760,
14 dated November 13, 1985). Approximately 19 years later the Company filed a rate case in
15 2004 (Decision No. 67455, dated January 4, 2005). Approximately four years later, the
16 Company filed the instant rate case on December 3, 2009.

17
18 **Q. What number of years did Staff use to normalize rate case expense?**

19 A. Staff usually normalizes rate case expense over a 3 to 5 year period. Since there was
20 approximately 19 years between the Company's first and the second rate cases and
21 approximately four years between the second and the third rate cases; Staff determined
22 that for this rate case four years would be reasonable.

23
24 **Q. What is Staff's recommendation?**

25 A. Staff recommends decreasing rate case expense by \$6,667 as shown on Schedules CSB-12
26 and CSB-14.

1 *Operating Income Adjustment No. 3 – Depreciation Expense*

2 **Q. What is Las Quintas proposing for depreciation expense?**

3 A. Las Quintas is proposing depreciation expense of \$117,586.

4

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

6 A. Staff adjusted depreciation expense to reflect application of the Staff recommended
7 depreciation rates to the Staff recommended plant balances.

8

9 **Q. What is Staff recommending?**

10 A. Staff recommends increasing depreciation expense by \$6,714 as shown on Schedules
11 CSB-12 and CSB-15.

12

13 *Operating Income Adjustment No. 4 – Property Taxes*

14 **Q. What is Las Quintas proposing for property taxes?**

15 A. Las Quintas is proposing \$26,078 for property taxes. The Company's proposed property
16 tax expense is calculated on the modified Arizona Department of Revenue ("ADOR")
17 methodology typically adopted by the Commission for water and wastewater utilities. The
18 results from using this methodology are primarily dependent upon the test year and
19 proposed revenues. In other words, each revenue requirement has its own property tax
20 expense in the same manner as each operating income has its own income tax expenses.
21 Although the results for this methodology are frequently referred to as Test Year amounts,
22 in fact, the results are representative of the average expected property tax over a
23 subsequent three-year period based partially on proposed revenues. The Company's
24 calculation of proposed property taxes is representative only of the Company's proposed
25 revenues. Therefore, if the Commission were to adopt any revenue requirement other than

1 that proposed by the Company, the Company's proposed property tax would not
2 correspond with the adopted revenues.

3
4 **Q. Has Staff developed a solution to address the dependent relationship between**
5 **property tax expense and revenues?**

6 A. Yes. Staff has included a factor for property taxes in the gross revenue conversion factor
7 ("GRCF") (see Schedule CSB-2) that automatically adjusts the revenue requirement for
8 changes in revenue in the same way that income taxes are adjusted for changes in
9 operating income. This flexible method will accurately reflect property tax expense at any
10 authorized revenue level. This refinement removes the need to include proposed revenues
11 in the calculation of test year property tax expense and allows for accurate calculation of
12 property tax expense at the test year revenue level.

13
14 **Q. What amount did Staff calculate for property tax expense?**

15 A. Staff calculated \$22,829 for Test Year Property Tax Expense, as shown in Schedule CSB-
16 16.¹

17
18 **Q. What is Staff recommending?**

19 A. Staff recommends decreasing property tax expense by \$3,249 as shown on Schedules
20 CSB-12 and CSB-16. Staff further recommends adoption of its GRCF that includes a
21 factor for property tax expense, as shown in Schedule CSB-2.

22
23 *Operating Income Adjustment No. 5 – Income Taxes*

24 **Q. What is Las Quintas proposing for test year income tax expense?**

25 A. Las Quintas is proposing a negative \$23,603 for income taxes.

¹ Schedule CSB-16 also shows calculations for property tax expense of \$25,384 for Staff's recommended revenue.

1 **Q. Did Staff make any adjustments to test year income tax expense?**

2 A. Yes. Staff's adjustment reflects Staff's calculation of the income tax expense based upon
3 Staff's adjusted test year taxable income.

4
5 **Q. What is Staff's recommendation?**

6 A. Staff recommends increasing income tax expense by \$10,030 as shown on Schedules
7 CSB-12 and CSB-17.

8
9 **RATE DESIGN**

10 **Q. Has Staff prepared a schedule summarizing the present, Company proposed, and**
11 **Staff recommended rates and service charges?**

12 A. Yes. Schedule CSB-18 provides a summary of the Company's present, Company's
13 proposed, and Staff's recommended rates.

14
15 **Q. Please summarize the present rate design.**

16 A. Customer class is distinguished by meter size. The monthly minimum charges vary by
17 meter size and include no gallons. The commodity rates are based on an inverted tier rate
18 design that includes three tiers for residential and two for all other meter sizes as shown on
19 CSB-18.

20
21 **Q. Please summarize the Company's proposed rate design.**

22 A. Customer class is distinguished by meter size. The monthly minimum charges vary by
23 meter size and include no gallons. The commodity rates are based on an inverted tier rate
24 design that includes three tiers for residential and two for all other meter sizes as shown on
25 CSB-18. The Company's proposed rates would increase the typical residential bill from

1 \$30.35 to \$38.40 for an increase of \$8.06, or 26.54 percent, as shown on Schedule CSB-
2 19.

3

4 **Q. Please summarize Staff's recommended rate design.**

5 A. Customer class is distinguished by meter size. The monthly minimum charges vary by
6 meter size and include no gallons. The commodity rates are based on an inverted tier rate
7 design that includes three tiers for residential and two for all other meter sizes. Staff's
8 recommended rates would increase the typical residential bill with a median usage of
9 8,500 gallons from \$30.35 to \$33.85, for an increase of \$3.51 or 11.55 percent, as shown
10 on Schedule CSB-19.

11

12 **Q. Did Staff recommend any changes to the Company's Meter and Service Line**
13 **Charges?**

14 A. Yes. Staff-recommended changes are shown on Schedule CSB-18, page 4 and are
15 discussed in greater detail in the testimony of Staff witness, Marlin Scott, Jr.

16

17 *Other Service Charges*

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

19 A. Yes. The Company proposes to add a deferred payment charge of 1.5 percent per month.
20 Additionally, the Company proposes to add an after-hours service charge at cost.

21

22 **Q. Does Staff agree with the proposed changes?**

23 A. Yes.

24

1 *Arsenic Surcharge*

2 **Q. Did the Company propose any changes to its arsenic surcharge?**

3 A. Yes. The Company proposes that the arsenic surcharge be eliminated.

4
5 **Q. Does Staff agree?**

6 A. Yes. The cost of the arsenic treatment plant has been included in rate base and
7 accordingly in Staff's recommended revenue requirement which will be recovered through
8 Staff's recommended rates. Therefore, the arsenic surcharge should be eliminated.

9
10 *Arsenic Impact Hook-Up Fee*

11 **Q. Did the Company propose any changes to its arsenic impact hook-up fee ("Arsenic
12 HUF")?**

13 A. Yes, the Company proposes that it be discontinued.

14
15 **Q. Does Staff agree?**

16 A. No, as discussed in greater detail by Staff witness, Marlin Scott, Jr., Staff recommends
17 that the Arsenic HUF remain in effect.

18
19 *Offsite Facilities Hook-Up Fee*

20 **Q. Did the Company propose any changes to its off-site facilities hook-up fee ("HUF")?**

21 A. Yes. The Company currently has an off-site hook-up fee of \$250 for all meter sizes. The
22 Company proposes an off-site facilities hook-up fee of \$1,135 for 5/8 x 3/4-inch meter
23 customers with higher charges for larger meters as shown on Schedule CSB-18, page 5.

24

1 **Q. What does Staff recommend?**

2 **A.** Staff recommends no change to the current fee of \$250 for all meter sizes as discussed in
3 greater detail by Staff witness Marlin Scott, Jr.

4

5 **Q. Does this conclude Staff's Direct Testimony?**

6 **A.** Yes, it does.

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	\$ 2,109,539	\$ 1,911,646
2	Adjusted Operating Income (Loss)	\$ 47,550	\$ 43,883
3	Current Rate of Return (L2 / L1)	2.25%	2.30%
4	Required Rate of Return	9.03%	8.50%
5	Required Operating Income (L4 * L1)	\$ 190,491	\$ 162,490
6	Operating Income Deficiency (L5 - L2)	\$ 142,942	\$ 118,607
7	Gross Revenue Conversion Factor	1.42390	1.34953
8	Increase (Decrease) In Gross Revenue (L7 * L6) ¹	\$ 203,528	\$ 160,064
9	Adjusted Test Year Revenue	\$ 488,270	\$ 488,270
10	Proposed Annual Revenue (L8 + L9)	\$ 691,799	\$ 648,334
11	Required Increase/(Decrease in Revenue) (%) (L8/L9)	41.68%	32.78%

¹ The Company's increase in gross revenue does not equal line 7 x line 6

References:

Column [A]: Company Schedules A-1, C-1, C-3, & D-1
Column [B]: Staff Schedules CSB-2, CSB-3, & CSB-11

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)	(D)
<i>Calculation of Gross Revenue Conversion Factor:</i>					
1	Revenue	100.0000%			
2	Uncollectible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Income Tax and Property Tax Rate (Line 23)	25.9002%			
5	Subtotal (L3 - L4)	74.0998%			
6	Revenue Conversion Factor (L1 / L5)	1.349531			
<i>Calculation of Uncollectible Factor:</i>					
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	24.6979%			
9	One Minus Combined Income Tax Rate (L7 - L8)	75.3021%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 * L10)	0.0000%			
<i>Calculation of Effective Tax Rate:</i>					
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L12 - L13)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 53)	19.0579%			
16	Effective Federal Income Tax Rate (L14 x L15)	17.7299%			
17	Combined Federal and State Income Tax Rate (L13 + L16)		24.6979%		
<i>Calculation of Effective Property Tax Factor</i>					
18	Unity	100.0000%			
19	Combined Federal and State Income Tax Rate (L17)	24.6979%			
20	One Minus Combined Income Tax Rate (L18-L19)	75.3021%			
21	Property Tax Factor	1.5965%			
22	Effective Property Tax Factor (L20*L21)		1.2022%		
23	Combined Federal and State Income Tax and Property Tax Rate (L17+L22)			25.9002%	
24	Required Operating Income (Schedule CSB-1, Line 5)	\$ 162,490			
25	Adjusted Test Year Operating Income (Loss)	43,883			
26	Required Increase in Operating Income (L24 - L25)		\$ 118,607		
27	Income Taxes on Recommended Revenue (Col. [E], L52)	\$ 25,327			
28	Income Taxes on Test Year Revenue (Col. [B], L52)	(13,574)			
29	Required Increase in Revenue to Provide for Income Taxes (L27 - L28)			38,901	
30	Recommended Revenue Requirement (Schedule CSB-1, Line 10)	\$ 648,334			
31	Uncollectible Rate (Line 10)	0.0000%			
32	Uncollectible Expense on Recommended Revenue (L30*L31)	\$ -			
33	Adjusted Test Year Uncollectible Expense	\$ -			
34	Required Increase in Revenue to Provide for Uncollectible Exp. (L32-L33)				-
35	Property Tax with Recommended Revenue (CSB-15, Col B, L19)	\$ 25,384			
36	Property Tax on Test Year Revenue	22,829			
37	Increase in Property Tax Due to Increase in Revenue (L35-L36)			2,555	
38	Total Required Increase in Revenue (L26 + L29 + L34 + L37)			\$ 160,064	
<i>Calculation of Income Tax:</i>					
39	Revenue (Schedule CSB-11, Col. [C], Line 5 & Sch. CSB-1, Col. [D] Line 1)	\$ 488,270	\$ 160,064	\$ 648,334	
40	Operating Expenses Excluding Income Taxes	\$ 457,961	\$ 2,555	\$ 460,517	
41	Synchronized Interest (L56)	\$ 91,759		\$ 91,759	
42	Arizona Taxable Income (L39 - L40 - L41)	\$ (61,450)		\$ 96,058	
43	Arizona State Income Tax Rate	6.9680%		6.9680%	
44	Arizona Income Tax (L42 x L43)	\$ (4,282)		\$ 6,693	
45	Federal Taxable Income (L42 - L44)	\$ (57,168)		\$ 89,365	
46	Federal Tax on First Income Bracket (\$1 - \$50,000) @ 15%	\$ (7,500)		\$ 7,500	
47	Federal Tax on Second Income Bracket (\$51,001 - \$75,000) @ 25%	\$ (1,792)		\$ 6,250	
48	Federal Tax on Third Income Bracket (\$75,001 - \$100,000) @ 34%	\$ -		\$ 4,884	
49	Federal Tax on Fourth Income Bracket (\$100,001 - \$335,000) @ 39%	\$ -		\$ -	
50	Federal Tax on Fifth Income Bracket (\$335,001 - \$10,000,000) @ 34%	\$ -		\$ -	
51	Total Federal Income Tax	\$ (9,292)		\$ 18,634	
52	Combined Federal and State Income Tax (L44 + L51)	\$ (13,574)		\$ 25,327	
53	Applicable Federal Income Tax Rate [Col. [C], L51 - Col. [A], L51] / [Col. [C], L45 - Col. [A], L45]				19.0579%
<i>Calculation of Interest Synchronization:</i>					
54	Rate Base (Schedule CSB-3, Col. (C), Line 14)	\$ 1,911,646			
55	Weighted Average Cost of Debt	4.8000%			
56	Synchronized Interest (L45 X L46)	\$ 91,759			

RATE BASE - ORIGINAL COST

LINE NO.		(A)	(B)	(C)
		COMPANY AS FILED	STAFF ADJUSTMENTS	ADJ NO. STAFF AS ADJUSTED
1	Plant in Service	\$ 3,828,585	\$ (234,113)	1, 2, 3 \$ 3,594,472
2	Less: Accumulated Depreciation	(1,077,428)	75,002	4 (1,002,426)
3	Net Plant in Service	<u>\$ 2,751,157</u>	<u>\$ (159,111)</u>	<u>\$ 2,592,046</u>
<u>LESS:</u>				
4	Advances in Aid of Construction (AIAC)	\$ 372,323	\$ -	\$ 372,323
5	Service Line and Meter Advances (Meter Deposits)	\$ 19,641	\$ -	\$ 19,641
6	Contributions in Aid of Construction (CIAC)	\$ 333,555	\$ -	\$ 333,555
7	Less: Accumulated Amortization	(83,901)	-	(83,901)
8	Net CIAC	<u>\$ 249,654</u>	<u>\$ -</u>	<u>\$ 249,654</u>
9	Total Advances and Contributions	\$ 641,618	\$ -	\$ 641,618
10	Customer Deposits	\$ -	\$ 7,475	5 \$ 7,475
11	Accumulated Deferred Income Taxes	\$ -	\$ 31,307	6 \$ 31,307
<u>ADD:</u>				
12	Working Capital	\$ -	\$ -	\$ -
13		\$ -	\$ -	\$ -
14	Total Rate Base	<u>\$ 2,109,539</u>	<u>\$ (197,893)</u>	<u>\$ 1,911,646</u>

References:

Column [A], Company Schedule B-1, Page 1

Column [B]: Schedule CSB-4

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

Las Quintas Serenas Water Company
 Docket No. W-01583A-09-0589
 Test Year Ended June 30, 2009

SUMMARY OF RATE BASE ADJUSTMENTS

LINE NO.	Acct.	PLANT IN SERVICE	[A] COMPANY AS FILED	[B] Adj. No. 1 Retirement Plant	[C] Adj. No. 2 Debt Issuance Costs	[D] Adj. No. 3 Not Used & Useful Plant	[E] Adj. No. 4 Accumulated Depreciation	[F] Adj. No. 5 Customer Deposits	[F] Adj. No. 6	[G] STAFF AS ADJUSTED
1			\$ 217							\$ 217
2	303	Land and Land Rights	12,229							12,229
3	304	Structures and Improvements	309,094							309,094
5	307	Wells and Springs	-							-
6	309	Supply Mains	-							-
7	310	Power Generation Equipment	-							-
8	311	Pumping Equipment	151,338	(7,488)						143,850
9	320	Water Treatment Equipment	1,740							1,740
10	320.1	Water Treatment Plant	2,162,694		(185,625)					1,977,069
11	330	Distribution Reservoirs and Standpipes	99,896							99,896
12	331	Transmission and Distribution Mains	924,616			(41,000)				883,616
13	333	Services	2,427							2,427
14	334	Meters and Meter Installations	101,418							101,418
15	335	Hydrants	-							-
16	336	Backflow Prevention Devices	1,137							1,137
17	339	Other Plant and Miscellaneous Equipment	-							-
18	340	Office Furniture and Equipment	28,306							28,306
19	340.1	Computers and Software	-							-
20	341	Transportation Equipment	23,292							23,292
21	343	Tools, Shop, and Garage Equipment	-							-
22	344	Laboratory Equipment	-							-
23	345	Power Operated Equipment	2,592							2,592
24	346	Communication Equipment	-							-
25	347	Miscellaneous Equipment	3,165							3,165
26	348	Other Tangible Equipment	4,424							4,424
27		Total Plant in Service	\$ 3,828,585	\$ (7,488)	\$ (185,625)	\$ (41,000)	\$ -	\$ -	\$ -	\$ 3,594,472
31		Less: Accumulated Depreciation	\$ (1,077,428)	\$ -	\$ -	\$ -	\$ 75,002	\$ -	\$ -	\$ (1,002,426)
32		Net Plant in Service	\$ 2,751,157	\$ (7,488)	\$ (185,625)	\$ (41,000)	\$ 75,002	\$ -	\$ -	\$ 2,592,046
33										
34		LESS:								
35		Advances in Aid of Construction (AIAC)	\$ 372,323	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 372,323
36		Service Line and Meter Advances (Meter Deposits)	\$ 19,641	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19,641
38		Contributions in Aid of Construction (CIAC)	\$ 333,555	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 333,555
39		Less: Accumulated Amortization of CIAC	\$ (83,901)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (83,901)
40		Net CIAC	\$ 249,654	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 249,654
41										
42		Total Advances and Net Contributions	\$ 641,618	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 641,618
43										
44		Customer Deposits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,475	\$ -	\$ 7,475
45		Accumulated Deferred Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 31,307	\$ 31,307
46										
47		ADD:								
48		Working Capital Allowance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
49										
50		Total Rate Base	\$ 2,109,539	\$ (7,488)	\$ (185,625)	\$ (41,000)	\$ 75,002	\$ (7,475)	\$ (31,307)	\$ 1,911,646

RATE BASE ADJUSTMENT NO. 1 - PLANT RETIREMENT

		[A]	[B]	[C]
LINE NO.	DESCRIPTION	COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Pumping Equipment	\$ 151,338	\$ (7,488)	\$ 143,850

References:

Column [A]: Company Schedule B-2

Column [B]: Testimony, CSB; Company's Response to Data Request CSB 2.7

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

RATE BASE ADJUSTMENT NO. 2 - DEBT ISSUANCE COSTS

		[A]	[B]	[C]
LINE NO.	DESCRIPTION	COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Water Treatment Plant	\$ 1,977,069	\$ -	\$ 1,977,069
2	Debt Issuance Costs	185,625	(185,625)	-
3	Total Water Treatment Plant	\$ 2,162,694	\$ (185,625)	\$ 1,977,069

References:

Column [A]: Company Schedule B-2

Column [B]: Testimony, CSB; Data Request Response CSB 2.9

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

RATE BASE ADJUSTMENT NO. 3 - NOT USED AND USEFUL PLANT

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Transmission and Distribution Mains	\$ 924,616	\$ (41,000)	\$ 883,616

References:

Column [A]: Company Schedule B-2

Column [B]: Testimony, CSB

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

RATE BASE ADJUSTMENT NO. 4 - ACCUMULATED DEPRECIATION

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Accumulated Depreciation	\$ 1,077,428	\$ (75,002)	\$1,002,426

Column [A]: Company Schedule B-2

Column [B]: Testimony, CSB

Column [C]: Column [A] + Column [B]; Schedule CSB-8, Page 7

PLANT AND ACCUMULATED DEPRECIATION SCHEDULE

Plant	30-Sep-03 Original Cost	30-Sep-03 Accumulated Depreciation	Prior Depre Rate	Depr. Rates Effective on 4-Jan-05 (Dec. No. 67455)	2004		2004		2004 Total Cost	2004 Accumulated Depreciation
					Additions	2004 Retirements	Cost Removal	Depreciation		
301 Organization Cost	\$0	\$0	0%	0.00%	\$0	\$0	\$0	\$0	\$0	\$0
302 Franchise Cost	0	0	0%	0.00%	0	0	0	0	0	0
303 Land & Land Rights	217	0	0%	0.00%	0	0	0	217	0	0
304 Structures & Improv	6,599	3,110	5%	3.33%	0	0	\$330	6,599	3,440	0
305 Collecting & Impounding Res.	0	0	5%	2.50%	0	0	0	0	0	0
307 Wells & Springs	300,389	141,585	5%	3.33%	0	0	\$15,019	300,389	156,604	0
310 Power Generation Equip	0	0	5%	5.00%	0	0	0	0	0	0
311 Electric Pumping Equip	103,684	48,870	5%	12.50%	11,131	0	\$5,462	114,815	54,333	0
320 Water Treatment Equip	830	391	5%	3.33%	0	0	\$42	830	433	0
320.1 Water Treatment Equip	0	0	5%	3.33%	0	0	0	0	0	0
330 Dist. Resrvr & Stndpipe	94,798	44,682	5%	2.22%	1,546	0	\$4,779	96,344	49,461	0
331 Trans. & Distr. Mains	820,492	386,730	5%	2.00%	78,445	0	\$42,986	898,937	429,715	0
333 Services	2,427	1,144	5%	3.33%	0	0	\$121	2,427	1,265	0
334 Meters	100,611	47,422	5%	8.33%	0	0	\$5,031	100,611	52,452	0
335 Hydrants	0	0	5%	2.00%	0	0	0	0	0	0
336 Backflow Prevention Devices	1,137	536	5%	6.67%	0	0	\$57	1,137	593	0
339 Other Plant and Misc Equip	0	0	5%	6.67%	0	0	0	0	0	0
340 Office Furniture & Fixt	13,720	6,467	5%	6.67%	5,695	0	\$828	19,415	7,295	0
340.1 Computers and Software	0	0	5%	20.00%	0	0	0	0	0	0
341 Transportation Equip	9,000	4,242	5%	20.00%	0	0	\$450	9,000	4,692	0
343 Tools & Work Equip	0	0	5%	5.00%	0	0	0	0	0	0
345 Power Operated Equip	2,592	1,222	5%	5.00%	0	0	\$130	2,592	1,351	0
346 Communications Equip	0	0	5%	10.00%	0	0	0	0	0	0
347 Miscellaneous Equipment	0	0	5%	10.00%	2,746	0	\$69	2,746	69	0
348 Other Tangible Equipment	4,424	2,085	5%	10.00%	0	0	\$221	4,424	2,306	0
2003/2004 Totals	\$1,460,920	\$688,486			\$99,563	\$0	\$75,524	\$1,560,483	\$764,010	

PLANT AND ACCUMULATED DEPRECIATION SCHEDULE

	2005		2005 Retirements		Fully		2005		2005		2005	
	Additions	Cost	Cost Removal	Depreciation	Depreciated	Depr. Expense	Total Cost	Depreciation	Book Value			
301 Organization Cost	\$0		\$0		\$0	\$0	\$0	\$0	\$0			\$0
302 Franchise Cost	0		0		0	\$0	0	0	0			0
303 Land & Land Rights	0		0		0	\$0	217	0	217			0
304 Structures & Improv	5,630		0		0	\$313	12,229	3,754	8,475			0
305 Collecting & Impounding Res.	0		0		0	\$0	0	0	0			0
307 Wells & Springs	14,095		0		0	\$10,238	314,484	166,842	147,642			0
310 Power Generation Equip	0		0		0	\$0	0	0	0			0
311 Electric Pumping Equip	5,000		0		0	\$14,664	119,815	68,997	50,818			0
320 Water Treatment Equip	910		0		0	\$43	1,740	476	1,264			0
320.1 Water Treatment Equip	3,552		0		0	\$2,178	99,896	51,639	48,257			0
330 Dist. Reservr & Stndpipe	4,761		0		0	\$18,026	903,698	447,742	455,956			0
331 Trans. & Distr. Mains	0		0		0	\$81	2,427	1,346	1,081			0
333 Services	0		0		0	\$8,381	100,611	60,833	39,778			0
334 Meters	0		0		0	\$0	0	0	0			0
335 Hydrants	0		0		0	\$76	1,137	669	468			0
336 Backflow Prevention Devices	0		0		0	\$0	0	0	0			0
339 Other Plant and Misc Equip	0		0		0	\$1,402	22,617	8,697	13,920			0
340 Office Furniture & Fixt	3,202		0		0	\$0	0	0	0			0
340.1 Computers and Software	0		0		0	\$0	0	0	0			0
341 Transportation Equip	18,292		0		0	\$3,629	27,292	8,321	18,971			0
343 Tools & Work Equip	0		0		0	\$0	0	0	0			0
345 Power Operated Equip	0		0		0	\$130	2,592	1,481	1,111			0
346 Communications Equip	0		0		0	\$0	0	0	0			0
347 Miscellaneous Equipment	419		0		0	\$296	3,165	364	2,801			0
348 Other Tangible Equipment	0		0		0	\$442	4,424	2,749	1,675			0
2008 Totals	\$55,861		\$0		\$0	\$59,899	\$1,616,344	\$823,909	\$792,435			

PLANT AND ACCUMULATED DEPRECIATION SCHEDULE

2006 Additions Cost	2006 Retirements		Fully Depreciated	2006		2006 Total Cost	2006 Accumulated Depreciation	2006 Net Book Value
	Cost Removal	Depreciation		Depr. Expense	Depr. Expense			
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	217	217	0	217
0	0	0	0	407	12,229	12,229	4,161	8,068
0	0	0	0	0	0	0	0	0
0	0	0	0	10,472	314,484	314,484	177,314	137,170
0	0	0	0	0	0	0	0	0
0	0	0	0	14,977	119,815	119,815	83,974	35,841
0	0	0	0	58	1,740	1,740	533	1,207
0	0	0	0	0	0	0	0	0
0	0	0	0	2,218	99,896	99,896	53,856	46,040
0	0	0	0	18,074	903,698	903,698	465,816	437,882
0	0	0	0	81	2,427	2,427	1,427	1,000
808	0	0	0	8,415	101,419	101,419	69,248	32,171
0	0	0	0	0	0	0	0	0
0	0	0	0	76	1,137	1,137	744	393
0	0	0	0	0	0	0	0	0
0	0	0	0	1,509	22,617	22,617	10,205	12,412
0	0	0	0	0	0	0	0	0
0	0	0	0	5,458	27,292	27,292	13,780	13,512
0	0	0	0	0	0	0	0	0
0	0	0	0	130	2,592	2,592	1,611	981
0	0	0	0	0	0	0	0	0
0	0	0	0	317	3,165	3,165	681	2,484
0	0	0	0	442	4,424	4,424	3,191	1,233
\$808	\$0	\$0	\$0	\$62,633	\$1,617,152	\$1,617,152	\$886,542	\$730,610

2009 Totals

PLANT AND ACCUMULATED DEPRECIATION SCHEDULE

	2007		2007		2007		2007		2007	
	Additions Cost	Retirements Cost Removal	Depreciation	Fully Depreciated	2007 Depr. Expense	Total Cost	2007 Accumulated Depreciation	2007 Net Book Value		
301 Organization Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
302 Franchise Cost	0	0	0	0	\$0	0	0	0	0	0
303 Land & Land Rights	0	0	0	0	\$0	217	0	217	0	217
304 Structures & Improv	0	0	0	0	\$407	12,229	4,568	7,661	0	7,661
305 Collecting & Impounding Res.	0	0	0	0	\$0	0	0	0	0	0
307 Wells & Springs	0	0	0	0	\$10,472	314,484	187,787	126,697	0	126,697
310 Power Generation Equip	0	0	0	0	\$0	0	0	0	0	0
311 Electric Pumping Equip	0	0	0	0	\$14,977	119,815	98,951	20,864	0	20,864
320 Water Treatment Equip	0	0	0	0	\$58	1,740	591	1,149	0	1,149
320.1 Water Treatment Equip	0	0	0	0	\$0	0	0	0	0	0
330 Dist. Resrvr & Stndpipe	0	0	0	0	\$2,218	99,896	56,074	43,822	0	43,822
331 Trans. & Distr. Mains	0	0	0	0	\$18,074	903,698	483,890	419,808	0	419,808
333 Services	0	0	0	0	\$81	2,427	1,508	919	0	919
334 Meters	0	0	0	0	\$8,448	101,419	77,696	23,723	0	23,723
335 Hydrants	0	0	0	0	\$0	0	0	0	0	0
336 Backflow Prevention Devices	0	0	0	0	\$76	1,137	820	317	0	317
339 Other Plant and Misc Equip	0	0	0	0	\$0	0	0	0	0	0
340 Office Furniture & Fixt	3,865	0	0	0	\$1,637	26,482	11,843	14,639	0	14,639
340.1 Computers and Software	0	0	0	0	\$0	0	0	0	0	0
341 Transportation Equip	0	500	500	0	\$5,408	26,792	18,688	8,104	0	8,104
343 Tools & Work Equip	0	0	0	0	\$0	0	0	0	0	0
345 Power Operated Equip	0	0	0	0	\$130	2,592	1,740	852	0	852
346 Communications Equip	0	0	0	0	\$0	0	0	0	0	0
347 Miscellaneous Equipment	0	0	0	0	\$317	3,165	997	2,168	0	2,168
348 Other Tangible Equipment	0	0	0	0	\$442	4,424	3,634	790	0	790
2009 Totals	\$3,865	\$500	\$500	\$0	\$62,745	\$1,620,517	\$948,787	\$671,730		

PLANT AND ACCUMULATED DEPRECIATION SCHEDULE

	2008 Additions		2008 Retirements		Fully Depreciated	2008		2008 Total Cost	2008 Accumulated Depreciation	2008 Net Book Value
	Cost	Cost	Cost Removal	Depreciation		Depr. Expense	Depreciation			
301 Organization Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
302 Franchise Cost	0	0	0	0	0	0	0	0	0	0
303 Land & Land Rights	0	0	0	0	0	0	217	217	0	217
304 Structures & Improv	0	0	0	0	0	\$407	12,229	4,975	7,254	7,254
305 Collecting & Impounding Res.	0	0	0	0	0	0	0	0	0	0
307 Wells & Springs	0	5,390	5,390	0	0	\$10,383	309,094	192,779	116,315	116,315
310 Power Generation Equip	0	0	0	0	0	0	0	0	0	0
311 Electric Pumping Equip	0	7,488	7,488	0	0	\$14,509	112,327	105,972	6,355	6,355
320 Water Treatment Equip	0	0	0	0	0	\$58	1,740	649	1,091	1,091
320.1 Water Treatment Equip	0	0	0	0	0	0	0	0	0	0
330 Dist. Resrvr & Strndpipe	0	0	0	0	0	\$2,218	99,896	58,292	41,604	41,604
331 Trans. & Distr. Mains	20,918	0	0	0	0	\$18,283	924,916	502,173	422,443	422,443
333 Services	0	0	0	0	0	\$81	2,427	1,589	838	838
334 Meters	0	0	0	0	0	\$8,448	101,419	86,144	15,275	15,275
335 Hydrants	0	0	0	0	0	0	0	0	0	0
336 Backflow Prevention Devices	0	0	0	0	0	\$76	1,137	896	241	241
339 Other Plant and Misc Equip	0	0	0	0	0	0	0	0	0	0
340 Office Furniture & Fixt	303	0	0	0	0	\$1,776	26,785	13,619	13,166	13,166
340.1 Computers and Software	0	0	0	0	0	0	0	0	0	0
341 Transportation Equip	0	3,500	3,500	0	0	\$4,604	23,292	19,792	3,500	3,500
343 Tools & Work Equip	0	0	0	0	0	0	0	0	0	0
345 Power Operated Equip	0	0	0	0	0	\$130	2,592	1,870	722	722
346 Communications Equip	0	0	0	0	0	0	0	0	0	0
347 Miscellaneous Equipment	0	0	0	0	0	\$317	3,165	1,314	1,851	1,851
348 Other Tangible Equipment	0	0	0	0	0	\$442	4,424	4,076	348	348
2008 Totals	\$21,221	\$16,378	\$16,378	\$16,378	\$0	\$61,731	\$1,625,360	\$994,140	\$631,220	\$631,220

PLANT AND ACCUMULATED DEPRECIATION SCHEDULE

	2009		2009 Retirements		Fully		2009		2009		2009	
	Additions Cost	Cost Removal	Depreciation	Depreciated	Depreciated	Deprec. Expense	Total Cost	Depreciation	Book Value	2009	2009	2009
301 Organization Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
302 Franchise Cost	0	0	0	0	0	\$0	0	0	0	0	0	0
303 Land & Land Rights	0	0	0	0	0	\$0	217	0	217	0	217	0
304 Structures & Improv	0	0	0	0	0	\$204	12,229	5,179	7,050	0	7,050	0
305 Collecting & Impounding Res.	0	0	0	0	0	\$0	0	0	0	0	0	0
307 Wells & Springs	0	0	0	0	0	\$5,146	309,094	197,926	111,168	0	111,168	0
310 Power Generation Equip	0	0	0	0	0	\$0	0	0	0	0	0	0
311 Electric Pumping Equip	31,523	0	0	0	0	\$8,006	143,850	113,977	29,873	0	29,873	0
320 Water Treatment Equip	0	0	0	0	0	\$29	1,740	678	1,062	0	1,062	0
320.1 Water Treatment Equip	2,162,694	185,625	0	0	0	\$16,459	1,977,069	16,459	1,960,610	0	1,960,610	0
330 Dist. Resrvr & Stndpipe	0	0	0	0	0	\$1,109	99,896	59,401	40,495	0	40,495	0
331 Trans. & Distr. Mains	0	41,000	41,000	0	0	\$9,041	883,616	470,214	413,402	0	413,402	0
333 Services	0	0	0	0	0	\$40	2,427	1,629	798	0	798	0
334 Meters	0	0	0	0	0	\$4,224	101,419	90,368	11,051	0	11,051	0
335 Hydrants	0	0	0	0	0	\$0	0	0	0	0	0	0
336 Backflow Prevention Devices	0	0	0	0	0	\$38	1,137	934	203	0	203	0
339 Other Plant and Misc Equip	0	0	0	0	0	\$0	0	0	0	0	0	0
340 Office Furniture & Fixt	1,520	0	0	0	0	\$919	28,305	14,538	13,767	0	13,767	0
340.1 Computers and Software	0	0	0	0	0	\$0	0	0	0	0	0	0
341 Transportation Equip	0	0	0	0	0	\$3,500	23,292	23,292	(0)	0	(0)	0
343 Tools & Work Equip	0	0	0	0	0	\$0	0	0	0	0	0	0
345 Power Operated Equip	0	0	0	0	0	\$65	2,592	1,935	657	0	657	0
346 Communications Equip	0	0	0	0	0	\$0	0	0	0	0	0	0
347 Miscellaneous Equipment	0	0	0	0	0	\$158	3,165	1,472	1,693	0	1,693	0
348 Other Tangible Equipment	0	0	0	0	0	\$348	4,424	4,424	(0)	0	(0)	0
2009 Totals	\$2,195,737	\$226,625	\$41,000	\$0	\$0	\$49,286	\$3,594,472	\$1,002,426	\$2,592,046			

RATE BASE ADJUSTMENT NO. 5 - CUSTOMER DEPOSITS

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Customer Deposits	\$ -	\$ 7,475	\$ 7,475

References:

- Column A: Company Schedule B-2
- Column B: Testimony, CSB; Data Request Response CSB 2.11
- Column C: Column [A] + Column [B]

RATE BASE ADJUSTMENT NO. 6 - ACCUMULATED DEFERRED INCOME TAXES

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		PER COMPANY	ADJUSTMENT	PER STAFF
1	Federal Taxes			
2	Tax Value of Fixed Assets	\$ 1,674,957	\$ -	\$ 1,674,957
3	Less: Book Value Fixed Asset Value (From Line 22)	1,872,065	185,625	2,057,690
4	Subtotal	\$ (197,108)	\$ (185,625)	\$ (382,733)
5	Multiplied by federal tax rate	24.5180%	24.52%	24.5180%
6	Noncurrent Future Tax Asset/(Liability)	(48,327)	(45,512)	(93,838)
7				
8	State Taxes			
9	Tax Value of Fixed Assets	\$ 2,450,374	\$ -	\$ 2,450,374
10	Less: Book Value Fixed Asset Value (From Line 22)	1,872,065	185,625	2,057,690
11	Subtotal	\$ 578,309	\$ (185,625)	\$ 392,684
12	Multiplied by state tax rate	6.9681%	6.9681%	6.9681%
13	Noncurrent Future Tax Asset/(Liability)	40,297	(12,935)	27,363
14				
15	AIAC			
16	Tax Value of AIAC	\$ -	\$ -	\$ -
17	Less: Book Value of AIAC	(372,323)	-	(372,323)
18	Subtotal	\$ 372,323	\$ -	\$ 372,323
19	Multiplied by Probability of Realization of Future Benefit	30.0%	30.0%	30.0%
20	Subtotal	111,697	-	111,697
21	Multiplied by combined federal and state tax rate	31.4861%	31.4861%	31.4861%
22	Noncurrent Future Tax Asset/(Liability)	\$ 35,169	\$ -	\$ 35,169
23				
24				
25	Operating Loss Carry Forward			
26	Tax Value of Fixed Assets	\$ -	\$ -	\$ -
27	Less: Book Value Fixed Asset Value (From Line 22)	(518,518)	518,518	-
28	Subtotal	\$ 518,518	\$ (518,518)	\$ -
29	Multiplied by state tax rate	24.5178%	24.5178%	24.5178%
30	Noncurrent Future Tax Asset/(Liability)	\$ 127,129	\$ (127,129)	\$ -
31				
32				
33	Net Asset/(Liability)	\$ 154,268	\$ (185,575)	\$ (31,307)
34	ADIT Per Company's Direct Testimony			\$ -
35	Staff's Adjustment			\$ (31,307)

References:

- Column A: Company Response to Data Request Response CSB 2.9
- Column B: Testimony, CSB, Company Data Request Responses CSB 2.9
- 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 Sales	\$ 481,492	\$ -		\$ 481,492	\$ 160,064	\$ 641,556
2	Water Sales - Unmetered	-	-		-	-	-
3	Other Operating Revenues	6,778	-		6,778	-	6,778
4	Total Revenues	\$ 488,270	\$ -		\$ 488,270	\$ 160,064	\$ 648,334
EXPENSES:							
7	Salaries and Wages	\$ 150,775	\$ -		\$ 150,775	\$ -	\$ 150,775
8	Purchased Water	-	-		-	-	-
9	Purchased Power	74,502	-		74,502	-	74,502
10	Fuel for Power Production	4,217	-		4,217	-	4,217
11	Chemicals	765	-		765	-	765
12	Materials & Supplies	21,840	-		21,840	-	21,840
13	Outside Services	-	-		-	-	-
14	Outside Services- Legal	-	-		-	-	-
15	Outside Services- Other	6,568	-		6,568	-	6,568
16	Water Testing	7,408	(3,161)	1	4,247	-	4,247
17	Equipment Rental	-	-		-	-	-
18	Rents	11,874	-		11,874	-	11,874
19	Transportation Expenses	7,012	-		7,012	-	7,012
20	Insurance - General Liability	2,825	-		2,825	-	2,825
21	Insurance - Health and Life	-	-		-	-	-
22	Reg. Comm. Exp.	-	-		-	-	-
23	Reg. Comm. Exp. - Rate Case	26,667	(6,667)	2	20,000	-	20,000
24	Miscellaneous Expense	6,177	-		6,177	-	6,177
25	Bad Debt Expense	31	-		31	-	31
26	Depreciation Expense	117,586	6,714	3	124,300	-	124,300
27	Taxes Other Than Income	-	-		-	-	-
28	Property Taxes	26,078	(3,249)	4	22,829	2,555	25,384
29	Income Taxes	(23,603)	10,030	5	(13,574)	38,901	25,327
31							
32	Total Operating Expenses	\$ 440,721	\$ 3,667		\$ 444,387	\$ 41,457	\$ 485,844
33							
34	Operating Income (Loss)	\$ 47,550	\$ (3,667)		\$ 43,883	\$ 118,607	\$ 162,490

References:

Column (A): Company Schedule C-1, Page 2
Column (B): Schedule CSB-12
Column (C): Column (A) + Column (B)
Column (D): Schedules CSB-1 and CSB-2
Column (E): Column (C) + Column (D)

Las Quintas Serenas Water Company
 Docket No. W-01583A-09-0589
 Test Year Ended June 30, 2009

SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR

LINE NO.	DESCRIPTION	[A]	[B]	[C]	[D]	[E]	[F]	[G]
		COMPANY AS FILED	ADJ #1 Water Testing Expense	ADJ #2 Rate Case Expense	ADJ #3 Depreciation Expense	ADJ #4 Property Taxes	ADJ #5 Income Taxes	STAFF ADJUSTED
		Ref. Sch CSB-13	Ref. Sch CSB-14	Ref. Sch CSB-15	Ref. Sch CSB-16	Ref. Sch CSB-17		
1	REVENUES:							
2	Metered Water Sales	\$ 481,492	-	-	-	-	-	\$ 481,492
3	Water Sales - Unmetered	-	-	-	-	-	-	-
4	Other Operating Revenues	-	-	-	-	-	-	-
5	Total Revenues	\$ 481,492	-	-	-	-	-	\$ 481,492
6	OPERATING EXPENSES:							
7	Salaries and Wages	\$ 150,775	-	-	-	-	-	\$ 150,775
8	Purchased Water	-	-	-	-	-	-	-
9	Purchased Power	74,502	-	-	-	-	-	74,502
10	Fuel for Power Production	4,217	-	-	-	-	-	4,217
11	Chemicals	765	-	-	-	-	-	765
12	Materials & Supplies	21,840	-	-	-	-	-	21,840
13	Outside Services	-	-	-	-	-	-	-
14	Outside Services- Legal	-	-	-	-	-	-	-
15	Outside Services- Other	6,568	-	-	-	-	-	6,568
16	Water Testing	7,408	(3,161)	-	-	-	-	4,247
17	Equipment Rental	-	-	-	-	-	-	-
18	Rents	11,874	-	-	-	-	-	11,874
19	Transportation Expenses	7,012	-	-	-	-	-	7,012
20	Insurance - General Liability	2,825	-	-	-	-	-	2,825
21	Insurance - Health and Life	-	-	-	-	-	-	-
22	Reg. Comm. Exp.	-	-	-	-	-	-	-
23	Reg. Comm. Exp. - Rate Case	26,667	-	(6,667)	-	-	-	20,000
24	Miscellaneous Expense	6,177	-	-	-	-	-	6,177
25	Bad Debt Expense	31	-	-	-	-	-	31
26	Depreciation Expense	117,586	-	-	6,714	-	-	124,300
27	Taxes Other Than Income	-	-	-	-	-	-	-
28	Property Taxes	26,078	-	-	-	(3,249)	-	22,829
29	Income Taxes	(23,603)	-	-	-	-	10,030	(13,574)
31								
32	Total Operating Expenses	\$ 440,721	(3,161)	(6,667)	6,714	(3,249)	10,030	\$ 444,387
33								
34	Operating Income (Loss)	\$ 47,550	\$ 3,161	\$ 6,667	\$ (6,714)	\$ 3,249	\$ (10,030)	\$ 43,883

OPERATING INCOME ADJUSTMENT NO. 1 - WATER TESTING EXPENSE

LINE NO.	Description	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Water Testing Expense	\$ 7,408	\$ (3,161)	\$ 4,247

References:

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

OPERATING INCOME ADJUSTMENT NO. 2 - RATE CASE EXPENSE

LINE NO.	Description	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Rate Case Expense	\$ 26,667	\$ (6,667)	\$ 20,000

	Per Company	Difference	Per Staff
	\$ 80,000	\$ -	\$ 80,000
Divided by	3	1	4
	26,667	(6,667)	20,000

References:

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

OPERATING INCOME ADJUSTMENT NO. 3 - DEPRECIATION EXPENSE ON TEST YEAR PLANT

LINE NO.	DESCRIPTION	[A]	[B]	[C]	[D]	[E]
		PLANT In SERVICE Per Staff	NonDepreciable or Fully Depreciated PLANT	DEPRECIABLE PLANT (Col A - Col B)	DEPRECIATION RATE	DEPRECIATION EXPENSE (Col C x Col D)
1	303 Land and Land Rights	\$ 217	\$ 217	\$ -	0.00%	\$ -
	304 Structures and Improvements	12,229	-	12,229	3.33%	407
2	307 Wells and Springs	309,094	-	309,094	3.33%	10,293
3	309 Supply Mains	-	-	-	2.50%	-
4	310 Power Generation Equipment	-	-	-	3.33%	-
5	311 Pumping Equipment	143,850	-	143,850	12.50%	17,981
6	320 Water Treatment Equipment	1,740	-	1,740	3.33%	58
7	320.1 Water Treatment Plant	1,977,069	-	1,977,069	3.33%	65,836
8	330 Distribution Reservoirs and Standpipes	99,896	-	99,896	2.22%	2,218
9	331 Transmission and Distribution Mains	883,616	-	883,616	3.33%	29,424
10	333 Services	2,427	-	2,427	2.00%	49
11	334 Meters and Meter Installations	101,418	-	101,418	8.33%	8,448
12	335 Hydrants	-	-	-	2.00%	-
13	336 Backflow Prevention Devices	1,137	-	1,137	6.67%	76
14	339 Other Plant and Miscellaneous Equipment	-	-	-	6.67%	-
15	340 Office Furniture and Equipment	28,306	-	28,306	6.67%	1,888
16	340.1 Computers and Software	-	-	-	20.00%	-
17	341 Transportation Equipment	23,292	23,292	-	20.00%	-
18	343 Tools, Shop, and Garage Equipment	-	-	-	5.00%	-
19	344 Laboratory Equipment	-	-	-	10.00%	-
20	345 Power Operated Equipment	2,592	-	2,592	5.00%	130
21	346 Communication Equipment	-	-	-	10.00%	-
22	347 Miscellaneous Equipment	3,165	-	3,165	10.00%	317
23	348 Other Tangible Equipment	4,424	4,424	-	10.00%	-
24	Total Plant	\$ 3,594,472	\$ 27,933	\$ 3,566,539		\$ 137,124

25
29
30
31
32
33
34

Composite Depreciation Rate (Depr Exp / Depreciable Plant):	3.84%
CIAC:	\$ 333,555
Amortization of CIAC (Line 32 x Line 33):	\$ 12,824
Depreciation Expense Before Amortization of CIAC:	\$ 137,124
Less Amortization of CIAC:	\$ 12,824
Test Year Depreciation Expense - Staff:	\$ 124,300
Depreciation Expense - Company:	117,586
Staff's Total Adjustment:	\$ 6,714

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. 4 - PROPERTY TAX EXPENSE

LINE NO.	Property Tax Calculation	[A] STAFF AS ADJUSTED	[B] STAFF RECOMMENDED
1	Staff Adjusted Test Year Revenues	\$ 488,270	\$ 488,270
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	976,541	\$ 976,541
4	Staff Recommended Revenue, Per Schedule CSB-1	488,270	648,334
5	Subtotal (Line 4 + Line 5)	1,464,811	1,624,874
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	488,270	\$ 541,625
8	Department of Revenue Mutilplier	2	2
9	Revenue Base Value (Line 7 * Line 8)	976,541	\$ 1,083,250
10	Plus: 10% of CWIP -	-	-
11	Less: Net Book Value of Licensed Vehicles	23,292	\$ 23,292
12	Full Cash Value (Line 9 + Line 10 - Line 11)	953,249	\$ 1,059,958
13	Assessment Ratio	21.0%	21.0%
14	Assessment Value (Line 12 * Line 13)	200,182	\$ 222,591
15	Composite Property Tax Rate	11.4039%	11.4039%
			\$ -
16	Staff Test Year Adjusted Property Tax (Line 14 * Line 15)	\$ 22,829	
17	Company Proposed Property Tax	26,078	
18	Staff Test Year Adjustment (Line 16-Line 17)	<u>\$ (3,249)</u>	
19	Property Tax - Staff Recommended Revenue (Line 14 * Line 15)		\$ 25,384
20	Staff Test Year Adjusted Property Tax Expense (Line 16)		\$ 22,829
21	Increase in Property Tax Expense Due to Increase in Revenue Requirement		<u>\$ 2,555</u>
22	Increase to Property Tax Expense		\$ 2,555
23	Increase in Revenue Requirement		160,064
24	Increase to Property Tax per Dollar Increase in Revenue (Line19/Line 20)		1.596546%

OPERATING INCOME ADJUSTMENT NO. 5 - TEST YEAR INCOME TAXES

LINE NO.	DESCRIPTION	(A)	(B)
	<i>Calculation of Income Tax:</i>		
		<u>Test Year</u>	
1	Revenue	\$ 488,270	
2	Less: Operating Expenses - Excluding Income Taxes	\$ 457,961	
3	Less: Synchronized Interest (L17)	\$ 91,759	
4	Arizona Taxable Income (L1- L2 - L3)	\$ (61,450)	
5	Arizona State Income Tax Rate	6.968%	
6	Arizona Income Tax (L4 x L5)		\$ (4,282)
7	Federal Taxable Income (L4 - L6)	\$ (57,168)	
8	Federal Tax on First Income Bracket (\$1 - \$50,000) @ 15%	\$ (7,500)	
9	Federal Tax on Second Income Bracket (\$51,001 - \$75,000) @ 25%	\$ (1,792)	
10	Federal Tax on Third Income Bracket (\$75,001 - \$100,000) @ 34%	\$ -	
11	Federal Tax on Fourth Income Bracket (\$100,001 - \$335,000) @ 39%	\$ -	
12	Federal Tax on Fifth Income Bracket (\$335,001 - \$10,000,000) @ 34%	\$ -	
13	Total Federal Income Tax		\$ (9,292)
14	Combined Federal and State Income Tax (L6 + L13)		<u>\$ (13,574)</u>
	<i>Calculation of Interest Synchronization:</i>		
15	Rate Base	\$ 1,911,646	
16	Weighted Average Cost of Debt	4.80%	
17	Synchronized Interest (L16 x L17)	<u>\$ 91,759</u>	
18		Income Tax - Per Staff \$ (13,574)	
19		Income Tax - Per Company \$ (23,603)	
20		Staff Adjustment \$ 10,030	

Monthly Minimum Charge	Present*	Company Proposed	Staff Recommended
<u>Meter Size (All Classes):</u>			
5/8 Inch x 3/4 Inch	\$ 10.00	\$ 20.00	\$ 20.00
3/4 Inch	22.50	30.00	30.00
1 Inch	25.00	50.00	50.00
1 1/2 Inch	55.00	100.00	100.00
2 Inch	70.00	160.00	160.00
3 Inch	125.00	320.00	320.00
4 Inch	225.00	500.00	500.00
6 Inch	350.00	1,000.00	1,000.00
8 Inch	-	-	1,600.00

Gallons In Minimum

*Does not include arsenic remedial surcharge listed on Schedule CSB-18, page 5.

Standpipe	\$ 10.10	\$ 20.20	\$ 20.20
-----------	----------	----------	----------

Fire Sprinkler Connection

Fire Sprinkler - less than 6 inches (See Notes 1 and 2)	10.00	10.00	N/A
Fire Sprinkler - larger than 6 inches (See Notes 1 and 2)	15.00	15.00	N/A
Fire Sprinkler - less than 6 inches (See Notes 1 and 3)	10.00	N/A	Note 3
Fire Sprinkler - larger than 6 inches (See Notes 1 and 3)	15.00	N/A	Note 3

Note 1 - Present Rates are 1% of monthly minimum for comparable sized meters, but not less than \$5.00 per month
Note 2 - Proposed rates are 2% of monthly minimum for comparable sized meters, but not less than \$15 per month.
Note 3 - Staff's recommended monthly charges are 2% of the monthly minimum for an equivalent sized meter or \$10, whichever is greater, for all meter sizes.

**Commodity Rates
(Residential, Commercial, Industrial)**

5/8" x 3/4" Meter

0 gallons to 4,000 gallons	\$ 0.9500	N/A	N/A
4,001 gallons to 23,000 gallons	1.1500	N/A	N/A
over 23,000 gallons	1.3500	N/A	N/A

0 gallons to 4,000 gallons	\$ 0.9500	\$ 1.9000	\$ 1.1000
4,001 to 10,000 gallons	N/A	2.4000	2.1000
over 10,000 gallons	N/A	3.0000	3.1930

3/4" Meter

0 gallons to 4,000 gallons	\$ 0.9500	N/A	N/A
4,001 gallons to 23,000 gallons	1.1500	N/A	N/A
over 23,000 gallons	1.3500	N/A	N/A

0 gallons to 4,000 gallons	N/A	\$ 1.9000	\$ 1.1000
4,001 to 10,000 gallons	N/A	2.4000	2.1000
over 10,000 gallons	N/A	3.0000	3.1930

1" Meter

0 gallons to 40,000 gallons	\$ 1.1500	N/A	N/A
over 40,000 gallons	1.3500	N/A	N/A

0 gallons to 25,000 gallons	N/A	\$ 2.4000	N/A
over 25,000 gallons	N/A	3.0000	N/A

First 27,000 gallons	N/A	N/A	2.1000
Over 27,000 gallons	N/A	N/A	3.1930

Present	Company Proposed	Staff Recommended
---------	------------------	-------------------

Commodity Charge - Per Thousand Gallons Continued

1 1/2" Meter

0 gallons to 100,000 gallons	\$ 1.1500	N/A	N/A
over 100,000 gallons	1.3500	N/A	N/A

0 gallons to 50,000 gallons	N/A	2.4000	N/A
over 50,000 gallons	N/A	3.0000	N/A

First 70,000 gallons	N/A	1.4500	2.1000
Over 70,000 gallons	N/A	1.9000	3.1930

2" Meter (All Classes Except Standpipe)

0 gallons to 150,000 gallons	1.1500	1.4500	N/A
over 150,000 gallons	1.3500	1.9000	N/A

0 gallons to 80,000 gallons	N/A	2.4000	N/A
over 80,000 gallons	N/A	3.0000	N/A

First 122,000 gallons	N/A	N/A	2.1000
Over 122,000 gallons	N/A	N/A	3.1930

3" Meter (All Classes Except Standpipe)

No Tariff	N/T	N/A	N/A
No Tariff	N/T	N/A	N/A

0 gallons to 160,000 gallons	N/A	2.4000	N/A
over 160,000 gallons	N/A	3.0000	N/A

First 262,000 gallons	N/A	N/A	2.1000
Over 262,000 gallons	N/A	N/A	3.1930

4" Meter (All Classes Except Standpipe)

0 gallons to 400,000 gallons	1.1500	1.4500	N/A
over 400,000 gallons	1.3500	1.9000	N/A

0 gallons to 250,000 gallons	N/A	2.4000	N/A
over 250,000 gallons	N/A	3.0000	N/A

First 423,000 gallons	N/A	N/A	2.1000
Over 423,000 gallons	N/A	N/A	3.1930

6" Meter (All Classes Except Standpipe)

0 gallons to 400,000 gallons	1.1500	1.4500	N/A
over 400,000 gallons	1.3500	1.9000	N/A

0 gallons to 500,000 gallons	N/A	2.4000	N/A
over 500,000 gallons	N/A	3.0000	N/A

First 873,000 gallons	N/A	N/A	2.1000
Over 873,000 gallons	N/A	N/A	3.1930

8" Meter (All Classes Except Standpipe)

No Tariff	N/T	N/A	N/A
No Tariff	N/T	N/A	N/A

No Tariff	N/T	N/A	N/A
No Tariff	N/T	N/A	N/A

First 1,414,000 gallons	N/A	N/A	2.1000
Over 1,414,000 gallons	N/A	N/A	3.1930

	Present	Company Proposed	Staff Recommended
Miscellaneous Charges			
Establishment	\$ 20.00	\$ 20.00	\$ 20.00
Establishment (After Hours)	\$ 30.00	\$ 30.00	\$ 30.00
Reconnection (Delinquent)	\$ 20.00	\$ 20.00	\$ 20.00
Reconnection (Delinquent and After Hours)	\$ 30.00	\$ 30.00	\$ 30.00
Meter Test (If meter reading correctly)	\$ 25.00	\$ 25.00	\$ 25.00
Deposit	*	*	*
Deposit Interest	*	*	*
Re-Establishment (With-in 12 Months)	**	**	**
NSF Check	\$ 15.00	\$ 15.00	\$ 15.00
Deferred Payment, Per Month	N/T	1.50%	1.50%
Meter Re-Read (if correct)	\$ 15.00	\$ 15.00	\$ 15.00
After hours service charge, per Rule R14-2-403D	N/T	Cost	Cost
Late Charge per month (per R-14-2-409G(6))	1.50%	1.50%	1.50%
Stanpipe Charges			
Original Key Deposit	\$ 30.00	\$ 30.00	\$ 30.00
Additional Set	\$ 5.00	\$ 5.00	\$ 5.00
Offsite Facilities Hook-Up Fee	\$ 250.00	See CSB-18, p. 5	\$ 250.00
Arsenic Impact Hook-Up Fee	See CSB-18, p. 5	NT	See CSB-18, p. 5

* PER COMMISSION RULE (R14-2-403.B)

** Months off system times the minimum. PER COMMISSION RULE (R14-2-403.D)

N/T = No tariff.

IN ADDITION TO THE COLLECTION OF REGULAR RATES, THE UTILITY WILL COLLECT FROM ITS CUSTOMERS A PROPORTIONATE SHARE OF ANY PRIVILEGE, SALES, USE, AND FRANCHISE TAX. PER COMMISSION RULE (14-2-409.D 5).

ALL ADVANCES AND/OR CONTRIBUTIONS ARE TO INCLUDE LABOR, MATERIALS, OVERHEADS, AND ALL APPLICABLE TAXES.

Service and Meter Installation Charges

	Total Present Charge	Company Proposed Service Line Charge	Company Proposed Meter Installation Charge	Total Company Proposed Charge*
5/8 x 3/4 Inch	\$ 150	\$ 445	\$ 155	\$ 600
3/4 Inch	NT	\$ 445	\$ 255	\$ 700
1 Inch	\$ 225	\$ 495	\$ 315	\$ 810
1 1/2 Inch	\$ 475	\$ 550	\$ 525	\$ 1,075
2 Inch	\$ 625	N/A	N/A	N/A
2 Inch / Turbine	NT	\$ 830	\$ 1,045	\$ 1,875
2 Inch / Compound	NT	\$ 830	\$ 1,890	\$ 2,720
3 Inch	\$ 850	N/A	N/A	N/A
3 Inch / Turbine	NT	\$ 1,045	\$ 1,670	\$ 2,715
3 Inch / Compound	NT	\$ 1,165	\$ 2,545	\$ 3,710
4 Inch	\$ 1,800	N/A	N/A	N/A
4 Inch / Turbine	NT	\$ 1,490	\$ 3,670	\$ 5,160
4 Inch / Compound	NT	\$ 1,670	\$ 3,645	\$ 5,315
6 Inch	\$ 3,000	N/A	N/A	N/A
6 Inch / Turbine	NT	\$ 2,210	\$ 5,025	\$ 7,235
6 Inch / Compound	NT	\$ 2,330	\$ 6,920	\$ 9,250
8 Inch	NT	At Cost	At Cost	At Cost

	Total Present Charge	Staff Recommended Service Line Charge**	Staff Recommended Meter Installation Charge	Total Staff Recommended Charge
5/8 x 3/4 Inch	\$ 150	\$ 445	\$ 155	\$ 600
3/4 Inch	NT	\$ 445	\$ 255	\$ 700
1 Inch	\$ 225	\$ 495	\$ 315	\$ 810
1 1/2 Inch	\$ 475	\$ 550	\$ 525	\$ 1,075
2 Inch	\$ 625	N/A	N/A	N/A
2 Inch / Turbine	NT	\$ 830	\$ 1,045	\$ 1,875
2 Inch / Compound	NT	\$ 830	\$ 1,890	\$ 2,720
3 Inch	\$ 850	N/A	N/A	N/A
3 Inch / Turbine	NT	\$ 1,045	\$ 1,670	\$ 2,715
3 Inch / Compound	NT	\$ 1,165	\$ 2,545	\$ 3,710
4 Inch	\$ 1,800	N/A	N/A	N/A
4 Inch / Turbine	NT	\$ 1,490	\$ 2,670	\$ 4,160
4 Inch / Compound	NT	\$ 1,670	\$ 3,645	\$ 5,315
6 Inch	\$ 3,000	N/A	N/A	N/A
6 Inch / Turbine	NT	\$ 2,210	\$ 5,025	\$ 7,235
6 Inch / Compound	NT	\$ 2,330	\$ 6,920	\$ 9,250
8 Inch	NT	At Cost	At Cost	At Cost

NT = No Tariff

Arsenic Remedial Surcharge

5/8 x 3/4 Inch
3/4 Inch
1 Inch
1 1/2 Inch
2 Inch
3 Inch
4 Inch
6 Inch

Standpipe

	Present	Company Proposed	Staff Recommended*
	\$ 11.37	\$ -	\$ -
	17.05	-	-
	28.42	-	-
	56.84	-	-
	90.94	-	-
	170.52	-	-
	284.20	-	-
	568.40	-	-
	11.37	-	-

* Staff recommends discontinuance of the surcharge.

Arsenic Impact Hook-up Fee

5/8 x 3/4 Inch
3/4 Inch
1 Inch
1 1/2 Inch
2 Inch
3 Inch
4 Inch
6 Inch

	Present	Company Proposed	Staff Recommended
	\$ 1,135	\$ -	\$ 1,135
	1,703	-	1,703
	2,838	-	2,838
	5,675	-	5,675
	9,080	-	9,080
	18,160	-	18,160
	28,375	-	28,375
	56,750	-	56,750

Off-site Facilities Hook-up Fee

5/8 x 3/4 Inch
3/4 Inch
1 Inch
1 1/2 Inch
2 Inch
3 Inch
4 Inch
6 Inch or larger

	Present	Company Proposed	Staff Recommended
	\$ 250	\$ 1,135	\$ 250
	250	1,703	250
	250	2,838	250
	250	5,675	250
	250	9,080	250
	250	18,160	250
	250	28,375	250
	250	56,750	250

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

Company Proposed	Gallons	Present Rates*	Proposed Rates	Dollar Increase	Percent Increase
Average Usage	10,768	32.95	44.30	\$ 11.35	34.45%
Median Usage	8,500	30.35	38.40	\$ 8.06	26.54%
Staff Recommended					
Average Usage	10,768	\$ 32.95	39.45	\$ 6.50	19.72%
Median Usage	8,500	30.35	33.85	\$ 3.51	11.55%

**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
-	\$ 21.37	\$ 20.00	-6.41%	\$ 20.00	-6.41%
1,000	22.32	21.90	-1.88%	21.10	-5.47%
2,000	23.27	23.80	2.28%	22.20	-4.60%
3,000	24.22	25.70	6.11%	23.30	-3.80%
4,000	25.17	27.60	9.65%	24.40	-3.06%
5,000	26.32	30.00	13.98%	26.50	0.68%
6,000	27.47	32.40	17.95%	28.60	4.11%
7,000	28.62	34.80	21.59%	30.70	7.27%
8,000	29.77	37.20	24.96%	32.80	10.18%
9,000	30.92	39.60	28.07%	34.90	12.87%
10,000	32.07	42.00	30.96%	37.00	15.37%
11,000	33.22	45.00	35.46%	40.19	20.99%
12,000	34.37	48.00	39.66%	43.39	26.23%
13,000	35.52	51.00	43.58%	46.58	31.13%
14,000	36.67	54.00	47.26%	49.77	35.73%
15,000	37.82	57.00	50.71%	52.97	40.04%
16,000	38.97	60.00	53.96%	56.16	44.11%
17,000	40.12	63.00	57.03%	59.35	47.93%
18,000	41.27	66.00	59.92%	62.54	51.55%
19,000	42.42	69.00	62.66%	65.74	54.97%
20,000	43.57	72.00	65.25%	68.93	58.21%
25,000	49.72	87.00	74.98%	84.90	70.75%
30,000	56.47	102.00	80.63%	100.86	78.61%
35,000	63.22	117.00	85.07%	116.83	84.79%
40,000	69.97	132.00	88.65%	132.79	89.78%
45,000	76.72	147.00	91.61%	148.76	93.89%
50,000	83.47	162.00	94.08%	164.72	97.34%
75,000	117.22	237.00	102.18%	244.55	108.62%
100,000	150.97	312.00	106.66%	324.37	114.86%

*Includes arsenic impact fee of \$11.37

BEFORE THE ARIZONA CORPORATION COMMISSION

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

IN THE MATTER OF THE APPLICATION OF)
LAS QUINTAS SERENAS WATER CO.,)
AN ARIZONA CORPORATION, FOR (i) A)
DETERMINATION OF THE FAIR VALUE)
OF ITS UTILITY PLANTS AND PROPERTY)
AND (ii) AN INCREASE IN ITS WATER RATES)
AND CHARGES FOR UTILITY SERVICE)
BASED THEREON.)

DOCKET NO. W-01583A-09-0589

DIRECT

TESTIMONY

OF

JUAN C. MANRIQUE

PUBLIC UTILITIES ANALYST I

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

AUGUST 9, 2010

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
Summary of Testimony and Recommendations	2
LQS's Proposed Overall Rate of Return.....	3
II. THE WEIGHTED AVERAGE COST OF CAPITAL.....	3
III. CAPITAL STRUCTURE	5
Background.....	5
LQS's Capital Structure.....	6
Staff's Capital Structure	6
IV. RETURN ON EQUITY.....	7
Background.....	7
Risk.....	10
V. ESTIMATING THE COST OF EQUITY	13
Introduction	13
Discounted Cash Flow Model Analysis.....	14
The Constant-Growth DCF.....	14
The Multi-Stage DCF	24
Capital Asset Pricing Model.....	25
VI. SUMMARY OF STAFF'S COST OF EQUITY ANALYSIS	30
VII. FINAL COST OF EQUITY ESTIMATES FOR LQS.....	32
VIII. COST OF DEBT	34
IX. RATE OF RETURN RECOMMENDATION	34
X. STAFF RESPONSE TO APPLICANT'S COST OF CAPITAL WITNESS MR. THOMAS J. BOURASSA	35
Constant-Growth DCF.....	35
Firm-Specific Risk.....	41
XI. CONCLUSION.....	43

SCHEDULES

Capital Structure and Weighted Cost of Capital.....	JCM-1
Intentionally Left Blank.....	JCM-2
Final Cost of Equity Estimates for Sample Water Utilities	JCM -3
Average Capital Structure of Sample Water Utilities.....	JCM -4
Growth in Earnings & Dividends of Sample Water Utilities	JCM -5

Sustainable Growth for Sample Water Utilities.....	JCM -6
Selected Financial Data of Sample Water Utilities.....	JCM -7
Calculation of Expected Infinite Annual Growth in Dividends.....	JCM -8
Multi-Stage DCF Estimates	JCM -9
Interest Rate Calculation Including Debt Issuance Costs.....	JCM-10

EXECUTIVE SUMMARY
LAS QUINTAS SERENAS WATER COMPANY
DOCKET NO. W-01583A-09-0589

The Direct Testimony of Staff witness Juan C. Manrique addresses the following issues:

Capital Structure – Staff recommends that the Commission adopt a hypothetical capital structure for Las Quintas Serenas Water Company (“Applicant”) for this proceeding consisting of 60.0 percent debt and 40.0 percent equity. The Applicant’s actual capital structure consists of 67.9 percent debt and 32.1 percent equity.

Cost of Equity – Staff recommends that the Commission adopt a 10.6 percent return on equity (“ROE”) for the Applicant. Staff’s estimated ROE for the Applicant is based on cost of equity estimates for the sample companies ranging from 9.8 percent for the discounted cash flow method (“DCF”) to 11.3 percent for the capital asset pricing model (“CAPM”).

Cost of Debt – Staff recommends that the Commission adopt a 7.1 percent cost of debt. This recognizes debt issuance costs as interest expense in accordance with the National Association of Regulatory Commissioners Uniform System of Accounts as opposed to the Applicant’s proposal to include debt issuance costs and a component of rate base.

Overall Rate of Return – Staff recommends that the Commission adopt an 8.5 percent overall rate of return (“ROR”).

Mr. Bourassa’s Testimony – The Commission should reject the Applicant-proposed 16.0 percent ROE for the following reasons:

Mr. Bourassa’s DCF estimates rely heavily on analyst’s forecasts and provide little weight to historical dividend per share growth rates.

1 **I. INTRODUCTION**

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

3 A. My name is Juan C. Manrique. I am a Public Utilities Analyst 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.**

8 A. In my position as a Public Utilities Analyst, I perform studies to estimate the cost of
9 capital component in rate filings to determine the overall revenue requirement and analyze
10 requests for financing authorizations.

11
12 **Q. Please describe your educational background and professional experience.**

13 A. I graduated from Arizona State University and received a Bachelor of Science degree in
14 Finance. My course of studies included courses in corporate and international finance,
15 investments, accounting, statistics, and economics. I began employment as a Staff Public
16 Utilities Analyst in October 2008. My professional experience includes two years as a
17 Loan Officer with a homebuilder and as an Associate for an Investor Relations firm.

18
19 **Q. What is the scope of your testimony in this case?**

20 A. My testimony provides Staff's recommended capital structure, return on equity ("ROE")
21 and overall rate of return ("ROR") for establishing the revenue requirements for Las
22 Quintas Serenas Water Company's ("LQS" or "Applicant") pending rate application.

23

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

2 A. LQS is a for-profit Arizona Limited Liability Corporation that is engaged in the business
3 of providing public water (approximately 1,000 customers) utility service in a portion of
4 Sahuarita within Pima County, Arizona.

5
6 *Summary of Testimony and Recommendations*

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

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

18
19 **Q. Have you prepared any exhibits to accompany your testimony?**

20 A. Yes. I prepared ten schedules (JCM-1 to JCM-10) that support Staff's cost of capital
21 analysis.

22
23 **Q. What is Staff's recommended rate of return for LQS?**

24 A. Staff recommends an 8.5 percent overall ROR, as shown in Schedule JCM-1. Staff's
25 ROR recommendation is based on cost of equity estimates for LQS that range from 9.8

1 percent using the discounted cash flow method (“DCF”) to 11.3 percent using the capital
2 asset pricing model (“CAPM”) and a cost of debt of 7.1 percent.

3

4 *LQS’s Proposed Overall Rate of Return*

5 **Q. Briefly summarize LQS’s proposed capital structure, cost of debt, return on equity
6 and overall rate of return for this proceeding.**

7 A. Table 1 summarizes the Applicant’s proposed capital structure, cost of debt, return on
8 equity and overall rate of return in this proceeding:

9

10

Table 1

	Weight	Cost	Weighted Cost
Long-term Debt	74.2%	6.6%	4.9%
Common Equity	25.9%	16%	4.1%
Cost of Capital/ROR			9.0%

11

12 LQS is proposing an overall rate of return of 9.0 percent.

13

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

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

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

20

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

22 A. The cost of capital to a company issuing a variety of securities (i.e., stock and
23 indebtedness) is an average of the cost rates on all issued securities adjusted to reflect the

1 relative amounts for each security in the company's entire capital structure. Thus, the
2 overall cost of capital is the WACC.

3
4 **Q. How is the WACC calculated?**

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

7 Equation 1.

8
9
$$\text{WACC} = \sum_{i=1}^n W_i * r_i$$

10

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

13
14 **Q. Can you provide an example demonstrating application of Equation 1?**

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

19
$$\text{WACC} = (60\% * 6.0\%) + (40\% * 10.5\%)$$

20
$$\text{WACC} = 3.60\% + 4.20\%$$

21
$$\text{WACC} = 7.80\%$$

22

23 The weighted average cost of capital in this example is 7.80 percent. The entity in this
24 example would need to earn an overall rate of return of 7.80 percent to cover its cost of
25 capital.
26

1 **III. CAPITAL STRUCTURE**

2 *Background*

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

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

7
8 **Q. How is the capital structure expressed?**

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

12
13 As an example, the capital structure for an entity that is financed by \$20,000 of capital
14 leases, \$85,000 of long-term debt, \$15,000 of preferred stock and \$80,000 of common
15 stock is shown in Table 2.

16
17 **Table 2**

Component			%
Capital Leases	\$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 0.0 percent short-term debt, 10.0
2 percent capital leases, 42.5 percent long-term debt, 7.5 percent preferred stock and 40.0
3 percent common stock.

4

5 *LQS's Capital Structure*

6 **Q. What capital structure does LQS propose?**

7 A. The Applicant proposes a capital structure composed of 74.15 percent debt and 25.85
8 percent common equity.

9

10 **Q. How does LQS's proposed capital structure compare to capital structures of the**
11 **publicly-traded water utilities?**

12 A. LQS's updated capital structure is composed of 67.9 percent debt and 32.1 percent equity.
13 Schedule JCM-4 shows the capital structures of six publicly traded water companies
14 ("sample water companies") as of December 2009. The average capital structure for the
15 sample water utilities is comprised of approximately 51.6 percent debt and 48.4 percent
16 equity.

17

18 *Staff's Capital Structure*

19 **Q. What is Staff's recommended capital structure for LQS?**

20 A. The Applicant's current capital structure is composed of 67.9 percent debt and 32.1
21 percent equity; but for reasons outlined in Section VII of my testimony, Staff is
22 recommending a hypothetical capital structure of 60.0 percent debt and 40.0 percent debt.

1 **Q. Why does Staff's current capital structure differ from the Applicant's proposed**
2 **capital structure?**

3 A. Staff used the most updated capital structure, as of September 30, 2009, provided by the
4 Applicant in response to Staff Data Request 6.1, rather than the end of the test year.

5

6 **IV. RETURN ON EQUITY**

7 *Background*

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

9 A. The cost of equity is the rate of return that investors expect to earn on their investment in a
10 business entity given its risk. In other words, the cost of equity to the entity is the
11 investors' expected rate of return on other investments of similar risk. As investors have a
12 wide selection of stocks to choose from, they will choose stocks with similar risks but
13 higher returns. Therefore, the market determines the entity's cost of equity.

14

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

16 A. Yes. The cost of equity tends to move in the same direction as interest rates. This
17 relationship is part of the capital asset pricing model ("CAPM") formula. The CAPM is a
18 market-based model employed by Staff for estimating the cost of equity. The CAPM is
19 further discussed in Section V of this testimony.

20

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

22 A. A chronological chart of interest rates is a good tool to show interest rate history and
23 identify trends. Chart 1 graphs intermediate U.S. treasury rates from June 2000 to June
24 2010.

25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

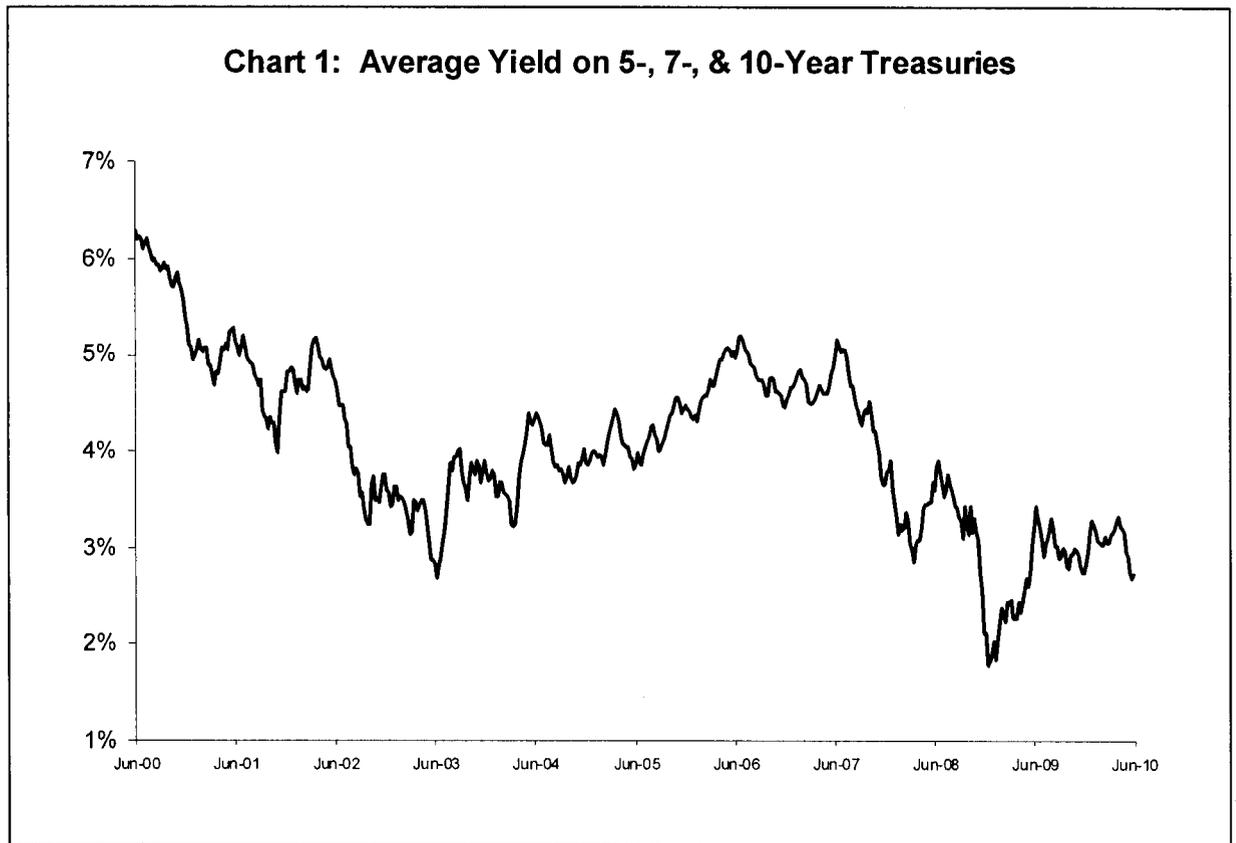
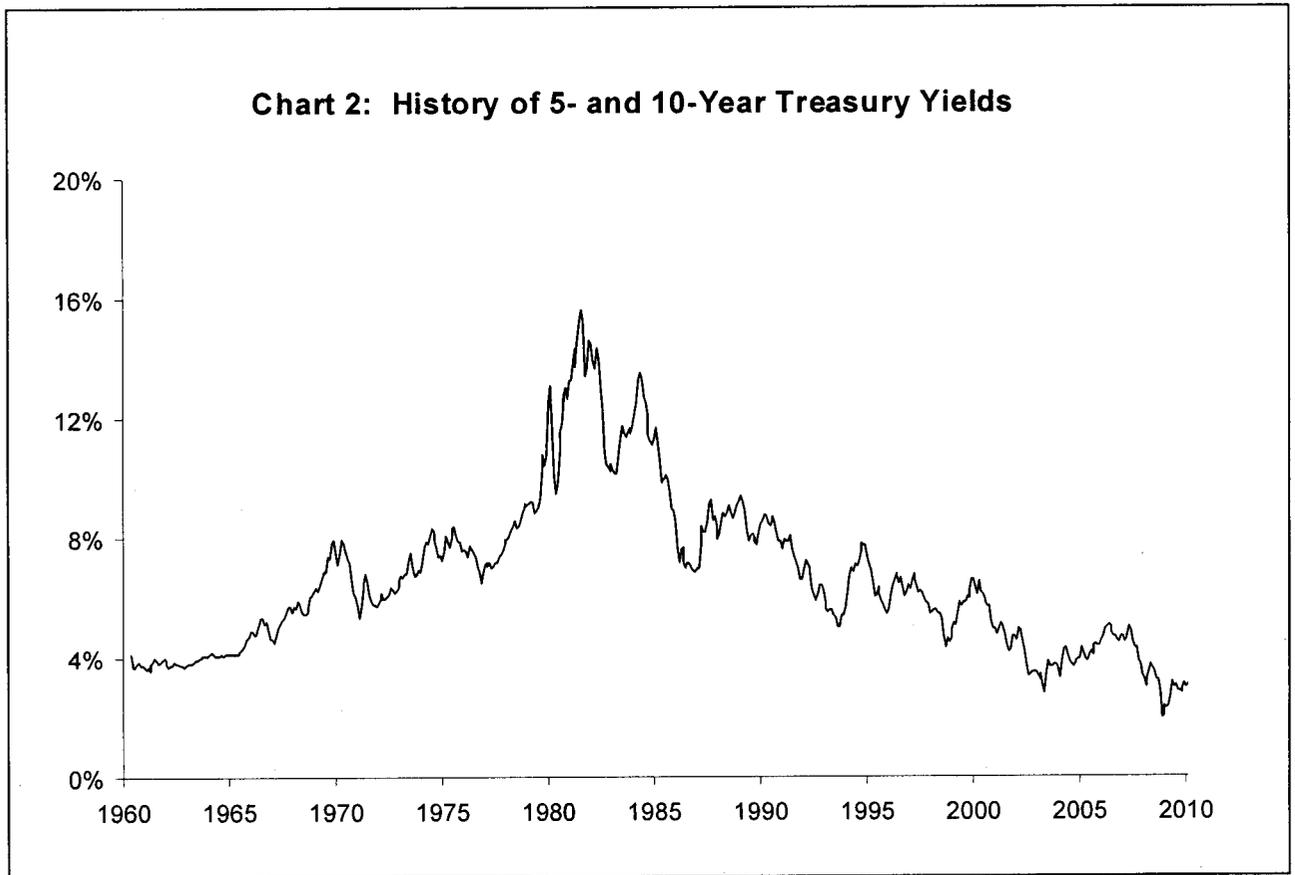


Chart 1 shows that intermediate interest rates trended downward from 2000 to mid-2003 then turned slightly upward until mid-2007, trended downward through early-2009 and have trended upward in the past year and a half.

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

A. U.S. Treasury rates from 1959 to present are shown in Chart 2. The chart shows that interest rates trended upward through the mid-1980s and have trended downward over the last 25 years.



14 Source: Federal Reserve

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

16 A. Yes. As previously discussed, interest rates and cost of equity tend to move in the same
17 direction. The implication is that the cost of equity has declined in the past 25 years.

18
19 **Q. Do actual returns represent the cost of equity?**

20 A. No. The cost of equity represents investors' *expected* returns and not realized returns.
21

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

4 A. Yes. A comparison of betas, a component of the CAPM discussed in Section V, for the
5 water utility industry and the market provide insight into this relationship. The average
6 beta (0.78)¹ for a water utility is lower than the theoretical average beta for all stocks (1.0).
7 According to the CAPM formula, the cost of equity capital moves in the same direction as
8 beta. Since the beta for the water utility industry is lower than the beta for the market, the
9 implication is that the required return on equity for a regulated water utility is below the
10 average required return on the market.

11
12 *Risk*

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

14 A. Risk, as it relates to an investment, is the variability or uncertainty of the returns on a
15 particular security. Investors are risk averse and require a greater potential return to invest
16 in relatively greater risk opportunities, i.e., investors require compensation for taking on
17 additional risk. Risk is generally separated into two components. Those components are
18 market risk (systematic risk) and non-market risk (diversifiable risk or firm-specific risk).

19
20 **Q. What is market risk?**

21 A. Market risk or systematic risk is the risk of an investment that cannot be reduced through
22 diversification. Market risk stems from factors that affect all securities such as recessions,
23 war, inflation and high interest rates. Since these factors affect the entire market they
24 cannot be eliminated through diversification. Market risk does not impact each security to

¹ See Schedule JCM-7

1 the same degree. The degree to which any security's returns is affected by the market can
2 be measured using Beta. Beta reflects the business risk and the financial risk of a security.

3

4 **Q. Please define business risk.**

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

9

10 **Q. Please define financial risk.**

11 A. Financial risk is the fluctuation of earnings inherent in using debt financing by a firm that
12 may impair its ability to provide adequate return. The more a company uses debt
13 financing, the more the company becomes exposed to financial risk.

14

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

16 A. Yes.

17

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

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

23

1 **Q. How does LQS's financial risk compare to the sample water companies' financial**
2 **risk from the perspective of an investor?**

3 A. From an investor's perspective LQS's capital structure is more risky than the sample water
4 companies. Schedule JCM-4 shows the capital structures of the six publicly-traded water
5 companies ("sample water companies") as of December 2009, as well as LQS's actual
6 capital structure. As of December 2009, the sample water utilities were capitalized with
7 approximately 51.6 percent debt and 48.4 percent equity, while LQS's actual capital
8 structure consists of approximately 67.9 percent debt and 32.1 percent equity. Thus,
9 LQS's shareholders bear more financial risk than the shareholders of the sample
10 companies.

11
12 **Q. Is firm-specific risk measured by beta?**

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

14
15 **Q. Is the cost of equity affected by firm-specific risk?**

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

18
19 **Q. Can investors expect additional returns for firm-specific risk?**

20 A. No. Investors who hold diversified portfolios can eliminate firm-specific risk and,
21 consequently, do not require any additional return. Since investors who choose to be less
22 than fully-diversified must compete in the market with fully-diversified investors, the
23 former cannot expect to be compensated for unique risk.

24

1 **V. ESTIMATING THE COST OF EQUITY**

2 *Introduction*

3 **Q. Did Staff directly estimate the cost of equity for LQS?**

4 A. No. Since LQS is not a publicly-traded company, Staff is unable to directly estimate the
5 Applicant's cost of equity due to the unavailability of financial information. Instead, Staff
6 uses an average of a representative sample group to reduce the sample error resulting from
7 random fluctuations in the market at the time the information is gathered.

8
9 **Q. What companies did Staff select as proxies or comparables for LQS?**

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

14
15 **Q. What models did Staff implement to estimate LQS's cost of equity?**

16 A. Staff used two market-based models to estimate the cost of equity for LQS: the discounted
17 cash flow model ("DCF") and the CAPM.

18
19 **Q. Please explain why Staff chose the DCF and CAPM models.**

20 A. Staff chose to use the DCF and CAPM models because they are widely-recognized
21 market-based models and have been used extensively to estimate the cost of equity. An
22 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 Model?**

14 A. Yes. Staff uses two versions of the DCF model: the constant-growth DCF Model and the
15 multi-stage or non-constant growth DCF. The constant-growth DCF Model assumes that
16 an entity's dividends will grow indefinitely at the same rate. The multi-stage growth DCF
17 model 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:
22

Equation 2 :

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

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

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 dividend yield component (D_1/P_0) of the constant-growth**
9 **DCF formula?**

10 A. Staff calculated the yield component of the DCF formula by dividing the expected annual
11 dividend² (D_1) by the spot stock price (P_0) after the close of the market June 9, 2010, as
12 reported by the website *MSN Money*.

13
14 **Q. Why did Staff use the June 9, 2010, spot price rather than a historical average stock**
15 **price to calculate the dividend yield component of the DCF formula?**

16 A. Current, rather than historic, market stock price is used in order to be consistent with
17 finance theory, i.e., the efficient market hypothesis. The efficient market hypothesis
18 asserts that the current stock price reflects all available information on a stock including
19 investors' expectations of future returns. Use of a historical average of stock prices

² Value Line Summary & Index. 6-18-10

1 illogically discounts the most recent information in favor of less recent information. The
2 latter is stale and is representative of underlying conditions that may have changed.

3
4 **Q. How did Staff estimate the dividend growth (g) component of the constant-growth**
5 **DCF model represented by Equation 2?**

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

10
11 **Q. Why did Staff examine EPS growth to estimate the dividend growth component of**
12 **the constant-growth DCF model?**

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

16
17 **Q. How did Staff estimate historical DPS growth?**

18 A. Staff estimated historical DPS growth by calculating the average rate of growth in DPS of
19 the sample water companies from 1999 to 2009. The results of that calculation are shown
20 in Schedule JCM-5. Staff calculated an average historical DPS growth rate of 2.8 percent
21 for the sample water utilities for the aforementioned period.

22

³ Derived from information provided by *Value Line*
⁴ Derived from information provided by *Value Line*

1 **Q. How did Staff estimate the projected DPS growth?**

2 A. Staff calculated an average of the projected DPS growth rates for the sample water utilities
3 from *Value Line*. The average projected DPS growth rate is 3.7 percent, as shown in
4 Schedule JCM-5.

5
6 **Q. How did Staff calculate the historical EPS growth rate?**

7 A. Staff estimated historical EPS growth by calculating the average rate of growth in EPS of
8 the sample water companies from 1999 to 2009. Staff calculated an average historical
9 EPS growth rate of 3.3 percent for the sample water utilities for the aforementioned
10 period, as shown in Schedule JCM-5.

11
12 **Q. How did Staff estimate the projected EPS growth?**

13 A. Staff calculated an average of the projected EPS growth rates for the sample water utilities
14 from *Value Line*. The average projected EPS growth rate is 8.8 percent, as shown in
15 Schedule JCM-5.

16
17 **Q. How does Staff calculate its historical and projected sustainable growth rates?**

18 A. Historical and projected sustainable growth rates are calculated by adding their respective
19 retention growth rate terms (br) to their respective stock financing growth rate terms (vs)
20 as shown in Schedule JCM-6.

21
22 **Q. What is retention growth?**

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

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

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

4

Equation 3 :

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

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

5

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

8 A. Staff calculated the historical retention rates by averaging the retention rates for the
9 sample water companies from 2000 to 2009. The historical average retention (br) growth
10 for the sample water utilities is 2.9 percent, as shown in Schedule JCM-6.

11

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

14 A. Staff used the retention growth projections for the sample water utilities for the period
15 2013 to 2015 from *Value Line*. The projected average retention growth rate for the sample
16 water utilities is 6.2 percent, as shown in Schedule JCM-6.

17

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

20 A. The retention growth rate is a reasonable estimate of future dividend growth when the
21 retention ratio is reasonably constant and the entity's market price to book value ("market-
22 to-book ratio") is expected to be 1.0. The average retention ratio has been reasonably

1 constant in recent years. However, the market-to-book ratio for the sample water utilities
2 is 1.6, notably higher than 1.0, as shown in Schedule JCM-7.

3
4 **Q. Is there any financial implication of a market-to-book ratio greater than 1.0?**

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

18
19 **Q. How has Staff generally recognized a market-to-book ratio exceeding 1.0 in its cost of
20 equity analyses in recent years?**

21 A. Staff has assumed that investors expect the market-to-book ratio to remain greater than
22 1.0. Given that assumption, Staff has added a stock financing growth rate (vs) term to the
23 retention ratio (br) term to calculate its historical and projected sustainable growth rates.
24

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

4 A. Yes.

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

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

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

15 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

16

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

18 A. Variable v is calculated as follows:

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

Equation 5 :

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

1

2

For example, assume that a share of stock has a \$30 book value and is selling for \$45.

3

Then, to find the value of v , the formula is applied:

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

4

In this example, v is equal to 0.33.

5

6

Q. How is the variable s presented above calculated?

7

A. Variable s is calculated as follows:

8

Equation 6:

9

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

10

11

12

For example, assume that an entity has \$150 in existing equity, and it sells \$30 of stock.

13

Then, to find the value of s , the formula is applied:

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

14

In this example, s is equal to 20.0 percent.

15

16

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

17

A. A market-to-book ratio equal to 1.0 reflects that investors expect an entity to earn a book/accounting return on their equity investment equal to the cost of equity. When the market-to-book ratio is equal to 1.0, none of the funds raised from the sale of stock by the

18

19

1 entity accrues to the benefit of existing shareholders, i.e., the term ν is equal to zero (0.0).
2 Consequently, the νs term is also equal to zero (0.0). When stock financing growth is
3 zero, dividend growth depends solely on the br term.
4

5 **Q. What is the effect of the νs term when the market-to-book ratio is greater than 1.0?**

6 A. A market-to-book ratio greater than 1.0 reflects that investors expect an entity to earn a
7 book/accounting return on their equity investment greater than the cost of equity.
8 Equation 5 shows that when the market-to-book ratio is greater than 1.0 the ν term is also
9 greater than zero. The excess by which new shares are issued and sold over book value
10 per share of outstanding stock is a contribution that accrues to existing stockholders in the
11 form of a higher book value. The resulting higher book value leads to higher expected
12 earnings and dividends. Continued growth from the νs term is dependent upon the
13 continued issuance and sale of additional shares at a price that exceeds book value per
14 share.
15

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

17 A. Staff estimated an average stock financing growth of 2.0 percent for the sample water
18 utilities, as shown in Schedule JCM-6.
19

20 **Q. What would occur if an entity had a market-to-book ratio greater than 1.0 as a result
21 of investors expecting earnings to exceed the cost of equity capital and the entity
22 subsequently experienced newly-authorized rates equal to its cost of equity capital?**

23 A. Market pressure on the entity's stock price to reflect the change in future expected cash
24 flows would cause the market-to-book ratio to move toward 1.0.
25

1 **Q. Is inclusion of the v term necessary if the average market-to-book ratio of the**
2 **sample water utilities falls to 1.0 due to authorized ROEs equaling the cost of equity?**

3 A. No. As discussed above, when the market-to-book ratio is equal to 1.0, none of the funds
4 raised from the sale of stock by the entity accrues to the benefit of existing shareholders
5 because the v term equals to zero, and consequently, the vs term also equals zero. When
6 the market-to-book ratio equals 1.0, dividend growth depends solely on the br term.
7 Staff's inclusion of the vs term assumes that the market-to-book ratio continues to exceed
8 1.0 and that the water utilities will continue to issue and sell stock at prices above book
9 value with the effect of benefitting existing shareholders.

10

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

12 A. Staff's estimated historical sustainable growth rate is 4.8 percent based on an analysis of
13 earnings retention for the sample water companies. Staff's projected sustainable growth
14 rate is 9.1 percent based on retention growth projected by *Value Line*. Schedule JCM-6
15 presents Staff's estimates of the sustainable growth rate.

16

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

18 A. Staff's expected infinite annual growth rate in dividends is 5.4 percent which is the
19 average of historical and projected DPS, EPS, and sustainable growth estimates. Staff's
20 calculation of the expected infinite annual growth rate in dividends is shown in Schedule
21 JCM-8.

22

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

24 A. Staff's constant-growth DCF estimate is 9.3 percent, as shown in Schedule JCM-3.

25

1 *The Multi-Stage DCF*

2 **Q. Why did Staff implement the multi-stage DCF model to estimate LQS's cost of**
3 **equity?**

4 A. Staff generally uses the multi-stage DCF model to consider the assumption that dividends
5 may not grow at a constant rate. The multi-stage DCF uses two stages of growth. The
6 first stage is four years followed by the second constant growth stage.

7
8 **Q. What is the mathematical formula for the multi-stage DCF?**

9 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

10

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

12 A. First, Staff projected future dividends for each of the sample water utilities using near-
13 term and long-term growth rates. Second, Staff calculated the rate (cost of equity) which
14 equates the present value of the forecasted dividends to the current stock price for each of
15 the sample water utilities. Lastly, Staff calculated an average of the individual sample
16 company cost of equity estimates.

17

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

2 A. The stage-1 growth rate is based on *Value Lines's* projected dividends for the next twelve
3 months, when available, and on the average dividend growth rate (5.4 percent) calculated
4 in Staff's constant DCF analysis for the remainder of the stage.

5
6 **Q. How did Staff estimate long-term (stage-2) growth?**

7 A. Staff calculated the stage-2 growth rate using the arithmetic mean rate of growth in GDP
8 from 1929 to 2009.⁶ Using the GDP growth rate assumes that the water utility industry is
9 expected to grow at the same rate as the overall economy.

10
11 **Q. What is the historical GDP growth rate that Staff used to estimate stage-2 growth?**

12 A. Staff used 6.6 percent to estimate the stage-2 growth rate.

13
14 **Q. What is Staff's multi-stage DCF estimate for the sample utilities?**

15 A. Staff's multi-stage DCF estimate is 10.3 percent, as shown in Schedule JCM-3.

16
17 **Q. What is Staff's overall DCF estimate for the sample utilities?**

18 A. Staff's overall DCF estimate is 9.8 percent. Staff calculated the overall DCF estimate by
19 averaging the constant growth DCF (9.3 percent) and multi-stage DCF (10.3 percent)
20 estimates, as shown in Schedule JCM-3.

21
22 *Capital Asset Pricing Model*

23 **Q. Please describe the CAPM.**

24 A. The CAPM is used to determine the prices of securities in a competitive market. The
25 CAPM model describes the relationship between a security's investment risk and its

⁶ www.bea.doc.gov

1 market rate of return. Under the CAPM an investor requires the expected return of a
2 security to equal the rate on a risk-free security plus a risk premium. If the investor's
3 expected return does not meet or beat the required return, the investment is not
4 economically justified. The model also assumes that investors will sufficiently diversify
5 their investments to eliminate any non-systematic or unique risk.⁷ In 1990, Professors
6 Harry Markowitz, William Sharpe, and Merton Miller earned the Nobel Prize in
7 Economic Sciences for their contribution to the development of the CAPM.

8
9 **Q. Did Staff use the same sample water utilities in its CAPM and DCF cost of equity**
10 **estimation analyses?**

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

13
14 **Q. What is the mathematical formula for the CAPM?**

15 A. The mathematical formula for the CAPM is:
16

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

17

⁷ 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 The equation shows that the expected return (K) on a risky asset is equal to the risk-free
2 interest rate (R_f) plus the product of the market risk premium ("Rp") ($R_m - R_f$) multiplied
3 by beta (β) where beta represents the riskiness of the investment relative to the market.
4

5 **Q. What is the risk free rate?**

6 A. The risk free rate is the rate of return of an investment with zero risk.
7
8

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

11 A. Staff uses separate parameters as surrogates for the estimations of the risk-free rates of
12 interest for the historical market risk premium CAPM cost of equity estimation and the
13 current market risk premium CAPM cost of equity estimation. Staff uses the average of
14 three (five-, seven-, and ten-year) intermediate-term U.S. Treasury securities' spot rates in
15 its historical market risk premium CAPM cost of equity estimation, and the 30-year U.S.
16 Treasury bond spot rate in its current market risk premium CAPM cost of equity
17 estimation. U.S. Treasuries are largely verifiable and readily available.
18

19 **Q. What does beta measure?**

20 A. Beta measures the volatility, or systematic risk, of a security relative to the market. Since
21 systematic risk cannot be diversified away, it is the only risk that is relevant when
22 estimating a security's required return. Using a baseline market beta of 1.0, a security
23 with a beta less than 1.0 will be less volatile than the market. A security with a beta
24 greater than 1.0 will be more volatile than the market.
25

1 **Q. How did Staff estimate LQS's beta?**

2 A. Staff used the average of the *Value Line* betas for the sample water utilities as a proxy for
3 LQS's beta. Schedule JCM-7 shows the *Value Line* betas for each of the sample water
4 utilities. The 0.78 average beta for the sample water utilities is Staff's estimated beta for
5 LQS. A security with a 0.78 beta has less volatility than the market.

6
7 **Q. Please describe expected market risk premium ($R_m - R_f$)?**

8 A. The expected market risk premium is the expected return on the market above the risk free
9 rate. Simplified, it is the return an investor expects as compensation for market risk.

10
11 **Q. What did Staff use for the market risk premium?**

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

14
15 **Q. How did Staff calculate an estimate for the market risk premium in its historical
16 market risk premium CAPM method?**

17 A. Staff uses the intermediate-term government bond income returns published in the
18 Ibbotson Associates' *Stocks, Bonds, Bills, and Inflation 2009 Yearbook* to calculate the
19 historical market risk premium. Ibbotson Associates calculates the historical risk
20 premium by averaging the historical arithmetic differences between the S&P 500 and the
21 intermediate-term government bond income returns for the period 1926-2009. Staff's
22 historical market risk premium estimate is 7.2 percent, as shown in Schedule JCM-3.

23

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

3 A. Staff solves equation 8 above to arrive at a market risk premium using a DCF derived
4 expected return (K) of 17.12 (2.1 + 15.02⁸) percent using the expected dividend yield (2.1
5 percent over the next twelve months) and the annual per share growth rate (15.02 percent)
6 that *Value Line* projects for all dividend-paying stocks under its review⁹ along with the
7 current long-term risk-free rate (30-year Treasury note at 4.1 percent) and the market's
8 average beta of 1.0. Staff calculated the current market risk premium as 13.00¹⁰ as shown
9 in Schedule JCM-3.

10

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

13 A. Staff's cost of equity estimates are 8.2 percent using the historical market risk premium
14 CAPM and 14.3 using the current market risk premium CAPM.

15

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

17 A. Staff's overall CAPM cost of equity estimate is 11.3 percent which is the average of the
18 historical market risk premium CAPM (8.2 percent) and the current market risk premium
19 CAPM (14.3 percent) estimates, as shown in Schedule JCM-3.

20

⁸ The three to five year price appreciation is 75%. $1.75^{0.25} - 1 = 15.02\%$

⁹ June 18, 2010 issue date.

¹⁰ $17.12\% = 4.12\% + (1)(13.00\%)$

1 **VI. SUMMARY OF STAFF'S COST OF EQUITY ANALYSIS**

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

4 A. Schedule JCM-3 shows the result of Staff's constant-growth DCF analysis. The result of
5 Staff's constant-growth DCF analysis is as follows:

6
7 $k = 3.9\% + 5.4\%$

8
9 $k = 9.3\%$

10
11 Staff's constant-growth DCF estimate of the cost of equity to the sample water utilities is
12 9.3 percent.

13
14 **Q. What is the result of Staff's multi-stage DCF analysis to estimate of the cost of equity**
15 **for the sample utilities?**

16 A. Schedule JCM-9 shows the result of Staff's multi-stage DCF analysis. The result of
17 Staff's multi-stage DCF analysis is:

18

19 Applicant	20 Equity Cost
	21 Estimate (k)
22 American States Water	23 9.8%
24 California Water	25 10.1%
26 Aqua America	27 10.0%
28 Connecticut Water	29 11.1%
Middlesex Water	11.4%
SJW Corp	<u>9.6%</u>
Average	10.3%

29

1 Staff's multi-stage DCF estimate of the cost of equity for the sample water utilities is 10.3
2 percent.

3
4 **Q. What is Staff's overall DCF estimate of the cost of equity for the sample utilities?**

5 A. Staff's overall DCF estimate of the cost of equity for the sample utilities is 9.8 percent.
6 Staff calculated an overall DCF cost of equity estimate by averaging Staff's constant
7 growth DCF (9.3 percent) and Staff's multi-stage DCF (10.3 percent) estimates, as shown
8 in Schedule JCM-3.

9
10 **Q. What is the result of Staff's historical market risk premium CAPM analysis to
11 estimate of the cost of equity for the sample utilities?**

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

14 $k = 2.6\% + 0.78 * 7.2\%$

15 $k = 8.2\%$

16
17 Staff's CAPM estimate (using the historical market risk premium) of the cost of equity to
18 the sample water utilities is 8.2 percent.

19
20 **Q. What is the result of Staff's current market risk premium CAPM analysis to
21 estimate the cost of equity for the sample utilities?**

22 A. Schedule JCM-3 shows the result of Staff's CAPM analysis using the current market risk
23 premium estimate. The result is:

24 $k = 4.1\% + 0.78 * 13.0\%$

25 $k = 14.3\%$
26

1 Staff's CAPM estimate (using the current market risk premium) of the cost of equity to the
2 sample water utilities is 14.3 percent.

3

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

5 A. Staff's overall CAPM estimate for the sample utilities is 11.3 percent. Staff's overall
6 CAPM estimate is the average of the historical market risk premium CAPM (8.2 percent)
7 and the current market risk premium CAPM (14.3 percent) estimates, as shown in
8 Schedule JCM-3.

9

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

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

12

13

Table 2

Method	Estimate
Average DCF Estimate	9.8%
Average CAPM Estimate	11.3%
Overall Average	10.6%

14

15 Staff's average estimate of the cost of equity to the sample water utilities is 10.6 percent.

16

17 **VII. FINAL COST OF EQUITY ESTIMATES FOR LQS**

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

19 A. The average capital structure for the sample water utilities is composed of 48.4 percent
20 equity and 51.6 percent debt, as shown in Schedule JCM-4. LQS's capital structure is
21 composed of 32.1 percent equity and 67.9 percent debt. In this case, since LQS's capital
22 structure is more leveraged than that of the average sample water utilities' capital
23 structure, its stockholders bear more financial risk than the sample water utilities.

1 **Q. Does LQS's additional financial risk affect its cost of equity?**

2 A. Yes. As previously discussed, financial risk is a component of market risk and investors
3 require compensation of market risk.
4

5 **Q. Explain why Staff recommends adopting a hypothetical capital structure to**
6 **recognize LQS's additional financial risk versus the sample companies as opposed to**
7 **an upward financial risk adjustment in this case?**

8 A. Either method can provide a satisfactory result. In this case, Staff does not use a financial
9 risk adjustment because LQS is not a publicly-traded company and, thus, it does not have
10 access to the capital markets. Further, use of a hypothetical capital structure more clearly
11 demonstrates that Staff's overall rate of return recommendation is consistent with that for
12 a utility with a capital structure Staff considers to be within a reasonable range. Thus,
13 Staff is recommending a hypothetical capital structure of 60 percent debt and 40 percent
14 equity. Staff's recommendation provides LQS with the opportunity to increase its equity
15 position through reasonable earnings that would not otherwise be available. In this case,
16 the Applicant would earn a 10.6 percent return on a higher percentage of equity than
17 currently exists in its capital structure. This recommendation encourages LQS to have a
18 more balanced capital structure, and it does not disadvantage LQS for its lack of access to
19 the capital markets.
20

21 **Q. Has the Commission adopted a hypothetical capital structure for other Arizona**
22 **utilities?**

23 A. Yes. The Commission has used hypothetical capital structures in prior cases involving
24 highly leveraged utilities. For example, in a case involving Southwest Gas Company, the
25 Commission adopted a hypothetical capital structure of 40 percent equity and 60 percent
26 debt, as recommended by Staff (Decision No. 68487, at 23-25). In Decision No. 69440,

1 the Commission adopted a hypothetical capital structure of 40 percent equity and 60
2 percent debt for Arizona-American Water.

3
4 **Q. What is Staff's ROE estimate for LQS?**

5 A. Staff determined an ROE estimate of 10.6 percent for the Applicant based on cost of
6 equity estimates for the sample companies ranging from 9.8 percent for the DCF to 11.3
7 percent for the CAPM.

8
9 **VIII. COST OF DEBT**

10 **Q. Please explain the difference between the Applicant's and Staff's cost of debt**
11 **recommendation.**

12 A. The Applicant is recommending a 6.6 percent cost of debt while Staff is recommending a
13 7.1 percent cost of debt. The difference is represented by the treatment of \$185,625 of
14 debt issuance costs. The Applicant included the debt issuance costs in the Water
15 Treatment Plant account. The National Association of Regulatory Commissioners
16 Uniform System of Accounts specifies that debt issuance costs are a component of interest
17 expense, and Staff's cost of debt reflects the specified treatment. I.e., these costs are
18 amortized over the life of the loan as a component of interest expense, as shown in
19 Schedule JCM-10.

20
21 **IX. RATE OF RETURN RECOMMENDATION**

22 **Q. What overall rate of return did Staff determine for LQS?**

23 A. Staff determined a 8.5 percent ROR for the Applicant, as shown in Schedule JCM-1 and in
24 the following table:
25

Table 3

	Weight	Cost	Weighted Cost
Long-term Debt	60.0%	7.1%	4.3%
Common Equity	40.0%	10.6%	4.2%
Overall ROR			8.5%

X. STAFF RESPONSE TO APPLICANT'S COST OF CAPITAL WITNESS MR. THOMAS J. BOURASSA

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

A. Mr. Bourassa recommends a 16.0 percent ROE based on analyses for two constant growth DCF models (Past and Future Growth and Future Only Growth), as well as historical and current market risk premium CAPM for the same sample of water companies selected by Staff. Mr. Bourassa also asserts that LQS faces additional risks not captured by the market models, such as regulatory and financial risk, and he concludes that a 16.0 percent ROE presents a reasonable balance resulting from his analyses. Mr. Bourassa proposes 9.0 percent for the overall ROR with a capital structure consisting of 25.9 percent equity and 74.2 percent debt.

Constant-Growth DCF

Q. Does Mr. Bourassa give equal weight to historical data and analysts' projections to estimate the growth component of his DCF cost of equity estimate?

A. No. Mr. Bourassa's DCF cost of equity estimate is based on the midpoint of his (1) Past and Future Growth estimate and (2) Future Growth estimate. Half of the Past and Future Growth estimate relies on analysts' projections of earnings growth and the entire Future Growth estimate relies on analysts' projections of earnings growth. Thus, choosing the midpoint of the two methods provides analysts' projections with 75 percent of the weight

1 compared to 25 percent for historical data. In addition, Mr. Bourassa's Past and Future
2 Growth estimate provides equal weight to stock price, book value per share, earnings per
3 share and dividends per share. Thus, only one-eighth (12.5 percent) of his method of
4 estimating the dividend growth relies on the growth in dividends per share.

5
6 **Q. Does Staff have any comments on Mr. Bourassa's heavy reliance on analysts'**
7 **forecasts to estimate DPS growth in his constant growth DCF estimates?**

8 A. Yes. Generally, analysts' forecasts are known to be overly optimistic. Heavy use of
9 analysts' forecasts to calculate the growth in dividends (g), will cause inflated growth, and
10 consequently, inflated cost of equity estimates unless investors give the same strong
11 weight to analysts' forecasts. Also, heavy reliance on analysts' forecasts of earnings
12 growth to forecast DPS is inappropriate because it assumes that investors discount other
13 relevant information such as past dividend and earnings growth.

14
15 **Q. Does Staff have any evidence to support its assertion that heavy reliance on analysts'**
16 **forecasts of earnings growth in the DCF model would result in inflated cost of equity**
17 **estimates?**

18 A. Yes. Experts in the financial community have commented on the optimism in analysts'
19 forecasts of future earnings.¹¹ A study cited by David Dreman in his book *Contrarian*
20 *Investment Strategies: The Next Generation* found that *Value Line* analysts were
21 optimistic in their forecasts by 9 percent annually, on average for the 1987 – 1989 period.
22 Another study conducted by David Dreman found that between 1982 and 1997, analysts
23 overestimated the growth of earnings of companies in the S&P 500 by 188 percent.

¹¹ 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 Also, Burton Malkiel of Princeton University studied the one-year and five-year earnings
2 forecasts made by some of the most respected names in the investment business. His
3 results showed that the five-year estimates of professional analysts, when compared with
4 actual earnings growth rates, were much worse than the predictions from several naïve
5 forecasting models, such as the long-run rate of growth of national income. In the
6 following excerpt from Professor Malkiel's book *A Random Walk Down Wall Street*, he
7 discusses the results of his study:

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

16 *The analysts fought back gamely. They complained that it was*
17 *unfair to judge their performance on a wide cross section of*
18 *industries, because earnings for high-tech firms and various*
19 *"cyclical" companies are notoriously hard to forecast. "Try us on*
20 *utilities," one analyst confidently asserted. At the time they were*
21 *considered among the most stable group of companies because of*
22 *government regulation. So we tried it and they didn't like it. Even*
23 *the forecasts for the stable utilities were far off the mark.¹²*
24 (Emphasis added)

25
26 **Q. Are investors aware of the problems related to analysts' forecasts?**

27 A. Yes. In addition to books, there are numerous published articles appearing in *The Wall*
28 *Street Journal* and other financial publications that cast doubt as to how accurate research
29 analysts are in their forecasts.¹³ Investors, being keenly aware of these inherent biases in
30 forecasts, will use other methods to assess future growth.

¹² Malkiel, Burton G. *A Random Walk Down Wall Street*. 2003. W.W. Norton & Co. New York. p. 175

¹³ 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

1 **Q. Does Staff have any comments on the study cited by Mr. Bourassa, conducted by**
2 **David A. Gordon, Myron J. Gordon and Lawrence I. Gould¹⁴ that he asserts**
3 **supports heavy use of analysts' forecasts in the DCF model?**

4 A. Yes. The article cited by Mr. Bourassa does not conclude that investors ignore or heavily
5 discount past growth when pricing stocks. Instead, the article describes more generally
6 that methods exclusively using analysts' forecasts are "popular or attractive models", but
7 the article does not support the conclusion that these forecasts should be used alone or as
8 the primary estimates.

9
10 **Q. Does Professor Gordon recommend relying exclusively on analysts' forecasts as the**
11 **measure of growth in the DCF model?**

12 A. No. Subsequent to the study cited by Mr. Bourassa,¹⁵ Professor Gordon provided the
13 keynote address at the 30th Financial Forum of the Society of Utility and Regulatory
14 Financial Analysts, in which he stated:

15

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

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.

¹⁴ Gordon, David A., Myron J. Gordon, Lawrence I. Gould. "Choice Among Methods of Estimating Share Yield." *The Journal of Portfolio Management*. Spring 1989. pp. 50-55. (Bourassa's direct testimony, page 29, footnote.)

¹⁵ *Ibid.*

1 *Such an average can be questioned on various grounds. However,*
2 *my judgment is that between the short-term forecast alone and its*
3 *average with the past growth rate in GNP, the latter may be a*
4 *more reasonable figure.*¹⁶ (Emphasis added)

5
6 Simply stated, Professor Gordon would temper the typically higher analysts' forecasts
7 with the typically lower GNP growth rate by averaging the two.

8
9 **Q. How does Staff respond to Mr. Bourassa's statement, "Logically, in estimating future**
10 **growth, financial institutions and analysts have taken into account all relevant**
11 **historical information on a company as well as other more recent information. To**
12 **the extent that past results provide useful indications of future growth prospects,**
13 **analysts' forecasts would already incorporate that information.?" (Bourassa's Direct**
14 **Testimony, Page 29, line 7-10)**

15 A. The appropriate growth rate to use in the DCF formula is the dividend growth rate
16 expected by *investors*, not analysts. Therefore, while analysts may have considered
17 historical measures of growth, it is reasonable to assume that investors rely to some extent
18 on past growth as well. This calls for consideration of both analysts' forecasts as well as
19 past growth.

20
21 **Q. Does Staff have any comments on Mr. Bourassa's slight reliance on historical DPS**
22 **growth to estimate DPS growth constant growth DCF estimates?**

23 A. Yes. As previously stated on Section V of this testimony, the current market price of a
24 stock is equal to the present value of all expected future dividends, not future earnings.
25 Professor Jeremy Siegel from the Wharton School of Finance stated:

26

¹⁶ Gordon, M. J. Keynote Address at the 30th Financial Forum of the Society of Utility and Regulatory Financial Analysts. May 8, 1998. Transparency 3.

1 *Note that the price of the stock is always equal to the present value*
2 *of all future dividends and not the present value of future earnings.*
3 *Earnings not paid to investors can have value only if they are paid*
4 *as dividends or other cash disbursements at a later date. Valuing*
5 *stock as the present discounted value of future earnings is*
6 *manifestly wrong and greatly overstates the value of the firm.¹⁷*
7

8 In other words, investors pay attention to earnings as long as they are paid as dividends.
9 Earnings can easily be overstated. If investors do not receive dividends or other cash
10 disbursement at a later date, then such earnings are meaningless. Accordingly, historical
11 DPS growth should receive appropriate consideration in the estimation of DPS growth
12 component of the DCF cost of equity estimation model.

13
14 **Q. Does Staff have any comment on data in Mr. Bourassa Schedule D-4.4 which he uses**
15 **to calculate a DCF dividend growth rate in his Past and Future DCF method?**

16 A. Yes. Schedule D-4.4 presents calculations based on five years of historical data. Using
17 only five years of data could result in significant variances in the outcomes due to a single
18 high or low data point. A larger number of data points, i.e., use of more years, is usually
19 preferable. Also, five years may be too limited to capture a full business cycle, resulting
20 in unnecessary skewing of the outcomes.

21

¹⁷ Seigel, Jeremy J. Stocks for the Long Run. 2002. McGraw-Hill. New York. P. 93.

1 *Firm-Specific Risk*

2 **Q. Does Staff have any comment on Mr. Bourassa's statement that "Arizona water and**
3 **wastewater utilities face legal constraints that limit their ability to obtain rate relief**
4 **outside of a general rate case in which the 'fair value' of the utility's property is**
5 **determined and used to set rates?"¹⁸**

6 A. Yes. The unique regulatory environments of the sample companies and LQS are firm
7 specific risks for which investors cannot expect compensation. None of Mr. Bourassa's
8 comments demonstrate that Arizona is a less favorable regulatory environment from those
9 of the sample companies. Every regulatory jurisdiction has its own framework with its
10 own specific identifiable advantages and disadvantages; however, it is the overall effect
11 that is relevant. Nothing in Mr. Bourassa's testimony provides this overall perspective.
12 The fact that investors continue to acquire Arizona utilities and invest capital in Arizona
13 utilities debunks the notion that the regulatory environment in Arizona places utilities at
14 some disadvantage. The regulatory framework in Arizona has many attractive attributes
15 including: use of fair value rate base, ability to seek accounting orders, recognition of
16 known and measurable changes, wide use of hook-up fees and regulatory responsiveness
17 to utility industry concerns (e.g., arsenic cost recovery mechanisms and arsenic remedial
18 surcharge mechanisms).

19

¹⁸ Direct Testimony of Thomas J. Bourassa, Las Quintas Serenas Water Company, Docket No. W-01583A-09-0589, page 20 lines 17-20

1 **Q. What is Staff's response to Mr. Bourassa's contention that the market data provided**
2 **by the sample water utilities does not capture all of the market risk associated with**
3 **LQS due to Arizona regulatory requirements' use of historical test years and limited**
4 **out of period adjustment recognition?**¹⁹

5 A. The examples cited by Mr. Bourassa are examples of firm-specific or unique risks.
6 Existence of firm-specific risk does not necessarily indicate that a company has more total
7 risk than others, as all companies have firm-specific risks. Moreover, as previously
8 discussed, the market does not compensate investors for firm-specific risk because it can
9 be eliminated through diversification.

10
11 **Q. Does Staff have a response to Mr. Bourassa's citation that "[i]n Chapter 7 of**
12 **Morningstar's Ibbotson SBBI 2009 Valuation Yearbook, for example, Ibbotson**
13 **reports that when betas (a measure of market risk) are properly estimated, betas are**
14 **larger for smaller companies than for larger companies"**²⁰?

15 A. Yes. It is generally understood that smaller companies tend to have higher betas than
16 larger companies due to larger variations in earnings thus making the smaller companies
17 more risky.

18

¹⁹ Direct Testimony of Thomas J. Bourassa, Las Quintas Serenas Water Company, Docket No. W-01583A-09-0589, page 21 lines 1-2

²⁰ Direct Testimony of Thomas J. Bourassa, Las Quintas Serenas Water Company, Docket No. W-01583A-09-0589, page 33 lines 9-12

1 **Q. What is Staff's response to Mr. Bourassa's contention that LQS should receive a**
2 **higher cost of equity estimate because of its smaller size through a "company specific**
3 **risk premium"²¹ and to his assertion that LQS is not comparable to the six publicly-**
4 **traded water utilities in the sample group due to a difference in size?²²**

5 A. Staff does not agree that LQS should be allowed a small firm risk premium. No generally-
6 accepted analysis demonstrates that utilities are subject to the same size dependent betas
7 as the general market. The Commission has previously ruled that firm size does not
8 warrant recognition of a risk premium. In Decision No. 64282, dated December 28, 2001,
9 for Arizona Water, the Commission stated, "We do not agree with the Company's
10 proposal to assign a risk premium to Arizona Water based on its size relative to other
11 publicly traded water utilities...." In Decision No. 64727, dated April 17, 2002, for Black
12 Mountain Gas, the Commission agreed with Staff that "the 'firm size phenomenon' does
13 not exist for regulated utilities, and that therefore there is no need to adjust for risk for
14 small firm size in utility rate regulation."

15
16 **XI. CONCLUSION**

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

18 A. Staff recommends that the Commission adopt a capital structure for LQS in this
19 proceeding composed of 60.0 percent debt and 40.0 percent equity.

20
21 Staff also recommends that the Commission adopt a 8.5 percent ROR for the Applicant,
22 based on Staff's cost of equity estimates that range from 9.8 percent to 11.3 percent for the
23 sample companies and a 7.1 percent cost of debt.

24

²¹ Direct Testimony of Thomas J. Bourassa, Las Quintas Serenas Water Company, Docket No. W-01583A-09-0589,
page 37 lines beginning line 8

²² Direct Testimony of Thomas J. Bourassa, Las Quintas Serenas Water Company, Docket No. W-01583A-09-0589,
page 37 lines beginning line 8

1 **Q. Does this conclude your Direct Testimony?**

2 A. Yes, it does.

Las Quintas Serenas Water Company Cost of Capital Calculation
 Capital Structure
 And Weighted Average Cost of Capital
 Staff Recommended and Company Proposed

[A] <u>Description</u>	[B] <u>Weight (%)</u>	[C] <u>Cost</u>	[D] <u>Weighted Cost</u>
Staff Recommended Structure	60.0%		
Debt	1	7.1%	4.3%
Common Equity	40.0%	10.6%	4.2%
Weighted Average Cost of Capital			8.5%
Company Proposed Structure	74.2%		
Debt	25.9%	6.6%	4.9%
Common Equity		16.0%	4.1%
Weighted Average Cost of Capital			9.0%

[D] : [B] x [C]

Supporting Schedules: JCM-3 and JCM-4.

Intentionally left blank

Las Quintas Serenas Water Company Cost of Capital Calculation
Final Cost of Equity Estimates
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]
DCF Method				
Constant Growth DCF Estimate		$\frac{D_1/P_0}{1}$	+	$\frac{g}{2}$
Multi-Stage DCF Estimate		3.9%	+	5.4%
Average of DCF Estimates				9.8%
CAPM Method				
Historical Market Risk Premium ³	Rf	β^5	x	(Rp)
Current Market Risk Premium ⁴	2.6%	0.78	x	7.2% ⁶
Average of CAPM Estimates	4.1%	0.78	x	13.0% ⁷
			Average	10.6%
			Financial risk adjustment	
			Total	10.6%

1 MSN Money and Value Line
 2 Schedule JCM-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 SBBI 2009 Yearbook data
 7 Testimony

Las Quintas Serenas Water Company Cost of Capital Calculation
Average Capital Structure of Sample Water Utilities

[A]	[B]	[C]	[D]
<u>Company</u>	<u>Debt</u>	Common <u>Equity</u>	<u>Total</u>
American States Water	46.8%	53.2%	100.0%
California Water	48.0%	52.0%	100.0%
Aqua America	56.6%	43.4%	100.0%
Connecticut Water	55.8%	44.2%	100.0%
Middlesex Water	53.3%	46.7%	100.0%
SJW Corp	<u>49.0%</u>	<u>51.0%</u>	<u>100.0%</u>
Average Sample Water Utilities	51.6%	48.4%	100.0%
LQSWC - Actual Capital Structure	67.9%	32.1%	100.0%

Source:
Sample Water Companies from Value Line

Las Quintas Serenas Water Company Cost of Capital Calculation
Growth in Earnings and Dividends
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]
<u>Company</u>	Dividends Per Share 1999 to 2009 <u>DPS¹</u>	Dividends Per Share Projected <u>DPS¹</u>	Earnings Per Share 1999 to 2009 <u>EPS^{1,2}</u>	Earnings Per Share Projected <u>EPS¹</u>
American States Water	1.6%	3.4%	3.1%	7.7%
California Water	0.7%	1.3%	2.5%	5.9%
Aqua America	6.6%	6.5%	6.2%	12.7%
Connecticut Water	1.3%	No Projection	1.5%	No Projection
Middlesex Water	1.7%	No Projection	-0.5%	No Projection
SJW Corp	<u>5.1%</u>	<u>No Projection</u>	<u>-0.7%</u>	<u>No Projection</u>
Average Sample Water Utilities	2.8%	3.7%	3.3%	8.8%

¹ Value Line

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

Las Quintas Serenas Water Company Cost of Capital Calculation
 Sustainable Growth
 Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]
Company	Retention Growth 2000 to 2009 br	Retention Growth Projected br	Stock Financing Growth vs	Sustainable Growth 2000 to 2009 br + vs	Sustainable Growth Projected br + vs
American States Water	3.0%	5.4%	1.7%	4.7%	7.1%
California Water	2.0%	5.9%	3.5%	5.6%	9.4%
Aqua America	4.6%	7.2%	3.6%	8.2%	10.8%
Connecticut Water	2.5%	No Projection	0.6%	3.2%	No Projection
Middlesex Water	1.2%	No Projection	2.2%	3.3%	No Projection
SJW Corp	4.0%	No Projection	0.1%	4.1%	No Projection
Average Sample Water Utilities	2.9%	6.2%	2.0%	4.8%	9.1%

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

Las Quintas Serenas Water Company Cost of Capital Calculation
 Selected Financial Data of Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[G]
Company	Symbol	Spot Price 6/9/2010	Book Value	Mkt To Book	Value Line Beta β	Raw Beta β_{raw}
American States Water	AWR	32.02	19.63	1.6	0.80	0.67
California Water	CWT	33.96	20.60	1.6	0.75	0.60
Aqua America	WTR	16.73	8.29	2.0	0.65	0.45
Connecticut Water	CTWS	20.08	12.81	1.6	0.80	0.67
Middlesex Water	MSEX	15.06	10.94	1.4	0.75	0.60
SJW Corp	SJW	22.78	14.75	1.5	0.95	0.90
Average				1.6	0.78	0.65

[C]: Msn Money

[D]: Value Line

[E]: [C] / [D]

[F]: Value Line

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

Las Quintas Serenas Water 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	2.8%
DPS Growth - Projected ¹	3.7%
EPS Growth - Historical ¹	3.3%
EPS Growth - Projected ¹	8.8%
Sustainable Growth - Historical ²	4.8%
<u>Sustainable Growth - Projected²</u>	<u>9.1%</u>
Average	5.4%

¹ Schedule JCM-5

² Schedule JCM-5

Las Quintas Serenas Water Company Cost of Capital Calculation
 Multi-Stage DCF Estimates
 Sample Water Utilities

[A] Company	[B] Current Mkt. Price (P ₀) ¹	[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	6/9/2010	1.07	1.13	1.19	1.25	6.6%	9.8%
California Water	32.0	1.24	1.31	1.38	1.45	6.6%	10.1%
Aqua America	34.0	0.60	0.63	0.66	0.70	6.6%	10.0%
Connecticut Water	16.7	0.92	0.97	1.03	1.08	6.6%	11.1%
Middlesex Water	20.1	0.74	0.78	0.82	0.87	6.6%	11.4%
SJW Corp	15.1	0.71	0.75	0.79	0.83	6.6%	9.6%
	22.8						

Average **10.3%**

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

Where : P₀ = 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 JCM-7
 2 Derived from Value Line Information
 3 Average annual growth in GDP 1929 - 2009 in current dollars.
 4 Internal Rate of Return of Projected Dividends

Las Quintas Serenas Water Company Cost of Capital Calculation
 Cost of Debt Calculation including Debt Issuance Costs

Outstanding WIFA Loan Amount As of September 30, 2009	\$ 1,725,175	Interest Rate	6.60%	Interest Expense	\$ 113,862	Debt Issuance Costs	\$ 185,625	Yearly Amortization of Debt Issuance Costs	\$ 9,281	Interest Expense Including Yearly Amortization of Debt Issuance Costs	\$ 123,143
-------------------------------------------------------------	--------------	---------------	-------	------------------	------------	------------------------	------------	--------------------------------------------------	----------	--------------------------------------------------------------------------------	------------

Interest Rate Including Yearly
 Amortization of Debt Issuance Costs
 7.1%

BEFORE THE ARIZONA CORPORATION COMMISSION

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

IN THE MATTER OF THE APPLICATION OF) DOCKET NO. W-01583A-09-0589
LAS QUINTAS SERENAS WATER CO., AN)
ARIZONA CORPORATION, FOR (i) A)
DETERMINATION OF THE FAIR VALUE OF)
ITS UTILITY PLANT AND PROPERTY AND)
(ii) AN INCREASE IN ITS WATER RATES)
AND CHARGES FOR WATER UTILITY)
SERVICE BASED THEREON.)
_____)

DIRECT
TESTIMONY
OF
MARLIN SCOTT, JR.
UTILITIES ENGINEER
UTILITIES DIVISION
ARIZONA CORPORATION COMMISSION

AUGUST 9, 2010

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
PURPOSE OF TESTIMONY	2
ENGINEERING REPORT	3

EXHIBIT

Engineering Report for Las Quintas Serenas Water Company	MSJ
----------------------------------------------------------------	-----

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”), Utilities Division, 1200 West Washington Street, Phoenix,
5 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,
14 reviewing cost of service studies and preparing investigative reports; providing technical
15 recommendations and suggesting corrective action for water and wastewater systems; and
16 providing written and oral testimony on rate applications and other cases before the
17 Commission.

18
19 **Q. How many cases have you analyzed for the Utilities Division?**

20 A. I have analyzed approximately 545 cases covering various responsibilities for the Utilities
21 Division.

22
23 **Q. Have you previously testified before this Commission?**

24 A. Yes, I have testified in 79 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
12 (“NARUC”) Staff Subcommittee on Water.
13

14 **PURPOSE OF TESTIMONY**

15 **Q. What was your assignment in this proceeding?**

16 A. My assignment was to provide Staff’s engineering evaluation for Las Quintas Serenas
17 Water Company (“Company”) in this rate proceeding.
18

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

20 A. To present the findings of Staff’s engineering evaluation of the operation of the Company.
21 The findings are contained in the Engineering Report that I have prepared for this
22 proceeding and is included as Exhibit MSJ attached to this Direct Testimony.
23

1 **ENGINEERING REPORT**

2 **Q. Would you briefly describe what was involved in preparing your Engineering Report**
3 **for this rate proceeding?**

4 A. After reviewing the application for the Company, I physically inspected the water system
5 to evaluate its operation and to determine if any plant items were not used and useful. I
6 obtained information from the Company regarding plant facilities, water testing expense,
7 and I analyzed that information. I also contacted the Arizona Department of Water
8 Resources ("ADWR") to determine if the Company was in compliance with the ADWR's
9 requirements governing water providers. Based on all the above, I prepared the attached
10 Engineering Report.

11

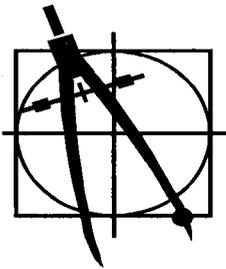
12 **Q. Do you provide a summary of the water company operation contained in your**
13 **Engineering Report?**

14 A. Yes, the summary containing Staff's engineering conclusions and recommendations are
15 located at the beginning of my Exhibit MSJ.

16

17 **Q. Does this conclude your Direct Testimony?**

18 A. Yes, it does.



**Engineering Report
For
Las Quintas Serenas Water Company
Docket No. W-01583A-09-0589 (Rates)**

June 2, 2010

SUMMARY

CONCLUSIONS

- A. The Las Quintas Serenas Water Company ("Company") has a water loss of 7.2% which is within the acceptable limit of 10% recommended by Staff.
- B. The Company's test year well capacity of 1,525 GPM and storage capacity of 490,000 gallons is adequate to serve the present customer base and reasonable growth.
- C. According to an Arizona Department of Environmental Quality ("ADEQ") Compliance Status Report, dated March 19, 2010, ADEQ has determined that the Company's system, Public Water System No. 10-064, is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4.
- D. The Company is located in the Arizona Department of Water Resources' ("ADWR") Tucson Active Management Area and ADWR has reported that the Company is in compliance with ADWR's requirements governing water providers and/or community water systems.
- E. According to the Utilities Division Compliance database, the Company has no delinquent Arizona Corporation Commission compliance items.
- F. The Company has an approved curtailment tariff with an effective date of January 1, 2005.
- G. Under the Arizona Administrative Code's old Section R18-4-115, the Company has an approved Backflow Prevention Tariff ("BPT") with an effective date of September 27, 1997. This old Section R18-4-115 was renumbered to Section R18-4-215, effective August 30, 2008.

On July 9, 2010, the Company filed a new application under Docket No. 10-0281 in order to update its BPT using the renumbered Section R18-4-215. This updated BPT will become effective on August 8, 2010 by operation of law.

RECOMMENDATIONS

1. Staff recommends an average annual water testing expense of \$4,247 be adopted for this proceeding.
2. Staff recommends the removal of the natural gas engines and the Santa Cruz Meadows Subdivision mains at a total cost of \$41,000 from the plant-in-service because these plant items are not used and useful.
3. Staff recommends that the Company continue to use the depreciation rates by individual National Association of Regulatory Utility Commissioners category as presented in Table I-1.
4. Staff recommends the acceptance of the Company's proposed service line and meter installation charges as presented in Table J-1.
5. Staff recommends that the existing Off-Site Hook-Up Fee Tariff for all meter sizes at \$250 should remain in effect.
6. Staff recommends that the existing Arsenic Impact Hook-Up Fee Tariff, starting at \$1,135, should remain in effect.

TABLE OF CONTENTS

	<u>Page</u>
SUMMARY	1
Conclusions.....	1
Recommendations.....	2
A. Location of Company	4
B. Description of Water System	4
C. Water Use.....	7
D. Growth	7
E. ADEQ Compliance	7
F. ADWR Compliance	8
G. ACC Compliance	8
H. Plant Not Used and Useful.....	8
I. Depreciation Rates	9
J. Service Line and Meter Installation Charges.....	9
K. Curtailment Tariff	9
L. Backflow Prevention Tariff	9
M. Off-Site Facilities Hook-Up Fee Tariff.....	9
N. Arsenic Impact Hook-Up Fee Tariff.....	10
FIGURES	
A-1. Pima County Map	12
A-2. Certificated Area.....	13
C-1. Water Use.....	14
D-1. Growth	14
TABLES	
E-1. Water Testing Expense	15
J-1. Depreciation Rates	16
K-1. Service Line and Meter Installation Charges.....	17

A. LOCATION OF LAS QUINTAS SERENAS WATER COMPANY ("COMPANY")

The Company provides water service within the southwestern town limits of Sahuarita which is located approximately 22 miles south of downtown Tucson. Figure A-1 shows the location of the Company within Pima County and Figure A-2 shows the approximate 2.5 square-miles of certificated area.

B. DESCRIPTION OF WATER SYSTEM

The water system was field inspected on March 25, 2010, by Marlin Scott, Jr., Staff Utilities Engineer, in the accompaniment of Omar Mejia, Administrative Manager for the Company. The operation of the water system consisted of three producing wells, a centralized arsenic treatment system, three storage tanks, one booster system and a distribution system serving 857 metered customers and 156 standpipe customers as of June 2009. A detailed plant facility description follows:

Table 1. Well Data

Well Information	Well #5	Well #6	Well #7
ADWR ID No.	55-608531	55-608530	55-565940
Casing Size	10" & 8"	12-inch	12-inch
Casing Depth	10" to 513' w/ 8" to 805'	837 feet	910 feet
Pump Size	40-Hp	75-Hp	150-Hp
Pump Type	Submersible	Turbine	Turbine
Pump Yield	200 GPM	500 GPM	825 GPM
Wellhead Meter	4-inch	4-inch	8-inch
Pressure tank	5,000 gallons	4,000 gallons (surge arrestor)	5,000 gallons (surge arrestor)
Treatment	None	Chlorination & arsenic	Chlorination & arsenic
Arsenic levels	Untreated at 9.8 ppb	Untreated at 14 ppb Blended to 0.005 ppb	Untreated at 11 ppb Blended to 0.005 ppb

Table 2. Storage Tanks

Capacity (Gallons)	Quantity (Each)	Location
400,000	1	At Well #6
60,000	1	On side of berm (hill)
30,000	1	On side of berm (hill)
Total: 490,000	3	

Table 3. Pumping Facilities

Location	Pumping Facilities
Booster System at Well #6	Four 25-Hp booster pumps with a 500 gallon pressure tank as a surge arrestor.
Standpipe #1 and Standpipe #2	Two 5,000 gallon pressure tanks as surge arrestors, one 1,000 gallon pressure tank and a 4-inch double check backflow prevention assembly.

Table 4. Water Mains

Diameter	Material	Length
2-inch	Copper	250 ft.
3-inch	Transite	240 ft.
4-inch	Transite	19,840 ft.
6-inch	Transite	32,487 ft.
8-inch	Transite	2,760 ft.
10-inch	Transite	420 ft.
12-inch	Transite	1,340 ft.
2-inch	PVC	1,550 ft.
4-inch	PVC	5,109 ft.
6-inch	PVC	25,158 ft.
8-inch	PVC	10,610 ft.
12-inch	PVC	1,950 ft.
6-inch	Ductile iron	575 ft.
	Total:	102,289 ft. or 19.4 miles

Table 5. Customer Meters

Size	Quantity
5/8 x 3/4-inch	810
3/4-inch	6
1- inch	29
1-1/2-inch	6
2-inch	3
3-inch Turbine	-
3-inch Compound	1
4-inch Turbine	-
4-inch Compound	2
Total:	857
Standpipe customers	156

Table 6. Fire Hydrants

Size	Quantity
Standard	None

Table 7. Structures & Treatment Equipment

Structures & Treatment Equipment
Well #5: 50' x 90' chain link fencing ("CLF"), storage building – 10' x 20'.
Well #6: 100' x 140' CLF & block fencing, metal shed for chlorinator – 5' x 5', electrical panel metal shed – 6' x 20', 125 kW diesel generator.
Liquid chlorination system – used for pre-treatment for Wells #6 and #7 prior to arsenic treatment.
Arsenic treatment system at 1,275 GPM capacity with a 10,000 gallon backwash tank and a liquid chlorination unit. Flows from Wells #6 & #7 are combined before being split for partial treatment and by-pass flow, resulting in blending of treated water with untreated water.
Well #7: 40' x 50' CLF, well shed – 7.5' x 7.5', control building & panel shed – 8' x 20'. This well transports water to Well #6 for arsenic treatment.

C. WATER USE

Water Sold

Based on the information provided by the Company, water use for the test year ending June 2009 is presented in Figure C-1. Customer consumption experienced a high monthly average water use of 624 gallons per day (“GPD”) per connection in June 2009 and a low monthly average water use of 271 GPD per connection in January 2009 for an average annual use of 412 GPD per connection.

Non-Account Water

Non-account water should be 10% or less. The Company reported 166,131,000 gallons pumped and 154,233,000 gallons sold, resulting in a water loss of 7.2%. This 7.2% is within the acceptable limit of 10% recommended by Staff.

System Analysis

Using the Company’s test year data, the Company reported the peak use month as June 2009 with 19,155,000 gallons sold. Based on this data, Staff estimates the peak day demand to be 0.54 GPM per connection for evaluating well capacity sufficiency. For storage capacity evaluation, Staff used 624 GPD per connection. Using these factors, Staff determined that the test year well capacity of 1,525 GPM and storage capacity of 490,000 gallons is adequate to serve the present customer base and reasonable growth.

D. GROWTH

Figure D-1 depicts the customer growth using linear regression analysis. The number of customers was obtained from Annual Reports, ending September of each fiscal year, submitted to the Commission. During the 2009 year, the Company had 857 metered customers and 156 standpipe customers, totaling to 1,013 customers, and it is projected that the Company could have approximately a total of 1,150 customers by September 2014.

E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (“ADEQ”) COMPLIANCE

Compliance

According to an ADEQ Compliance Status Report, dated March 19, 2010, ADEQ has determined that the Company’s system, Public Water System No. 10-064, is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4.

Water Testing Expense

The Company is subject to mandatory participation in the ADEQ Monitoring Assistance Program ("MAP"). The Company reported its water testing expense at \$7,408 during the test year. Staff has reviewed this expense and has recalculated an annual expense of \$4,247 with participation in the MAP as shown in Table E-1. Staff recommends this average annual water testing expense of \$4,247 be adopted for this proceeding.

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

The Company is located in the Tucson Active Management Area. According to an ADWR compliance status report, dated April 5, 2010, the Company is in compliance with ADWR requirements governing water providers and/or community water systems.

G. ARIZONA CORPORATION COMMISSION ("ACC") COMPLIANCE

According to the Utilities Division Compliance database, the Company has no delinquent ACC compliance items.

H. PLANT NOT USED AND USEFUL

In the prior 2004 rate case, the Company operated Well #6 using a natural gas engine. In 2008, during the construction and installation of the arsenic treatment system and other new plant facilities, the natural gas engine was taken out of service. In addition, Staff noted that during its field inspection, the Santa Cruz Meadows Subdivision had plant facilities constructed on site, but no homes. Through its field inspection and Company data responses, Staff found that the following plant items are not used and useful:

Table H-1. Plant Not Used and Useful

Acct. No.	Plant	Year Installed	Original Cost
311	Electric Pumping Equipment Well #6 – Natural gas well engine (taken out of service in 2008).	1996	\$10,090
	Natural gas engine (spare)	1997	\$9,992
331	Transmission & Distribution Mains Santa Cruz Meadows Subdivision – 239 lots	2008	\$20,918
	Total:		\$41,000

Therefore, Staff recommends the removal of the natural gas engines and the subdivision mains at a total cost of \$41,000 from the plant-in-service because these plant items are not used and useful.

I. DEPRECIATION RATES

In the prior rate case, the Company was authorized to use Staff's typical and customary depreciation rates. These depreciation rates are presented in Table I-1 and it is recommended that the Company continue to use these depreciation rates by individual National Association of Regulatory Utility Commissioners category.

J. SERVICE LINE AND METER INSTALLATION CHARGES

The Company proposed changes to its service line and meter installation charges. The Company's proposed charges are within Staff's range of customary installation charges. Since the Company may at times install meters on existing service lines, it would be appropriate for some customers to only be charged for the meter installation. Therefore, Staff recommends approval of the proposed charges as shown in Table J-1, with separate installation charges for the service line and meter installations.

K. CURTAILMENT PLAN TARIFF

The Company has an approved curtailment tariff with an effective date of January 1, 2005.

L. BACKFLOW PREVENTION TARIFF

Under the Arizona Administrative Code's old Section R18-4-115, the Company has an approved Backflow Prevention Tariff ("BPT") with an effective date of September 27, 1997. This old Section R18-4-115 was renumbered to Section R18-4-215, effective August 30, 2008.

On July 9, 2010, the Company filed a new application under Docket No. 10-0281 in order to update its BPT using the renumbered Section R18-4-215. This updated BPT will become effective on August 8, 2010 by operation of law.

M. OFF-SITE HOOK-UP FEE TARIFF

The Company currently has an approved Off-Site Hook-Up Fee ("HUF") Tariff for all meter sizes at \$250 with an effective date of November 2, 1994. In its rate application, the Company has requested to increase this Off-Site HUF Tariff starting at \$1,135 for a 5/8 x 3/4-inch meter.

In response to Staff's Data Request MSJ 4.1, the Company stated that the requested increase beginning at \$1,135 was from the adoption of the existing Arsenic Impact HUF Tariff, approved by Decision No. 68863 on July 28, 2006, that was to replace the Off-Site HUF Tariff. The Company further stated that the requested increase would be used to continue to pay on debt

service on a Water Infrastructure Finance Authority loan and to provide funds necessary for additional infrastructure.

Since the Company has constructed and placed into service approximately \$2.1 million worth of off-site plant and arsenic treatment facilities in 2008, this existing Off-site HUF Tariff should remain in effect in order to assist the Company in repayment of loans obtained for the installation of off-site facilities. Therefore, Staff recommends that the existing Off-Site HUF Tariff for all meter sizes at \$250 should remain in effect.

N. ARSENIC IMPACT HOOK-UP FEE TARIFF

The Company has an approved Arsenic Impact Hook-Up Fee Tariff, starting at \$1,135, with an effective date of July 28, 2006. In its rate application, the Company is requesting to discontinue this Arsenic Impact HUF tariff.

Since the Company has constructed and placed into service approximately \$2.1 million worth of off-site plant and arsenic treatment facilities in 2008, this existing Arsenic Impact HUF Tariff should remain in effect in order to assist the Company in repayment of loans obtained for the installation of arsenic treatment facilities. Therefore, Staff recommends that the existing Arsenic Impact HUF Tariff, starting at \$1,135, should remain in effect.

FIGURES

Figure A-1. Pima County Map.....12

Figure A-2. Certificated Areas.....13

Figure C-1. Water Use14

Figure D-1. Growth.....14

TABLES

Table E-1. Water Testing Expense15

Table I-1. Depreciation Rates16

Table J-1. Service Line and Meter Installation Charges.....17

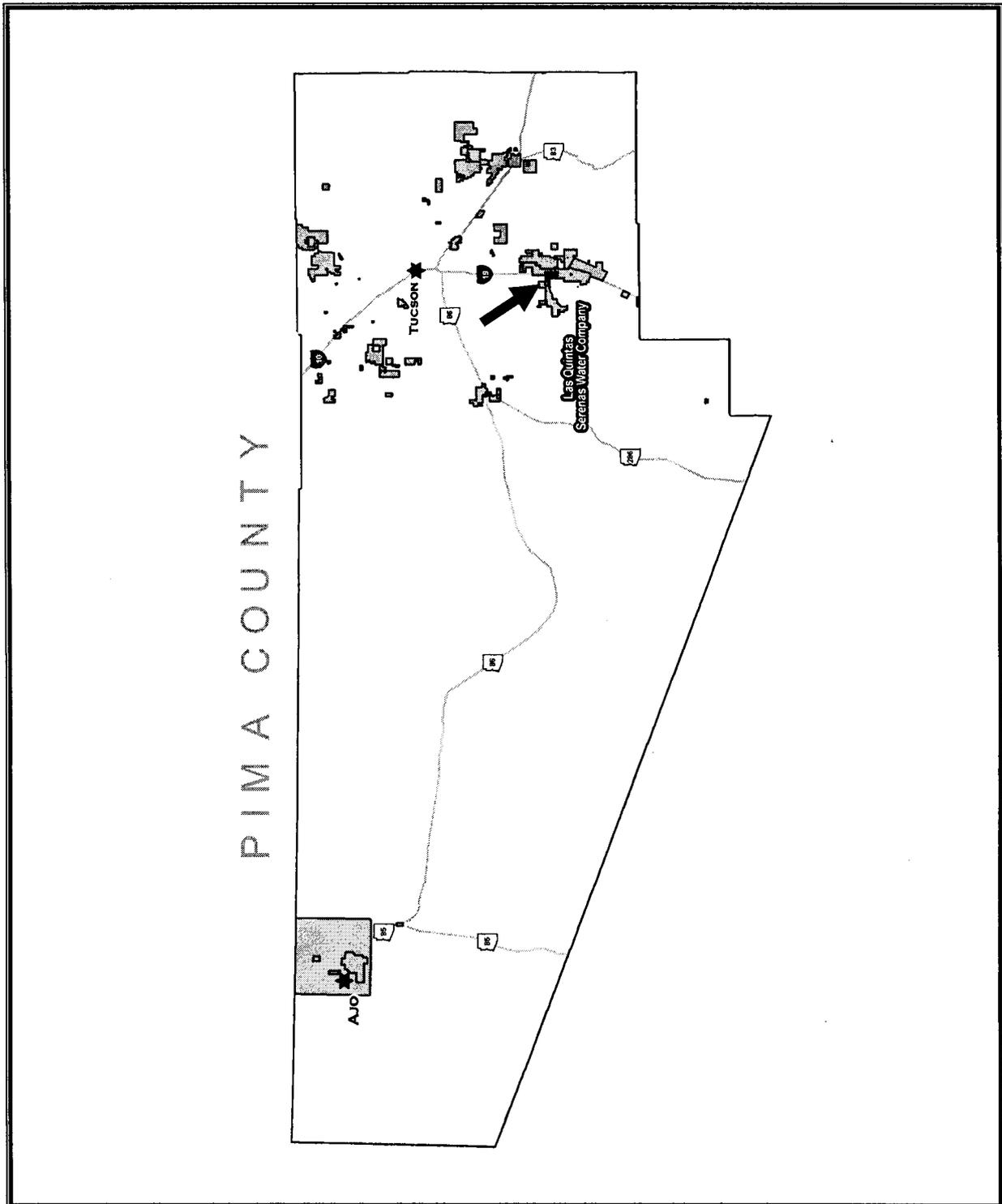


Figure A-1. Pima County Map

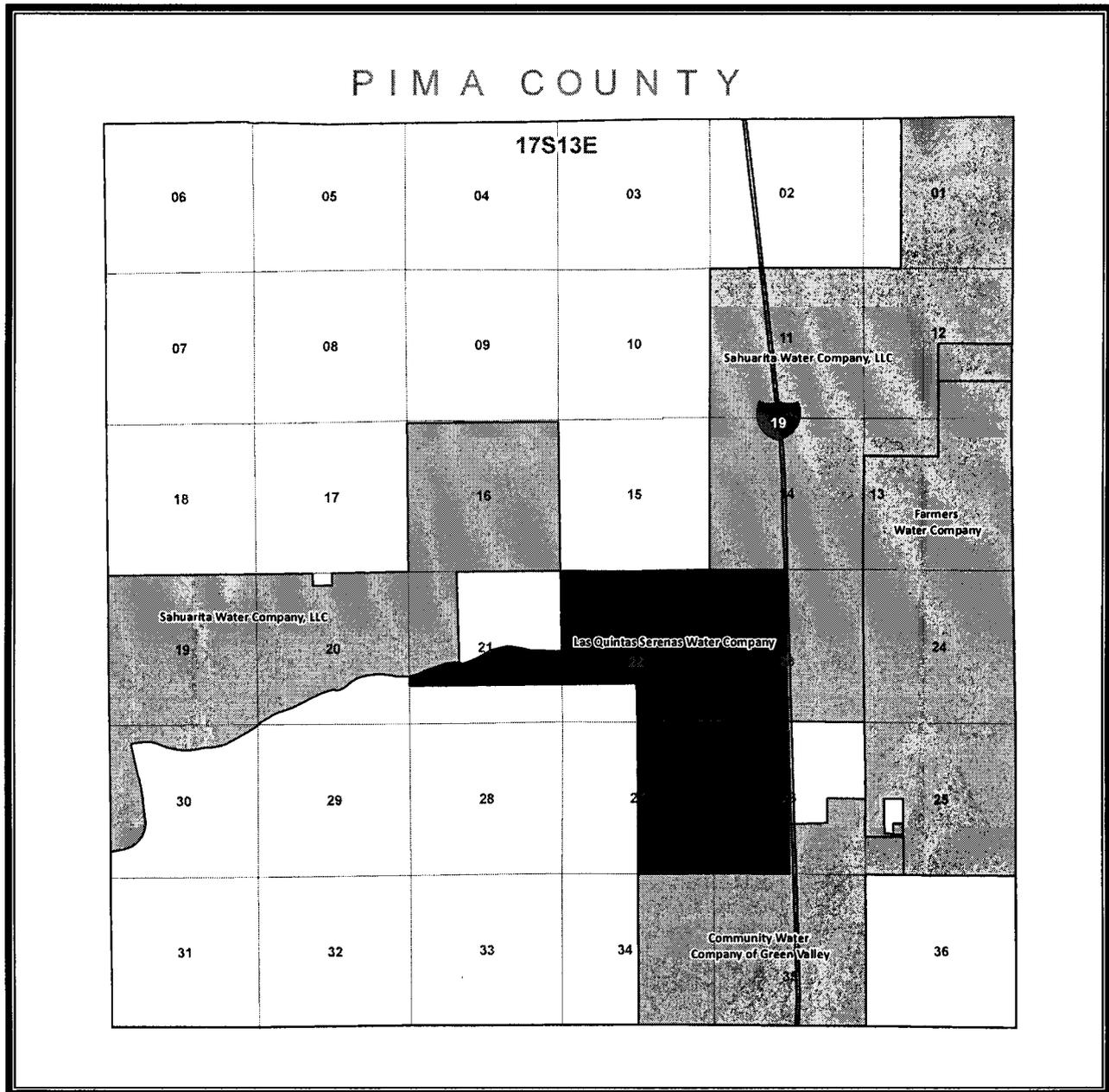


Figure A-2. Certificated Areas

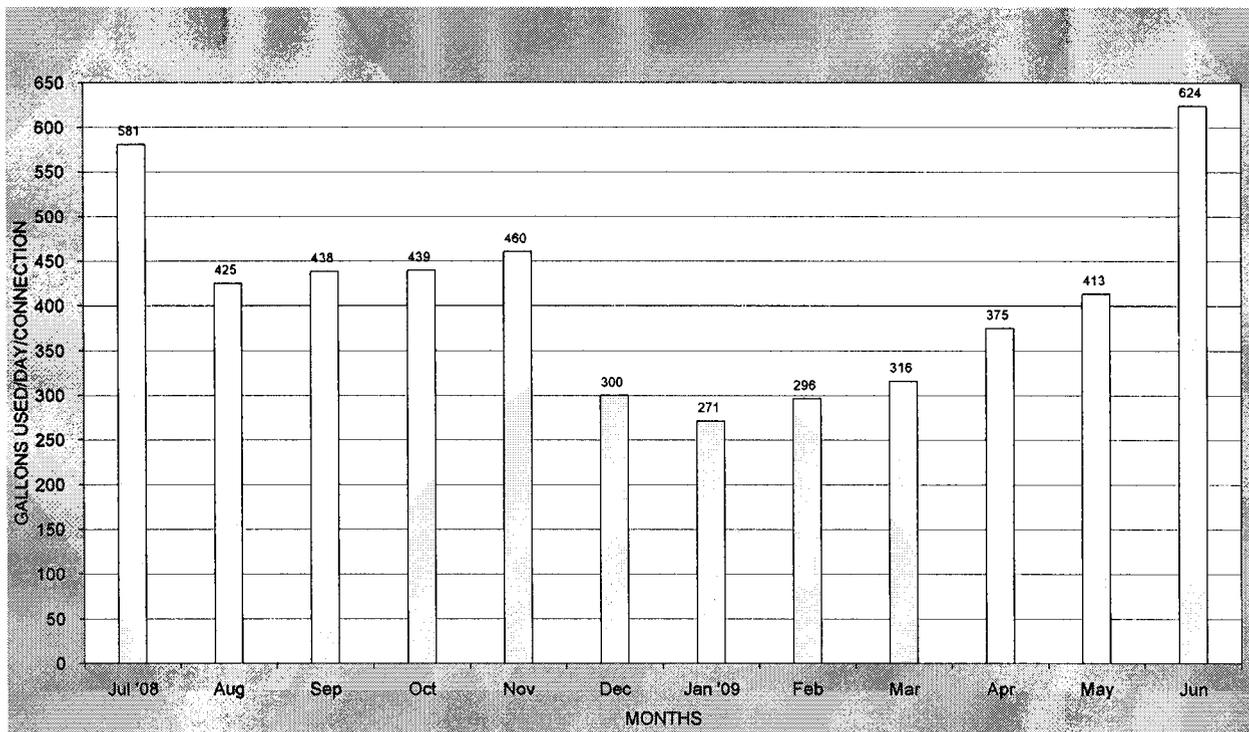


Figure C-1. Water Use

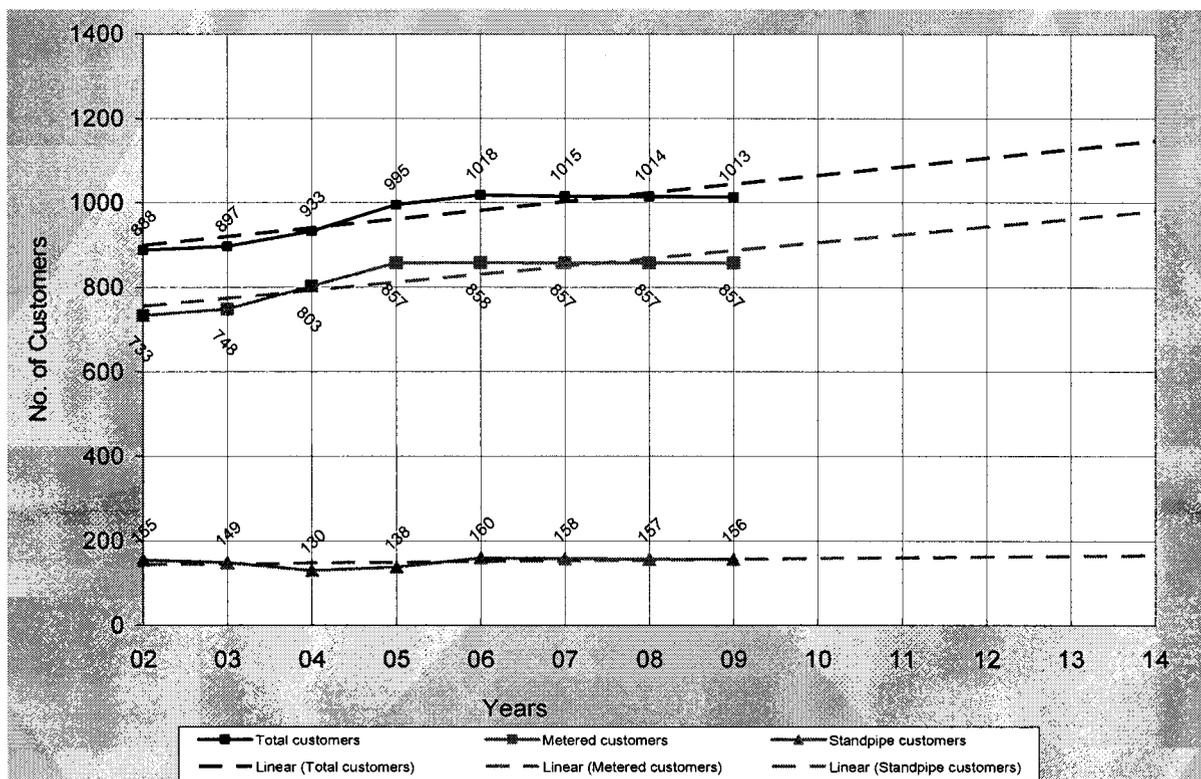


Figure D-1. Growth

Table E-1. Water Testing Expense

Monitoring	Cost per test	No. of test	Annual Cost
Total coliform – 3 samples per month	\$20	36	\$720
MAP – IOCs, Radiochemical, Nitrate, Nitrite, Asbestos, SOCs, & VOCs	MAP	MAP	\$3,036
Arsenic – 1 sample per quarter	\$25	4	\$100
Lead & Copper – 10 samples per 3 years	\$33	10	\$110
MRDL – 3 samples per month	\$0.44	36	\$16
D/DBP – TTHM – annually	\$110	1	\$110
HAA5 – annually	\$155	1	\$155
Total			\$4,247

Note: ADEQ - MAP invoice for the 2010 Calendar Year is \$3,035.88.

Table I-1. Depreciation Rates

NARUC Account 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	----	----

NOTES:

1. These depreciation rates represent average expected rates. Water companies may experience different rates due to variations in construction, environment, or the physical and chemical characteristics of the water.
2. 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 J-1. Service Line and Meter Installation Charges

Meter Size	Current Total Charges	Proposed Service Line Charges	Proposed Meter Charges	Proposed Total Charges
5/8 x 3/4"	\$150	\$445	\$155	\$600
3/4"	NT	\$445	\$255	\$700
1"	\$225	\$495	\$315	\$810
1-1/2"	\$475	\$550	\$525	\$1,075
2" Turbine	\$625	\$830	\$1,045	\$1,875
2" Compound	NT	\$830	\$1,890	\$2,720
3" Turbine	\$850	\$1,045	\$1,670	\$2,715
3" Compound	NT	\$1,165	\$2,545	\$3,710
4" Turbine	\$1,800	\$1,490	\$2,670	\$4,160
4" Compound	NT	\$1,670	\$3,645	\$5,315
6" Turbine	\$3,000	\$2,210	\$5,025	\$7,235
6" Compound	\$NT	\$2,330	\$6,920	\$9,250
8"	NT	At Cost	At Cost	At Cost

Notes: (1) NT = no tariff.

(2) For the 4-inch turbine meter size, the Company requested \$3,670 and \$5,160 for the proposed meter charges and total charges, respectively. However, these charges appear to be a typo because per the Company's noted reference on Schedule H-3, Page 5 of its application to Staff's February 21, 2008 updated installation charges, the actual charges are \$2,670 and \$4,160, respectively.