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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

IN THE MATTER OF THE APPLICATION OF
CORDES LAKES WATER COMPANY FOR A
PERMANENT RATE INCREASE.

DOCKET NO. W-02060A-07-0256

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

Staff of the Arizona Corporation Commission hereby files the Direct Testimony of Gary T. McMurry, Katrin Stukov, and Steve P. Irvine in the above-referenced matter.

RESPECTFULLY SUBMITTED this 17th day of October, 2007.

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17th day of October, 2007 to:

Mr. Neil Folkman
Authorized Representative
Cordes lakes Water Company
2501 East Palo verde
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Arizona Corporation Commission
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**DIRECT
TESTIMONY
OF**

**GARY T. MCMURRY
KATRIN STUKOV
STEVE P. IRVINE**

DOCKET NO. W-02060A-07-0256

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OCTOBER 17, 2007

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Chairman

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CORDES LAKES WATER COMPANY FOR)
AN INCREASE IN ITS RATES)
_____)

DOCKET NO. W-02060A-07-0256

DIRECT

TESTIMONY

OF

GARY T. MCMURRY

PUBLIC UTILITIES ANALYST IV

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

OCTOBER 17, 2007

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
II. BACKGROUND	3
III. CONSUMER SERVICE.....	3
IV. Summary of PROPOSED REVENUES	4
V. Summary OF STAFF’S RATE BASE AND OPERATING INCOME ADJUSTMENTS	4
VI. RATE BASE.....	6
Fair Value Rate Base.....	6
Rate Base Summary	6
Rate Base Adjustment No. 1 - Land.....	7
Rate Base Adjustment No. 2 – Transportation Equipment	8
Rate Base Adjustment No. 3 – Unsupported Plant	8
Rate Base Adjustment No. 4 – Reinstate Used and Useful Assets	9
Rate Base Adjustment No. 5 – Accumulated Depreciation	10
Rate Base Adjustment No. 6 – Recognition of Contributions in Aid of Construction (“CIAC”).....	11
Rate Base Adjustment No. 7 – Working Capital Allowance	11
VII. OPERATING INCOME.....	12
Revenues.....	12
Operating Income Adjustment No. 1 – Sales Tax.....	12
Operating Income Adjustment No. 2 – Contract Labor	13
Operating Income Adjustment No. 3 – Repairs and Maintenance Expense	14
Expenses	14
Operating Income Adjustment No. 4 – Rate Case Expense	14
Operating Income Adjustment No. 5 – Depreciation Expense	15
Operating Income Adjustment No. 6 – Property Tax Expense	16
Operating Income Adjustment No. 7 – Income Tax Expense.....	17
Operating Income Adjustment No. 8 – Non-Operating Income and Expense	18
Operating Income Adjustment No. 9 – Water Testing Expense	18
Operating Income Adjustment No. 10 – Other Operating Revenue.....	19
VIII. RATE DESIGN.....	20
Present Rate Design	20
The Company’s Proposed Water Rate Design.....	20
Staff’s Recommended Water Rate Design.....	21
Deviation from Tariff.....	24

SCHEDULES

Revenue Requirement.....	GTM-1
Gross Revenue Conversion Factor.....	GTM-2
Rate Base – Original Cost.....	GTM-3
Summary of Original Cost Rate Base Adjustments.....	GTM-4
Rate Base Adjustment #1 - Remove Non-used and Useful Land.....	GTM-5
Rate Base Adjustment #2 – Allocation of Common Vehicle	GTM-6

Rate Base Adjustment #3 – Removal of Unsupported Plant	GTM-7
Rate Base Adjustment #4 – Reinstate Used and Useful Fully Depreciated Plant	GTM-8
Rate Base Adjustment #5 – Recalculation of Accumulated Depreciation	GTM-9
Rate Base Adjustment #6 – Recognition of CIAC	GTM-10
Rate Base Adjustment #7 – Working Capital Allowance.....	GTM-11
Summary of income Statement – Test Year and Staff Recommended.....	GTM-12
Summary of Operating Income Adjustments – Test Year.....	GTM-13
Operating Income Adjustment #1 – Remove Sales Tax.....	GTM-14
Operating Income Adjustment #2 – Remove Non-Utility Revenues and Expenses for Contract Labor.....	GTM-15
Operating Income Adjustment #3 – Normalization of Repairs & Maintenance	GTM-16
Operating Income Adjustment #4 – Normalization of Rate Case Expense.....	GTM-17
Operating Income Adjustment #5 – Depreciation Expense.....	GTM-18
Operating Income Adjustment #6 – Property Tax Expense	GTM-19
Operating Income Adjustment #7 – Income Tax Expense	GTM-20
Operating Income Adjustment #8 – Remove Non-operating Income and Expense.....	GTM-21
Operating Income Adjustment #9 – Water Testing Expense	GTM-22
Operating Income Adjustment #10 – Other Operating Revenue.....	GTM-23
Rate Design.....	GTM-24
Typical Bill Analysis – Average and Median Cost Comparison.....	GTM-25
Typical Bill Analysis – 3/4-Inch Meter	GTM-26

**EXECUTIVE SUMMARY
CORDES LAKES WATER COMPANY
DOCKET NO. W-02060A-07-0256**

Cordes Lakes Water Company ("Cordes" or "Company") is an Arizona for profit Class C public service corporation providing water to approximately 1,300 customers in and around Cordes Junction, Arizona. On June 7, 2007, Cordes Lakes Water Company filed a revised general rate application. The application shows that Cordes incurred a \$116,109 operating loss for the test year that ended December 31, 2006. Cordes requests a \$146,109 revenue increase to provide a \$30,000 operating income representing a 5.72 percent rate of return on a \$524,384 rate base.

The testimony of Mr. Gary McMurry presents Staff's recommendation in the areas of rate base, operating income, revenue requirement and rate design. Staff recommends a \$99,456 (26.69 percent) revenue increase to provide a 10.00 percent rate of return on a \$161,919 rate base. Staff's recommendation reflects seven rate base adjustments and ten operating income adjustments. Staff's adjustment to remove \$350,954 of unsupported plant additions is the primary contributor to the difference between the Staff and Company required revenue increases.

The present rate design has a minimum monthly charge of \$11.00 per customer for all meter sizes. There are three meter sizes presently: ¾-inch, 1-inch and 2-inch. Customers with meters of each size receive the first 1,000 gallons of water each month as part of the minimum monthly charge and pay a commodity rate of \$2.90 per 1,000 gallons for all gallons after the first 1,000.

The Company's proposed rate design has a two-tiered commodity rate structure. The Company's proposed rate structure provides identical recommendations for the ¾-inch and the 1-inch meters, but proposes a much larger increase to the monthly minimum charge for the 2-inch meters. The tier structure for the 2-inch class also differs from the other two classes. While the increase to the minimum charge is much larger for the 2-inch meters than the other two meter sizes, the commodity rates for 2-inch meters are only applicable after the first 50,000 gallons used by customers.

Staff recommends a three-tier inverted block rate structure for the ¾-inch customer classes with break-over points at 3,000 gallons and at 8,000 gallons. Staff recommends a two-tier inverted block rate structure for the 1-inch and 2-inch meters. Staff's methodology for determination of monthly minimum charges is based on the volumetric capacity of each meter size and increases proportionally to the volumetric capacity of the meter size. Staff's recommended rate design would generate Staff's recommended water revenue requirement of \$472,052, including \$459,409 from metered water sales. Metered water revenue of \$459,409 represents a 24.48 percent increase over the test year metered water revenue. The typical ¾-inch meter bill with median use of 2,645 gallons would decrease by \$0.14, or -0.90 percent, from \$15.77 to \$15.63.

In response to a data request the Company indicated that on five occasions it has charged non-sufficient fund fees to customers above the charge indicated in the tariff. Staff recommends that the difference be refunded to each customer charged a rate higher than the existing tariff's rate. Staff also recommends that the Company conform to charging only the rates contained in its tariff. Staff further recommends that the Company be ordered to keep its books and records in accordance with National Association of Regulatory Utility Commissions Uniform System of Accounts.

1 **I. INTRODUCTION**

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

3 A. My name is Gary McMurry. 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. Please describe your educational background and professional experience.**

8 A. I received a Bachelor of Science degree in Business Administration with a major in
9 Accounting from the University of Arizona in 1980. I have since been awarded the
10 professional designation of Certified Fraud Examiner after successfully meeting the
11 prescribed requirements established by the Association of Certified Fraud Examiners.
12

13 My prior work experience includes approximately 20 years of auditing (both internal and
14 external), five additional years as a bank examiner, and two years of Investigations work.
15 Prior to joining the Commission, I was employed by the Office of Audit and Analysis for
16 the Department of Transportation primarily as a construction auditor.
17

18 In April 2007, I began employment at the Commission as a Public Utilities Analyst IV in
19 the Finance and Regulatory Analysis Section. Since coming to the Commission, I have
20 participated in a number of rate cases and other regulatory proceedings involving water
21 and gas utilities. I have also attended various seminars and classes on general regulatory
22 and business issues, including the National Association of Regulatory Utility
23 Commissioners (“NARUC”) Utility Rate School and the Institute of Public Utilities
24 Annual Regulatory Studies Program (“Camp NARUC”).
25
26

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

2 A. I am responsible for the examination and verification of financial and statistical
3 information included in assigned utility rate applications. I develop revenue requirements,
4 design rates, and prepare written reports, testimony and schedules to present Staff's
5 recommendations to the Commission. I am also responsible for testifying at formal
6 hearings on these matters.

7

8 **Q. What is the purpose of your testimony in this case?**

9 A. The purpose of my testimony is to present Staff's analysis and recommendations
10 regarding the Cordes Lakes Water Company's ("Cordes" or "Company") application for a
11 permanent rate increase. I will present recommendations in the areas of rate base,
12 operating income, revenue requirement and rate design. Staff witness Steve Irvine will
13 present the cost of capital recommendations. Staff witness Katrin Stukov will present the
14 engineering analysis and recommendations.

15

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

17 A. I have performed a regulatory audit of the Company's records to determine whether
18 sufficient, relevant and reliable evidence exists to support the proposals in Cordes' rate
19 application. My regulatory audit consisted of the following: (1) examining and testing
20 Cordes' accounting ledgers, reports and supporting documents; (2) checking the
21 accumulation of amounts in the records; (3) tracing recorded amounts to source
22 documents; and (4) verifying that the Company applied accounting principles were in
23 accordance with the NARUC Uniform System of Accounts ("USOA").

24

1 **Q. How is your testimony organized?**

2 A. My testimony is presented in eight sections. Section I is this introduction. Section II
3 provides a background of the Company. Section III is a summary of consumer service
4 issues. Section IV is a summary of proposed revenues. Section V is a summary of Staff's
5 rate base and operating income adjustments. Section VI presents Staff's rate base
6 recommendations. Section VII presents Staff's operating income recommendations.
7 Section VIII discusses rate design.

8

9 **II. BACKGROUND**

10 **Q. Would you please review the pertinent background information associated with the**
11 **Company's application for a permanent rate increase?**

12 A. Yes. Cordes is a class C water system servicing approximately 1,300 customers in Cordes
13 Junction, Arizona. Prior to 2005, Cordes also included a second water system, Verde
14 Lakes, in Cottonwood, Arizona. In 2004, the City of Cottonwood initiated condemnation
15 proceedings and took over the servicing of the Verde Lakes water system. Cordes'
16 application indicates that its revenues have been inadequate since the condemnation of the
17 Verde Lakes system.

18

19 **Q. What test year did Cordes use in its filing?**

20 A. Cordes' rate filing is based on the twelve months that ended December 31, 2006.

21

22 **III. CONSUMER SERVICE**

23 **Q. Please provide a brief summary of customer complaints received by the Commission**
24 **regarding Cordes.**

25 A. Staff reviewed the Commission's records for the period January 1, 2004 through May 11,
26 2007 and found the following: Year 2004 – Three complaints; 1 billing; 1 quality of

1 service; and 1 construction and 8 inquiries. Year 2005 – Three complaints; 2 billing and 1
2 quality of service and 2 inquiries. Year 2006 – Zero complaints; inquiries; or opinions.
3 Year 2007 – One complaint; 1 easement and 1 inquiry. All complaints and inquiries have
4 been resolved and closed. The Company is in good standing with the Corporations
5 Division. As of October 12, 2007, the Company had not provided Staff with an affidavit
6 showing that notice was give to customers in compliance with the requirements specified
7 in the Commission Administrative Law Judge’s Procedure Order dated July 27, 2007.
8

9 **IV. SUMMARY OF PROPOSED REVENUES**

10 **Q. What revenue requirement is Cordes proposing?**

11 A. Cordes proposes total annual operating revenue of \$701,959, a \$146,148 (26.29 percent)
12 increase over test year revenues of \$555,811.
13

14 **Q. What is Staff’s revenue requirement recommendation?**

15 A. Staff’s recommended revenue requirement is \$472,052, a \$99,456 (26.69 percent) increase
16 over adjusted test year revenues of \$372,596.
17

18 **V. SUMMARY OF STAFF’S RATE BASE AND OPERATING INCOME ADJUSTMENTS**

19 **Q. Please summarize Staff’s rate base and operating income adjustments.**

20 A. Rate Base:

21 Land – The adjustment removes \$35,875 of land that is not used and useful.

22 Transportation Equipment – This adjustment removes \$17,993 representing an appropriate
23 allocation of use of a vehicle between Cordes and an affiliate.

24 Unsupported Plant – This adjustment removes \$350,954 of plant that the Company could
25 not support with documentation.

1 Plant in Service – This adjustment reinstates \$531,563 in used and useful assets that the
2 Company wrote off.

3 Accumulated Depreciation – This adjustment increases accumulated depreciation by
4 \$356,733 to reflect Staff's calculation based on Staff's recommended plant.

5 Contributions in Aid of Construction (CIAC) – This adjustment increases CIAC by
6 \$76,247 to recognize the amount authorized in Decision No. 54526 (May 22, 1985) which
7 the Company omitted from its application.

8 Working Capital Allowance – This adjustment removes the Company's entire proposed
9 working capital allowance of \$56,226 which is based on the formula method instead of a
10 lead-lag study.

11 Sales Tax – This adjustment removes \$22,609 of sales taxes from revenues and expense to
12 treat it as a pass-through item.

13 Contract Labor – This adjustment removes \$160,606 of salary reimbursements from
14 affiliates from revenue and payroll expense.

15 Repairs and Maintenance Expenses – This adjustment reduces expenses by \$6,132 to
16 provide a normalized level based on the past three years.

17 Rate Case Expense – This adjustment decreases expenses by \$5,333 to normalize the
18 propose rate case expense by recognizing an average cost over three years.

19 Depreciation expense – This adjustment decreased depreciation expense by \$19,142 to
20 reflect application of Staff's recommended depreciation rates to Staff recommended plant
21 amounts.

22 Property Taxes – This adjustment decreases property taxes by \$5,984 to reflect application
23 of the modified version of the Arizona Department of Revenue's property tax
24 methodology which the Commission has consistently adopted.

1 Test Year Income Taxes – This adjustment increases test year income tax expense by
2 \$18,449 to reflect application of statutory state and federal income tax rates to Staff
3 adjusted taxable income.

4 Non-operating Income and Expense – This adjustment removes \$2,035 in interest income
5 and \$3,049 in interest expense from operating income to reflect their proper classification
6 under the NARUC USOA as non-operating items.

7 Water Testing – This adjustment increases water testing expenses by \$927 to reflect a
8 normalized level.

9 Service Revenues – This adjustment reclassifies \$3,555 of service charge revenue from
10 metered water sales to other operating revenue.

11
12 **VI. RATE BASE**

13 **Fair Value Rate Base**

14 **Q. Does Cordes' application include schedules with elements of a Reconstruction Cost**
15 **New Rate Base?**

16 A. No. The Company's application does not request recognition of a Reconstruction Cost
17 New Rate Base. Accordingly, Staff has treated the Company's original cost rate base
18 ("OCRB") as its fair value rate base ("FVRB").

19
20 **Rate Base Summary**

21 **Q. Please summarize Staff's rate base recommendation.**

22 A. Staff recommends \$161,919 for rate base, a \$362,465 reduction from the Company's
23 proposed \$524,384 rate base. Staff's recommendation results from the seven rate base
24 adjustments described below.

25

1 **Rate Base Adjustment No. 1 - Land**

2 **Q. What did the Company propose for Land?**

3 A. The Company's application includes \$35,180 for land that it acquired in the test year
4 (2006) and \$695 of the \$905 balance adopted by the Commission in the prior rate case.

5
6 **Q. Why did the Company only include \$695 of the land balance adopted in the prior
7 rate case?**

8 A. The Company previously sold two lots - one in 2000 and another in 2005. The Company
9 placed a \$105 book value on each of those lots.

10

11 **Q. What does the \$35,180 addition in the test year represent?**

12 A. Cordes purchased a new lot in the test year and sold two other lots (Nos. 2910 and 764)
13 that were included in the \$905 balance adopted by the Commission in the prior rate case.
14 The Company's records do not segregate the value of the lots sold and the lot purchased,
15 i.e., the acquired land was recorded net of the book value of the two lots sold at \$35,180.

16

17 **Q. Does the Company have an immediate plan to use any of the lots?**

18 A. No. The Company simply anticipates that the land will eventually be used for a well site.

19

20 **Q. What is the proper rate base treatment for land with no imminent use?**

21 A. Since the land has no immediate use, it is not used and useful. Only used and useful assets
22 should be included in rate base. Accordingly, the land should be removed from rate base.

23

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

25 A. Staff recommends removing \$35,875 of land from rate base as shown on Schedule GTM-
26 5.

1 **Rate Base Adjustment No. 2 – Transportation Equipment**

2 **Q. What did the Company propose for Transportation Equipment?**

3 A. The Company's application proposes \$87,042 for Transportation Equipment which
4 reflects five pick-up trucks.

5
6 **Q. Does Cordes use all five pick-up trucks full-time in the operation of its business?**

7 A. No. One vehicle, serial number 11529, is driven by a part-time employee for whom
8 approximately 90 percent of his 2006 salary was rebated back to Cordes by Berneil Water
9 Company, an affiliated entity. Accordingly, a corresponding proportion of that
10 employee's vehicle cost should also be allocated to the affiliate.

11
12 **Q. What is Staff recommending?**

13 A. Staff recommends removing \$17,993 from Transportation Equipment that represents 90
14 percent of the original cost of the truck used by an affiliate as shown on Schedule GTM-6.

15
16 **Rate Base Adjustment No. 3 – Unsupported Plant**

17 **Q. Does Cordes' have records to support all of the plant included in its application?**

18 A. No. Cordes does not maintain records to conform with the NARUC USOA which
19 requires that each utility maintain books of accounts that fully support all entries. Cordes
20 primarily maintains records for income tax purposes. Accordingly, Cordes generally only
21 keeps records for three years and writes off any fully depreciated assets regardless of
22 whether they are still used and useful. Therefore, Cordes does not have supporting
23 documentation for much of its continuing plant as is required by the NARUC USOA.

24

1 **Q. Did Staff examine Cordes' records to determine the plant values the Company can**
2 **support with documentation?**

3 A. Yes. Staff's examination revealed that the Company lacked support for \$350,954 of
4 claimed plant additions since the prior rate case.

5

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

7 A. Staff recommends removing \$350,954 from plant as shown on Schedule GTM-7.

8

9 **Rate Base Adjustment No. 4 – Reinstate Used and Useful Assets**

10 **Q. Did Cordes write off utility plant that remains in service?**

11 A. Yes. As discussed above in rate base adjustment no. three, Cordes does not maintain
12 records in accordance with the NARUC USOA, and its practice is to write off fully
13 depreciated assets regardless of whether they are still used and useful. As a consequence,
14 Cordes wrote off plant and related accumulated depreciation on plant that remains in
15 service.

16

17 **Q. Does Cordes have records to fully support the plant that remains in service that it**
18 **removed from its plant accounts?**

19 A. No.

20

21 **Q. Did Staff calculate an amount for the plant removed from the Company's records**
22 **that that remains in service?**

23 A. Yes. Staff calculated plant balances for the end of the test year using the plant balances
24 authorized in the prior rate case and documented plant additions and retirements for the
25 intervening years.

26

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

2 A. Staff recommends increasing plant in service by \$531,563 as shown on Schedule GTM-8.
3 A corresponding adjustment for accumulate depreciation is also appropriate and is include
4 in rate base adjustment no. 5 below.

5

6 **Rate Base Adjustment No. 5 – Accumulated Depreciation**

7 **Q. Did Cordes maintain adequate records to support its proposed Accumulated**
8 **Depreciation balance of \$391,562**

9 A. No. As noted above, Cordes does not maintain its records in accordance with the NARUC
10 USOA and has not retained records for most years since its prior rate case. The Company
11 primarily maintains its records on a tax basis, which is significantly different.

12

13 **Q. How did Staff calculate its recommended Accumulated Depreciation?**

14 A. The Commission adopted a composite five percent depreciation rate in the previous rate
15 case. Plant depreciated at five percent is fully depreciated in 20 years ($0.05 \times 20 = 1$).
16 Since there are more than 20 years between the prior and the instant test years, all
17 depreciable plant that existed in the prior rate case is fully depreciated. Thus, Staff began
18 with the plant balance adopted by the Commission in the prior rate case and removed non-
19 depreciable plant and documented retirements and added depreciation accumulated on all
20 documented additions in the intervening years. Staff's adjustment to Accumulated
21 Depreciation is consistent with its adjustment to include the related fully depreciated plant
22 in rate base until the plant is retired.

23

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

25 A. Staff recommends an Accumulated Depreciation balance of \$748,295, a \$356,733 increase
26 over the Company's proposed balance of \$391,562 as shown on Schedule GTM-9.

1 **Rate Base Adjustment No. 6 – Recognition of Contributions in Aid of Construction**
2 **(“CIAC”)**

3 **Q. What did Cordes propose for CIAC?**

4 A. The Company’s rate base (Schedule B1) omits any mention of CIAC. That is, the
5 Company proposes \$0 for CIAC.

6
7 **Q. Is Cordes’ proposed CIAC consistent with Commission Decision No. 54526 regarding**
8 **its prior rate case?**

9 A. No. Decision No. 54526 ordered the Company to cease amortizing advances that were no
10 longer subject to refund and reclassify them as contributions in aid of construction. Since
11 the remaining balance of \$76,247 was not amortized, the balance remains at \$76,247.

12
13 **Q. What is Staff recommending?**

14 A. Staff recommends a CIAC balance of \$76,247 as shown in Schedule GTM-10. Staff also
15 recommends that the Commission allow the Company to begin amortizing the CIAC
16 balance going forward to mitigate any mismatch between the contributions received and
17 the use of the assets acquired with the contributed funds.

18
19 **Rate Base Adjustment No. 7 – Working Capital Allowance**

20 **Q. What is Cordes proposing for a working capital allowance?**

21 A. The Company proposes a working capital allowance base on a formula method, i.e., one-
22 twenty-fourth of electric power expense and one-eighth of other operating and
23 maintenance expense.

24

1 **Q. Is the formula method proposed by the Company a preferred method for calculating**
2 **a working capital allowance?**

3 A. Not for A, B and C size companies. The formula method always results in a positive
4 outcome. There is no basis for presuming that there is a need for ratepayer to provide a
5 working capital allowance. In fact, since several relatively large expenses (e.g., property
6 and income taxes) are usually paid long after cash is received from ratepayers, a negative
7 working capital requirement is reasonably expected. Working capital requirements are
8 best determined by a lead-lag study. In the absence of a lead-lag study demonstrating
9 otherwise, there is no reason to expect a positive working capital requirement consistent
10 with the outcome of the Company's proposed formula method.

11
12 **Q. What is Staff recommending?**

13 A. Staff recommends \$0 for a cash working capital allowance as shown in Schedule GTM-
14 11.

15
16 **VII. OPERATING INCOME**

17 **Q. Please summarize the results of Staff's examination of test year operating income.**

18 A. Staff determined a test year operating loss of \$59,129, a \$56,980 lesser loss than the
19 Company's proposed \$116,109 operating loss. Staff's recommendation results from the
20 ten operating income adjustments described below.

21
22 **Revenues**

23 **Operating Income Adjustment No. 1 – Sales Tax**

24 **Q. How does Cordes propose to treat Sales Taxes?**

25 A. Cordes included sales taxes of \$22,609 in its operating revenues and operating expenses.
26

1 **Q. What is the normal regulatory treatment of Sales Taxes?**

2 A. Normally, sales taxes are treated as a pass-through item, i.e., they are neither recognized in
3 operating revenues or operating expenses. Pass-through treatment is preferable as it
4 allows for revising charges to ratepayers as statutory tax rates change.

5
6 **Q. What is Staff recommending?**

7 A. Staff recommends removing \$22,609 from operating revenues and operating expenses as
8 shown in Schedule GTM-14.

9
10 **Operating Income Adjustment No. 2 – Contract Labor**

11 **Q. What treatment does the Company propose for the \$160,606 of rebates and**
12 **payments received from other entities for work provided by Cordes' employees?**

13 A. The Company included all of the \$160,606 in its operating revenues and operating
14 expenses.

15
16 **Q. Are these rebates and payments related to the operations of Cordes to provide**
17 **service to its customers?**

18 A. No. Cordes received these rebates and payments for services provided by its employees to
19 other entities. Therefore, these payments are neither operating revenues nor operating
20 expenses of the Company and should be removed.

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

23 A. Staff recommends removing \$160,606 from operating revenues and operating expenses as
24 shown in Schedule GTM-15.

25

1 **Operating Income Adjustment No. 3 – Repairs and Maintenance Expense**

2 **Q. What is the Company proposing for Repairs and Maintenance Expense?**

3 A. The Company is proposing its actual test year Repairs and Maintenance expense of
4 \$22,275.

5
6 **Q. Is the test year expense representative of average on-going repairs and maintenance
7 expense?**

8 A. The Company's reported Repairs and Maintenance expenses for 2004, 2005, and 2006
9 totaled \$15,345, \$10,810, and \$22,275, respectively, which indicates that these expenses
10 vary widely from year to year. Accordingly, normalizing these expenses by using a three-
11 year average (\$16,143) is a reasonable approach for estimating the average on-going
12 amount.

13
14 **Q. What is Staff recommending?**

15 A. Staff recommends Repairs and Maintenance expense of \$16,143, a \$6,132 reduction from
16 the Company's proposed amount as shown in Schedule GTM-16.

17
18 **Expenses**

19 **Operating Income Adjustment No. 4 – Rate Case Expense**

20 **Q. What is the Company proposing for Rate Case expense?**

21 A. The Company included a pro forma adjustment to include its expected Rate Case expense
22 of \$8,000 in test year operating expense.

23

1 **Q. Is it the Commission's usual practice to include the entire Rate Case expense in test**
2 **year operating expenses?**

3 A. No. Normally, a reasonable estimate of Rate Case expense is spread over the anticipated
4 years between rate cases. Typically, in the absence of other information, three years is
5 used for the expected period between rate cases.

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

8 A. Staff recommends allowing a normalized level of Rate Case expense equal spreading the
9 Company's expecting cost of \$8,000 over three years, i.e., Staff recommends \$2,667 for
10 Rate Case expense as shown in Schedule GTM-17.

11
12 **Operating Income Adjustment No. 5 – Depreciation Expense**

13 **Q. What is the Company proposing for Depreciation expense?**

14 A. The Company applied a five percent composite depreciation rate to its depreciable plant
15 balances.

16
17 **Q. Does Staff recommend any modifications to the Company's proposed Depreciation**
18 **expense calculation?**

19 A. Yes. Staff calculated Depreciation expense by applying its recommended component
20 depreciation rates by account to its recommended plant balances. Component
21 depreciation rates are preferable to the Company's proposed composite rates because they
22 are representative of the assets useful service lives. Also, the Company did not include the
23 offsetting amortization of CIAC in its Depreciation expense calculation. As previously
24 discussed, Staff also recommends that the Company begin amortizing its \$76,247 CIAC
25 balance going forward to mitigate any mismatch between the contributions received and
26 the use of the assets acquired with the contributed funds.

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

2 A. Staff recommends \$25,137 for Depreciation expense, a \$19,142 reduction from the
3 Company's proposed amount as shown in Schedule GTM-18.

4

5 **Operating Income Adjustment No. 6 – Property Tax Expense**

6 **Q. What is Cordes proposing for Test Year Property Taxes?**

7 A. Cordes is proposing \$20,206 for test year property taxes, i.e., its actual property tax bills
8 for the test year.

9

10 **Q. Does the Commission normally use the actual property tax bill for the test year for
11 ratemaking purposes of Class C water utilities?**

12 A. No. The Commission's practice in recent years has been to use a modified Arizona
13 Department of Revenue ("ADOR") methodology for water and wastewater utilities. The
14 results from using this methodology are primarily dependent upon the test year and
15 proposed revenues. In other words, for each revenue requirement, there is a specific
16 property tax expense in the same manner as each operating income has a specific income
17 tax expense. Although the results for this methodology are frequently referred to as test
18 year amounts, in fact, the results are representative of the average expected property tax
19 over a subsequent three-year period based partially on proposed revenues. The modified
20 ADOR calculation for property tax expense is static, i.e., it is representative only at a
21 specific revenue level.

22

1 **Q. Has Staff developed a solution to address the dependent relationship between**
2 **Property Tax expense and revenues?**

3 A. Yes. Staff has included a factor for property taxes in the gross revenue conversion factor
4 (“GRCF”) (See Schedule GTM-2) that automatically adjusts the revenue requirement for
5 changes in revenue in the same way that income taxes are adjusted for changes in
6 operating income. This flexible method will accurately reflect Property Tax expense at
7 any authorized revenue level. This refinement removes the need to include proposed
8 revenues in the calculation of test year Property Tax expense and allows for accurate
9 calculation of Property Tax expense at the test year revenue level.

10
11 **Q. What is Staff recommending for test year Property Tax expense?**

12 A. Staff recommends \$14,222 for Depreciation expense, a \$5,984 reduction from the
13 Company’s proposed amount as shown in Schedule GTM-19.¹ Staff further recommends
14 adoption of its GRCF that includes a factor for Property Tax expense as shown in
15 Schedule GTM-2.

16
17 **Operating Income Adjustment No. 7 – Income Tax Expense**

18 **Q. What is Cordes proposing for Test Year Income Tax Expense?**

19 A. Cordes is proposing a \$0 for Test Year Income Tax Expense reflecting an operating loss
20 as shown in Schedule GTM-13.

21
22 **Q. Will the GRCF provide the correct required increase in revenue requirement if \$0 is**
23 **used for test year Income Tax expense when there is a taxable loss?**

24 A. No. When an entity has a taxable loss, a negative test year income tax expense must be
25 used in conjunction with the GRCF to calculate the correct revenue requirement.

¹ Schedule GTM-19 also shows calculations for Property Tax Expense for Staff’s recommended revenue.

1 **Q. How did Staff calculate Test Year Income Tax Expense?**

2 A. Staff calculated Test Year Income Tax expense by applying the statutory state and federal
3 income tax rates to Staff's adjusted test year taxable loss as shown in Schedule GTM-2.

4
5 **Q. What is Staff recommending?**

6 A. Staff recommends a Test Year Income Tax expense of negative \$18,449 as shown in
7 Schedule GTM-2.

8
9 **Operating Income Adjustment No. 8 – Non-Operating Income and Expense**

10 **Q. What non-operating items did Cordes include in operating income?**

11 A. The Company included \$2,035 in interest income and \$3,049 in interest expense in
12 operating income. According to the NARUC USOA interest income and interest expense
13 are not components of operating income. Interest income represents returns from
14 investments in securities, loans and similar items, not needed for the provision of utility
15 service. Interest expense is a capital cost that is recovered through the authorized return.²

16
17 **Q. What is Staff recommending?**

18 A. Staff recommends removing all interest income and interest expense from operating
19 income as shown in Schedule GTM-21.

20
21 **Operating Income Adjustment No. 9 – Water Testing Expense**

22 **Q. What is the Company proposing for Water Testing expense?**

23 A. The Company is proposing its actual costs incurred in the test year.
24
25

² The Commission has not granted Cordes any authorization to issue indebtedness.

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

2 A. Staff recommends \$5,323 for Water Testing expense (See Staff testimony of Katrin
3 Stukov). Staff's adjustment is shown in Schedule GTM-22.

4

5 **Operating Income Adjustment No. 10 – Other Operating Revenue**

6 **Q. Does the Company's application segregate service charge revenues from metered
7 water sales revenue?**

8 A. No. The Company's application presents revenues in a single aggregated amount.

9

10 **Q. Did the Company generate service charge revenues in the test year?**

11 A. Yes, however, the Company does not maintain detailed records for service charges. In
12 response to a Staff data request, the Company provided its estimate for the various
13 services it provided in the test year.

14

15 **Q. Has Staff calculated test year service charges based on the Company's estimates?**

16 A. Yes. Staff applied the authorized tariff rates to the Company's estimates to determine test
17 year Other Operating Revenue. Staff's calculated \$3,555 for test year Other Operating
18 Revenue.

19

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

21 A. Staff recommends reclassification of \$3,555 from Metered Water Sales to Other Operating
22 Revenue as shown in Schedule GTM-23.

23

1 **VIII. RATE DESIGN**

2 **Present Rate Design**

3 **Q. Please provide an overview of the Company's present rates.**

4 A. The following is a general description of the present rate design. Details of the rate
5 designs are presented on Staffs Direct Testimony Schedule GTM-24. The present rate
6 design has a minimum monthly charge of \$11.00 per customer for all meter sizes. There
7 are three meter sizes presently: ¾-inch, 1-inch and 2-inch. Customers with meters of
8 each size receive the first 1,000 gallons of water each month as part of the minimum
9 monthly charge and pay a commodity rate of \$2.90 per 1,000 gallons for all gallons after
10 the first 1,000.

11
12 **The Company's Proposed Water Rate Design**

13 **Q. Please provide an overview of the Company's proposed rate structure.**

14 A. The Company's proposed rate design has a two-tiered commodity rate structure. The
15 Company's proposed rate structure provides identical recommendations for the ¾-inch
16 and the 1-inch meters, but proposes a much larger increase to the monthly minimum
17 charge for the 2-inch meters. The tier structure for the 2-inch class also differs from the
18 other two classes. While the increase to the minimum charge is much larger for the 2-inch
19 meters than the other two meter sizes, the commodity rates for 2-inch meters are only
20 applicable after the first 50,000 gallons used by customers. At present, there is only one
21 customer with a 2-inch meter. The Company's proposed rate design is shown in Schedule
22 GTM-24. The Company makes rate recommendations only for ¾-, 1- and 2-inch meters.
23 No rate recommendations are made for meters of other sizes.

24

1 **Q. Did the Company propose any changes to its water system service charges?**

2 A. Yes. The Company has proposed changes to service charges. The Company's proposed
3 service charge changes are shown in the Company's Revised Schedule H-3 and GTM-24.
4 The Company's proposed rates for service charges are in line with the service charges of
5 other water utilities.

6

7 **Q. Has the Company submitted a recommendation for the format and content of its**
8 **tariff's in addition to rates and charges?**

9 A. No. No proposal for the format or content of the tariffs was included in the application
10 except for the specific rate recommendations made by the Company.

11

12 **Staff's Recommended Water Rate Design**

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

17 A. Staff's rate design recognizes the growing importance of managing water as a finite
18 resource and its increasing cost. The quantity of water resources available to Arizona and
19 in Cordes' service territories does not grow with population and customer base, and the
20 cost of developing, treating, and delivering water increases with diminishing supply and
21 increased health and safety regulations. Staff recommends a rate design that encourages
22 efficient use of water.

1 **Q. Please provide a description of Staff's recommended rate structure for the water**
2 **system.**

3 A. Staff recommends a three-tier inverted block rate structure for the 3/4-inch customer
4 classes with break-over points at 3,000 gallons and at 10,000 gallons. Staff recommends a
5 two-tier inverted block rate structure for the 1-inch and 2-inch meters. The recommended
6 break-over points increase with meter size as shown in Schedule GTM-24. Under the
7 recommended rate design, the monthly bill at any usage level is higher for a larger meter
8 than for a smaller meter. Staff's proposal eliminates any free gallons included in the
9 minimum monthly charge. This will serve to eliminate the implication that any water is
10 free and to send an appropriate economic signal to customers for all consumption. Staff's
11 rate design also includes recommendations for other meter sizes for which there are
12 presently no customers. This will serve to provide a rate structure should the Company
13 offer service through differently sized meters in the future.

14
15 **Q. Please describe the basis for Staff's recommended monthly minimum charges and**
16 **commodity rates?**

17 A. The monthly minimum charges and commodity rates recommend by Staff in this case are
18 based on a methodology relied on by Staff regularly in water rate cases. These Staff
19 recommendations have been regularly adopted by the Commission. Staff's methodology
20 for determination of monthly minimum charges is based on the volumetric capacity of
21 each meter size and increases proportionally to the volumetric capacity of the meter size.

22
23 Staff's rate design is conservation oriented because the second tier rate for 3/4-inch meter
24 customers is greater than the rate that would be required to recover the revenue
25 requirement using a uniform commodity rate. As a result, customers experience a greater
26 incremental cost for all use exceeding 3,000 gallons for this size meter. The concept for

1 3/4-inch meters is extended to customers with larger meters where the break-over points
2 graduate in correlation with meter size.

3
4 A significant difference between the Company's proposed rates and Staff's recommended
5 rates is the commodity treatment for 2-inch meters. The Company's proposal would only
6 charge a commodity rate after the first 50,000 gallons of use. Staff's recommended rates
7 for the 2-inch class have a lower monthly minimum charge than that proposed by the
8 Company but allows no free gallons. This will serve to eliminate the implication that any
9 water is free and to send an appropriate economic signal to customers with 2-inch meters
10 regardless of their use.

11
12 **Q. Did Staff prepare schedules showing the present, Company proposed, and Staff**
13 **recommended monthly minimums and commodity rates for each rate class?**

14 A. Yes. Staff's Direct Testimony Schedule GTM-24 shows the present monthly minimum
15 charges and commodity rates, the Company's proposed monthly minimum charges and
16 commodity rates and Staff's recommended monthly minimum charges and commodity
17 rates.

18
19 **Q. Did Staff prepare a schedule showing the average and median monthly bill under**
20 **present rates, the Company's proposed rates, and Staff's recommended rates?**

21 A. Yes. Staff's Direct Testimony Schedule GTM-25 presents the average and median
22 monthly bill using present rates, the Company's proposed rates and Staff's recommended
23 rates.

24

1 **Q. What is the impact to the median customer bill?**

2 A. The typical 3/4-inch meter bill with median use of 2,645 gallons would decrease by \$0.14,
3 or -0.90 percent, from \$15.77 to \$15.63.

4
5 **Q. What water system service charges does Staff recommend?**

6 A. Staff's recommendations for service charges are shown in Schedule GTM-24. These
7 service charges will generate \$12,643 based on the Company's estimates for the various
8 services provided in the test year as previously discussed.

9
10 **Q. Will Staff's recommended rate design generate Staff's recommended revenue
11 requirement?**

12 A. Staff's recommended rate design would generate Staff's recommended water revenue
13 requirement of \$472,052, including \$459,409 from metered water sales.

14
15 **Deviation from Tariff**

16 **Q. Has the Company indicated that it has deviated from its Tariff**

17 A. Yes. In response to a data request the Company indicated that on five occasions it has
18 charged \$10.00 NSF fees to customers rather than the \$5.00 rate indicated in the tariff.³
19 The Company's response mentions that the fee charged by its bank had risen to \$10.00.
20 Staff recommends that the difference between the tariff rate and the rate charged by the
21 Company be refunded to each customer charged a rate higher than the existing tariff's
22 rate. Staff also recommends that the Company conform to charging the rates contained in
23 its tariff.

24

³ Response to Data Request 7

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

2 A. Yes, it does.

CORDES LAKES WATER COMPANY

Docket No. W-02060A-07-0256

Test Year Ended December 31, 2006

DIRECT TESTIMONY OF Gary T McMurry

TABLE OF CONTENTS TO SCHEDULES GTM

<u>SCH #</u>	<u>TITLE</u>
GTM-1	Revenue Requirement
GTM-2	Gross Revenue Conversion Factor
GTM-3	Rate Base - Original Cost
GTM-4	Summary of Original Cost Rate Base Adjustments
GTM-5	Rate Base Adjustment #1 - Remove Non-used and Useful Land
GTM-6	Rate Base Adjustment #2 - Allocation of Common Vehicle
GTM-7	Rate Base Adjustment #3 - Removal of Unsupported Plant
GTM-8	Rate Base Adjustment #4 - Reinstate Used and Useful Fully Depreciated Plant
GTM-9	Rate Base Adjustment #5 - Recalculation of Accumulated Depreciation
GTM-10	Rate Base Adjustment #6 - Recognition of CIAC
GTM-11	Rate Base Adjustment #7 - Working Capital Allowance
GTM-12	Summary of Income Statement - Test Year and Staff Recommended
GTM-13	Summary of Operating Income Adjustments - Test Year
GTM-14	Operating Adjustment #1 - Remove Sales Tax
GTM-15	Operating Adjustment #2 - Remove Non-Utility Revenues and Expenses for Contract Labor
GTM-16	Operating Adjustment #3 - Normalization of Repairs & Maintenance
GTM-17	Operating Adjustment #4 - Normalization of Rate Case Expenses
GTM-18	Operating Adjustment #5 - Depreciation Expense
GTM-19	Operating Adjustment #6 - Property Tax Expense
GTM-20	Operating Adjustment #7 - Income Tax Expense
GTM-21	Operating Adjustment #8 - Remove Non-operating Income and Expense
GTM-22	Operating Adjustment #9 - Water Testing Expense
GTM-23	Operating Adjustment #10 - Other Operating Revenue
GTM-24	Rate Design
GTM-25	Typical Bill Analysis - Average and Median Cost Comparison
GTM-26	Typical Bill Analysis - 3/4-inch Meter

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	(A) COMPANY ORIGINAL COST	(B) COMPANY FAIR VALUE	(C) STAFF ORIGINAL COST	(D) STAFF FAIR VALUE
1	Adjusted Rate Base	\$ 524,384	\$ 524,384	\$ 161,919	\$ 161,919
2	Adjusted Operating Income (Loss)	A \$ (116,109)	\$ (116,109)	\$ (59,129)	\$ (59,129)
3	Current Rate of Return (L2 / L1)	-22.14%	-22.14%	-36.52%	-36.52%
4	Required Rate of Return	5.72%	5.72%	10.00%	10.00%
5	Required Operating Income (L4 * L1)	\$ 30,000	\$ 30,000	\$ 16,192	\$ 16,192
6	Operating Income Deficiency (L5 - L2)	\$ 146,109	\$ 146,109	\$ 75,321	\$ 75,321
7	Gross Revenue Conversion Factor	1.0000	1.0000	1.3204	1.3204
8	Required Revenue Increase (L7 * L6)	\$ 146,148	\$ 146,148	\$ 99,456	\$ 99,456
9	Adjusted Test Year Revenue	\$ 555,811	\$ 555,811	\$ 372,596	\$ 372,596
10	Proposed Annual Revenue (L8 + L9)	\$ 701,959	\$ 701,959	\$ 472,052	\$ 472,052
11	Required Increase in Revenue (%)	26.29%	26.29%	26.69%	26.69%
12	Rate of Return on Common Equity (%)	10.40%	10.40%	10.00%	10.00%

References:

Column (A): Company Schedule B-1
Column (B): Company Schedules A-1, A-2, & D-1
Column (C): Staff Schedule GTM-5 & 12 AND SPI-1
Column (D): Staff Schedule GTM-5 & 12 AND SPI-1

A - The Company's application (Schedule A-1) uses Net Income as Operating Income

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)	(D)
<u>Calculation of Gross Revenue Conversion Factor:</u>					
1	Revenue	100.0000%			
2	Uncollectible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Tax Rate (Line 17) + Property Tax Factor (Line 22)	24.2671%			
5	Subtotal (L3 - L4)	75.7329%			
6	Revenue Conversion Factor (L1 / L5)	1.320430			
<u>Calculation of Uncollectible Factor:</u>					
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	23.1840%			
9	One Minus Combined Income Tax Rate (L7 - L8)	76.8160%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 * L10)	0.0000%			
<u>Calculation of Effective Tax Rate:</u>					
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)	17.4306%			
16	Effective Federal Income Tax Rate (L14 x L15)	16.2160%			
17	Combined Federal and State Income Tax Rate (L13 + L16)	23.1840%			
<u>Calculation of Effective Property Tax Factor</u>					
18	Unity	100.0000%			
19	Combined Federal and State Tax Rate (Line 17)	23.1840%			
20	One Minus Combined Income Tax Rate (L18 - L19)	76.8160%			
21	Property Tax Factor (GTM-18, L24)	1.4100%			
22	Effective Property Tax Factor (L 21 * L 22)	1.0831%			
23	Combined Federal and State Tax and Property Tax Rate (L17+L22)		24.2671%		
24	Required Operating Income (Schedule GTM-1, Line 5)	\$ 16,192			
25	Adjusted Test Year Operating Income (Loss) (Schedule GTM-10, Line 40)	\$ (59,129)			
26	Required Increase in Operating Income (L24 - L25)		\$ 75,321		
27	Income Taxes on Recommended Revenue (Col. (D), L52)	\$ 4,284			
28	Income Taxes on Test Year Revenue (Col. (B), L52)	\$ (18,449)			
29	Required Increase in Revenue to Provide for Income Taxes (L27 - L28)		\$ 22,733		
30	Recommended Revenue Requirement (Schedule GTM-1, Line 10)	\$ 472,052			
31	Uncollectible Rate (Line 10)	0.0000%			
32	Uncollectible Expense on Recommended Revenue (L24 * L25)	\$ -			
33	Adjusted Test Year Uncollectible Expense	\$ -			
34	Required Increase in Revenue to Provide for Uncollectible Exp. (L32 - L33)		\$ -		
35	Property Tax with Recommended Revenue (GTM-18, L19)	\$ 15,624			
36	Property Tax on Test Year Revenue (GTM-18, L 16)	\$ 14,222			
37	Increase in Property Tax Due to Increase in Revenue (GTM-18, L22)		\$ 1,402		
38	Total Required Increase in Revenue (L26 + L29 + L34+L37)		\$ 99,456		
<u>Calculation of Income Tax:</u>					
39	Revenue (Schedule GTM-10, Col.(C), Line 5 & Sch. GTM-1, Col. (B), Line 10)	\$ 372,596	\$ 99,456	\$ 472,052	
40	Operating Expenses Excluding Income Taxes	\$ 450,173		\$ 451,576	
41	Synchronized Interest (L47)	\$ -		\$ -	
42	Arizona Taxable Income (L36 - L317- L38)	\$ (77,577)		\$ 20,476	
43	Arizona State Income Tax Rate	6.9680%		6.9680%	
44	Arizona Income Tax (L39 x L40)		\$ (5,406)		\$ 1,427
45	Federal Taxable Income (L33 - L35)	\$ (72,172)		\$ 19,049	
46	Federal Tax on First Income Bracket (\$1 - \$50,000) @ 15%	\$ (7,500)		\$ 2,857	
47	Federal Tax on Second Income Bracket (\$50,001 - \$75,000) @ 25%	\$ (5,543)		\$ -	
48	Federal Tax on Third Income Bracket (\$75,001 - \$100,000) @ 34%	\$ -		\$ -	
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	\$ (13,043)		\$ 2,857	
52	Combined Federal and State Income Tax (L44 + L51)	\$ (18,449)		\$ 4,284	
53	Applicable Federal Income Tax Rate [Col. (D), L51] / [Col. (C), L45 - Col. (A), L45]				17.4306%
<u>Calculation of Interest Synchronization:</u>					
54	Rate Base (Schedule GTM-3, Col. (C), Line 17)	\$ 161,919			
55	Weighted Average Cost of Debt (Schedule SPI-1)	0.00%			
56	Synchronized Interest (L54 X L56)	\$ -			

RATE BASE - ORIGINAL COST

LINE NO.	(A) COMPANY AS FILED	(B) STAFF ADJUSTMENTS	REF	(C) STAFF AS ADJUSTED
1	Plant in Service	\$ 921,465	\$ 126,741	\$ 1,048,206
2	Less: Accumulated Depreciation	391,562	356,733	748,295
3	Net Plant in Service	<u>\$ 529,903</u>	<u>\$ (229,992)</u>	<u>\$ 299,911</u>
<u>LESS:</u>				
4	Contributions in Aid of Construction (CIAC)	\$ -	\$ 76,247	\$ 76,247
5	Less: Accumulated Amortization	-	-	-
6	Net CIAC	-	76,247	76,247
7	Advances in Aid of Construction (AIAC)	-	-	-
8	Customer Deposits	34,300	-	34,300
9	Deferred Income Tax Credits	27,445	-	27,445
<u>ADD:</u>				
10	Unamortized Finance Charges	-	-	-
11	Deferred Tax Assets	-	-	-
12	Working Capital	56,226	(56,226)	-
17	Original Cost Rate Base	<u>\$ 524,384</u>	<u>\$ (362,465)</u>	<u>\$ 161,919</u>

References:

Column (A), Company Schedule B-1
Column (B): Schedule GTM-4
Column (C): Column (A) + Column (B)

CORDES LAKES WATER COMPANY
 Docket No. W-02060A-07-0256
 Test Year Ended December 31, 2006

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) Res & Res Land ADJ.#	(C) Vehicle Alloc ADJ.#	(D) Unsupported Plant ADJ.#	(E) Used & Useful ADJ.#	(F) Acc. Depr ADJ.#	(G) Inters. CIAC ADJ.#	(H) Work-in-Prog. ADJ.#	(I) STAFF ADJUSTED
PLANT IN SERVICE:											
1	301	Organization	-	-	-	-	-	-	-	-	-
2	302	Franchise	-	-	-	-	-	-	-	-	-
3	303	Land and Land Rights	35,875	(35,875)	-	-	-	-	-	-	-
4	304	Structures & Improvements	15,808	-	-	(8,952)	-	-	-	-	6,657
5	305	Collecting & Impounding Reservoirs	-	-	-	-	-	-	-	-	-
6	306	Lakes, Rivers, Other Intakes	-	-	-	-	-	-	-	-	-
7	307	Wells and Springs	138,895	-	-	(740)	-	-	-	-	138,155
8	308	Infiltration Galleries and Tunnels	-	-	-	-	-	-	-	-	-
9	309	Supply Mains	-	-	-	-	-	-	-	-	-
10	310	Power Generation Equipment	-	-	-	-	-	-	-	-	-
11	311	Pumping Equipment	93,954	-	-	(83,386)	-	-	-	-	10,568
12	312	Water Treatment Plant	-	-	-	-	-	-	-	-	-
13	320	Distribution Reservoirs & Standpipes	285,387	-	-	(128,144)	-	-	-	-	157,243
14	330	Transmission & Distribution Mains	60,753	-	-	-	511,631	-	-	-	572,384
15	331	Services	19,350	-	-	-	-	-	-	-	19,350
16	333	Meters & Meter Installation	156,794	-	-	(121,205)	-	-	-	-	35,589
17	334	Hydrants	-	-	-	-	-	-	-	-	-
18	335	Backflow Prevention Devices	-	-	-	-	-	-	-	-	-
19	336	Other Plant & Misc. Equipment	54,149	-	-	-	-	-	-	-	54,149
20	339	Office Furniture & Equipment	13,007	-	-	-	-	-	-	-	4,490
21	340	Transportation Equipment	87,042	-	(17,993)	-	-	-	-	-	69,049
22	341	Stores Equipment	-	-	-	-	-	-	-	-	-
23	342	Tools, Ship & Garage Equipment	-	-	-	-	-	-	-	-	-
24	343	Laboratory Equipment	-	-	-	-	-	-	-	-	-
25	344	Power Operated Equipment	-	-	-	-	-	-	-	-	-
26	345	Communication Equipment	-	-	-	-	-	-	-	-	-
27	348	Miscellaneous Equipment	-	-	-	-	-	-	-	-	-
28	347	Other Tangible Plant	-	-	-	-	582	-	-	-	582
29	349		-	-	-	-	-	-	-	-	-
30			921,405	(35,875)	(17,993)	(350,954)	531,563	-	-	-	1,049,206
31	Add:	Post Test Year Plant	-	-	-	-	-	-	-	-	-
32		General Office Plant Allocation	-	-	-	-	-	-	-	-	-
33			-	-	-	-	-	-	-	-	-
34	Less:		-	-	-	-	-	-	-	-	-
35			-	-	-	-	-	-	-	-	-
36			-	-	-	-	-	-	-	-	-
37			-	-	-	-	-	-	-	-	-
38			-	-	-	-	-	-	-	-	-
39		Total Plant in Service	921,405	(35,875)	(17,993)	(350,954)	531,563	356,733	-	-	1,049,206
40		Less: Accumulated Depreciation	391,562	-	-	-	-	-	-	-	749,295
41			529,803	(35,875)	(17,993)	(350,954)	531,563	(356,733)	-	-	299,911
42		Net Plant in Service (L59 - L 60)	-	-	-	-	-	-	-	-	-
43	LESS:		-	-	-	-	-	-	-	-	-
44		Contributions in Aid of Construction (CIAC)	-	-	-	-	-	-	76,247	-	76,247
45		Net CIAC (L25 - L26)	-	-	-	-	-	-	76,247	-	76,247
46		Less: Accumulated Amortization	-	-	-	-	-	-	-	-	-
47		Advances in Aid of Construction (AIAC)	34,300	-	-	-	-	-	-	-	34,300
48		Customer Meter Deposits	27,445	-	-	-	-	-	-	-	27,445
49			-	-	-	-	-	-	-	-	-
50			-	-	-	-	-	-	-	-	-
51			-	-	-	-	-	-	-	-	-
52	ADD:		-	-	-	-	-	-	-	-	-
53		Unamortized Finance Charges	56,228	-	-	-	-	-	-	(56,228)	-
54		Deferred Tax Assets	-	-	-	-	-	-	-	-	-
55		Working Capital	-	-	-	-	-	-	-	-	-
56			524,384	(35,875)	(17,993)	(350,954)	531,563	(956,733)	(76,247)	(56,228)	181,919
57		Original Cost Rate Base	-	-	-	-	-	-	-	-	-

ADJ.#	Reference:
1	Reclassification and Restatement of Land
2	Schedule GTM-5
3	Allocation of Common Vehicle
4	Schedule GTM-6
5	Removal Unsupported Plant Additions
6	Schedule GTM-7
7	Recalculation of Accumulated Depreciation
8	Schedule GTM-8
9	Recognition of CIAC
10	Schedule GTM-9
11	Remove Working Capital Allowance
12	Schedule GTM-10
13	Schedule GTM-11

CORDES LAKES WATER COMPANY
Docket No. W-02060A-07-0256
Test Year Ended December 31, 2006

GTM - 5

RATE BASE ADJUSTMENT #1 - REMOVE NON-USED AND USEFUL LAND

<u>Line No.</u>	<u>DESCRIPTION</u>	<u>[A] COMPANY PROPOSED</u>	<u>[B] STAFF ADJUSTMENTS</u>	<u>[C] STAFF RECOMMENDED</u>
1	Land	\$ 35,875	\$ (35,875)	\$ -

References:

Col [A]: Company Schedule B-1

Col [B]: Col [C] - Col [A]

Col [C]: Data Request GTM-5.12, and on site audit.

RATE BASE ADJUSTMENTS #2 - ALLOCATION OF COMMON VEHICLE

Line No.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED
1	Plant - Transportation Equipment	\$ 87,042	\$ (17,993)	\$ 69,049
<u>Vehicle Allocation Calculation</u>		<u>Date Price</u>	<u>Cordes Lakes (10 Percent)</u>	<u>Berneil (90 Percent)</u>
2	Vehicle, Pick-up Serial # 11529 (Driver Don) Acquired in 200	\$ 19,992		
3	Allocation to Cordes Lakes		\$ 1,999	
4	Allocation to - Berneil (Staff Adjustment)			\$ 17,993

Notes:

Don spends approximately 10% of his time on Company business. The rest of his working hours are paid by the Berneil Water Company.

RATE BASE ADJUSTMENT #3- REMOVAL OF UNSUPPORTED PLANT

LINE NO.	ACCT NO.	DESCRIPTION	[A]	[B]	[C]
			COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF RECOMMENDED
1	304.00	Structures & Improvements	\$ 15,609	\$ (8,952)	\$ 6,657
2	307.00	Wells and Springs	138,895	(740)	138,155
3	311.00	Pumping Equipment	93,954	(83,396)	10,558
4	330.00	Distribution Reservoirs & Standpipes	265,387	(128,144)	137,243
5	334.00	Meters & Meter Installation	156,794	(121,205)	35,589
6	339.00	Other Plant & Misc. Equipment	54,149	-	54,149
7	340.00	Office Furniture & Equipment	13,007	(8,517)	4,490
Totals			<u>\$ 737,795</u>	<u>\$ (350,954)</u>	<u>\$ 386,841</u>

[A]: Company Schedule E-5

[B]: Unsupported plant additions included in Company application.

[C]: Col [A] - Col [B]

CORDES LAKES WATER COMPANY
 Docket No. W-02060A-07-0256
 Test Year Ended December 31, 2006

GTM-8

**RATE BASE ADJUSTMENT #4 - REINSTATE USED AND USEFUL
 FULLY DEPRECIATED PLANT**

LINE NO.	ACCT NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED
1	331	Transmission & Distribution Mains	\$ 60,753	\$ 511,631	\$ 572,384
2	333	Services	-	\$ 19,350	\$ 19,350
3	347	Miscellaneous Equipment	-	582	582
		Totals	<u>\$ 60,753</u>	<u>\$ 531,563</u>	<u>\$ 592,316</u>

[A]: Company Schedule E-5

[B]: Col [C] - Col [A]

[C]: Plant supported.

CORDES LAKES WATER COMPANY
 Docket No. W-02060A-07-0256
 Test Year Ended December 31, 2006

GTM-9

RATE BASE ADJUSTMENT #5 - ACCUMULATED DEPRECIATION

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED
1	Accumulated Depreciation	\$ 391,562	\$ 356,733	\$ 748,295
	Plant Plant (Dec. No. 54526)			\$ 646,293
	Less: Land			\$ (905)
	Less: Retirements Documented			\$ (6,586)
	Accumulated Depreciation on Documented Additions			\$ 109,493
	Staff Recommended Accumulated Depreciation			\$ 748,295

References:

Col [A]: Company Schedule B-1
 Col [B]: Col [C] - Col [A]
 Col [C]: GTM Testimony

CORDES LAKES WATER COMPANY
Docket No. W-02060A-07-0256
Test Year Ended December 31, 2006

GTM-10

RATE BASE ADJUSTMENT #6 - CIAC

<u>LINE</u> <u>NO.</u>	<u>DESCRIPTION</u>	<u>[A]</u> <u>COMPANY</u> <u>PROPOSED</u>	<u>[B]</u> <u>STAFF</u> <u>ADJUSTMENTS</u>	<u>[C]</u> <u>STAFF</u> <u>RECOMMENDED</u>
1	Contributions in aid of construction	\$ -	\$ 76,247	\$ 76,247

References:

Col [A]: Company Schedule B-1

Col [B]: Col [C] - Col [A]

Col [C]: GTM Testimony

CORDES LAKES WATER COMPANY
Docket No. W-02060A-07-0256
Test Year Ended December 31, 2006

GTM-11

RATE BASE ADJUSTMENT #7 - WORKING CAPITAL ALLOWANCE

<u>LINE</u> <u>NO.</u>	<u>DESCRIPTION</u>	<u>[A]</u> <u>COMPANY</u> <u>PROPOSED</u>	<u>[B]</u> <u>STAFF</u> <u>ADJUSTMENTS</u>	<u>[C]</u> <u>STAFF</u> <u>RECOMMENDED</u>
1	Working Capital Allowance	<u>\$ 56,226</u>	<u>\$ (56,226)</u>	<u>\$ -</u>

References:

Col [A]: Company Schedule B-1

Col [B]: Col [C] - Col [A]

Col [C]: GTM Testimony

CORDES LAKES WATER COMPANY
Docket No. W-02060A-07-0256
Test Year Ended December 31, 2006

GTM-12

CORDES LAKES WATER COMPANY
Docket No. W-02060A-07-0256
Test Year Ended December 31, 2006

OPERATING INCOME STATEMENT - ADJUSTED TEST YEAR AND STAFF RECOMMENDED

LINE NO.	DESCRIPTION	[A] COMPANY ADJUSTED TEST YEAR AS FILED	[B] STAFF TEST YEAR ADJUSTMENTS	[C] STAFF TEST YEAR AS ADJUSTED	[D] STAFF PROPOSED CHANGES	[E] STAFF RECOMMENDED
1	REVENUES:					
2	Metered Water Sales	\$ 395,205	\$ (26,164)	\$ 369,041	\$ 90,368	\$ 459,409
3	Water Sales - Unmetered	160,606	(160,606)	-	-	-
4	Other Operating Revenue	-	3,555	3,555	9,088	12,643
5	Total Operating Revenues	\$ 555,811	\$ (183,215)	\$ 372,596	\$ 99,456	\$ 472,052
6	OPERATING EXPENSES:					
7	Payroll	\$ 337,078	\$ (160,606)	\$ 176,472	\$ -	\$ 176,472
10	Contract Labor	8,447	-	8,447	-	8,447
11	Employee Benefits	12,003	-	12,003	-	12,003
13	Purchased Power	24,325	-	24,325	-	24,325
14	Repairs and Maintenance	22,275	(6,132)	16,143	-	16,143
15	Office Supplies and Expense	15,339	-	15,339	-	15,339
16	Outside Sevices - Accounting	2,475	-	2,475	-	2,475
17	Outside Sevices - Billing Services	18,002	-	18,002	-	18,002
18	Outside Sevices - Computer Programming	2,481	-	2,481	-	2,481
19	Water Testing	6,250	(927)	5,323	-	5,323
20	Rents	25,200	-	25,200	-	25,200
21	Transportation Expenses	17,432	-	17,432	-	17,432
22	Insurance - General Liability	31,113	-	31,113	-	31,113
23	Insurance - Health and Life	6,456	-	6,456	-	6,456
24	Rate Case Expense	8,000	(5,333)	2,667	-	2,667
25	Regulatory Expense	45	-	45	-	45
26	Misc Expense - Permits	2,040	-	2,040	-	2,040
27	Misc Expense - Travel	545	-	545	-	545
28	Misc. Expenses - Utilities except Electricity	8,917	-	8,917	-	8,917
29	Misc. Expenses - Bank Charges	332	-	332	-	332
30	Misc. Expenses - Payroll Services	1,182	-	1,182	-	1,182
31	Depreciation Expense	44,279	(19,142)	25,137	-	25,137
32	Payroll Taxes	33,875	-	33,875	-	33,875
33	Taxes other than Income (Sales Tax)	22,609	(22,609)	-	-	-
34	Property Taxes	20,206	(5,984)	14,222	1,402	15,624
35	Income Tax	-	(18,449)	(18,449)	22,733	4,284
36	Interest Income	(2,035)	2,035	-	-	-
37	Interest Expense	3,049	(3,049)	-	-	-
38						
39	Total Operating Expenses	\$ 671,920	\$ (240,195)	\$ 431,725	\$ 24,135	\$ 455,860
40	Operating Income (Loss)	\$ (116,109)	\$ 56,980	\$ (59,129)	\$ 75,321	\$ 16,192

References:

Column (A): Company Schedule C-1 (TAB IS-ADJ)
Column (B): Schedule GTM-11
Column (C): Column (A) + Column (B)
Column (D): Schedules JRM-1 and JRM-2
Column (E): Column (C) + Column (D)

SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) Sales Tax ADJ.#1	(C) Contract Labor ADJ.#2	(D) Repairs & Maint ADJ.#3	(F) Rate Case ADJ.#4	(G) Depr. Exp. ADJ.#5	(H) Prop. Tax ADJ.#6	(I) Inc. Tax ADJ.#7	(J) Non-Operating ADJ.#8	(K) Water Testing ADJ.#9	(L) Other Rev ADJ.#10	(T) STAFF ADJUSTED
1	REVENUES:												
2	Sales	\$ 395,205	\$ (22,609)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (3,555)	\$ 369,041
3	Received for Contract Labor	160,606	-	(160,606)	-	-	-	-	-	-	-	-	-
4	Other Operating Revenue	-	-	-	-	-	-	-	-	-	-	-	-
5	Total Operating Revenues	\$ 555,811	\$ (22,609)	\$ (160,606)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (3,555)	\$ 372,596
6	OPERATING EXPENSES:												
7	Payroll	\$ 337,078	\$ -	\$ (160,606)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 176,472
8	Contract Labor	8,447	-	-	-	-	-	-	-	-	-	-	8,447
9	Employee Benefits	12,003	-	-	-	-	-	-	-	-	-	-	12,003
10	Purchased Power	24,325	-	-	-	-	-	-	-	-	-	-	24,325
11	Repairs and Maintenance	22,275	-	-	(6,132)	-	-	-	-	-	-	-	16,143
12	Office Supplies and Expense	15,339	-	-	-	-	-	-	-	-	-	-	15,339
13	Outside Services - Accounting	2,475	-	-	-	-	-	-	-	-	-	-	2,475
14	Outside Services - Billing Services	18,002	-	-	-	-	-	-	-	-	-	-	18,002
15	Outside Services - Computer Programming	2,481	-	-	-	-	-	-	-	-	-	-	2,481
16	Water Testing	6,250	-	-	-	-	-	-	-	-	(927)	-	5,323
17	Rents	25,200	-	-	-	-	-	-	-	-	-	-	25,200
18	Transportation Expenses	17,432	-	-	-	-	-	-	-	-	-	-	17,432
19	Medical Insurance	31,113	-	-	-	-	-	-	-	-	-	-	31,113
20	Liability Insurance	6,456	-	-	-	-	-	-	-	-	-	-	6,456
21	Rate Case Expense	8,000	-	-	-	(5,333)	-	-	-	-	-	-	2,667
22	Regulatory Expense	45	-	-	-	-	-	-	-	-	-	-	45
23	Misc Expense - Permits	2,040	-	-	-	-	-	-	-	-	-	-	2,040
24	Misc Expense - Travel	545	-	-	-	-	-	-	-	-	-	-	545
25	Misc. Expenses - Bank Charges	8,917	-	-	-	-	-	-	-	-	-	-	8,917
26	Misc. Expenses - Utilities except Electricity	332	-	-	-	-	-	-	-	-	-	-	332
27	Misc. Expenses - Payroll Services	1,182	-	-	-	-	-	-	-	-	-	-	1,182
28	Depreciation Expense	44,279	-	-	-	-	(19,142)	-	-	-	-	-	25,137
29	Payroll Taxes	33,875	-	-	-	-	-	-	-	-	-	-	33,875
30	Taxes other than Income (Sales Tax)	22,609	(22,609)	-	-	-	-	-	-	-	-	-	-
31	Property Taxes	20,206	-	-	-	-	-	(5,984)	(18,449)	-	-	-	14,222
32	Income Tax	-	-	-	-	-	-	-	-	2,035	-	-	(18,449)
33	Interest Expense	(2,035)	-	-	-	-	-	-	-	(3,049)	-	-	-
34	Total Operating Expenses	\$ 671,920	\$ (22,609)	\$ (160,606)	\$ (6,132)	\$ (5,333)	\$ (19,142)	\$ (5,984)	\$ (18,449)	\$ (1,014)	\$ (927)	\$ -	\$ 431,725
35	Operating Income (Loss)	\$ (116,109)	\$ -	\$ -	\$ 6,132	\$ 5,333	\$ 19,142	\$ 5,984	\$ 18,449	\$ 1,014	\$ 927	\$ -	\$ (59,129)

ADJ.#	DESCRIPTION	References
1	Sales Tax	Schedule GTM-14
2	Contract Labor	Schedule GTM-15
3	Normalization of Repairs & Maint	Schedule GTM-16
4	Normalization of Rate Case Expense	Schedule GTM-17
5	Depreciation Expenses	Schedule GTM-18
6	Property Taxes	Schedule GTM-19
7	Income Taxes	Schedule GTM-20
8	Remove Non-operating Income & Expens.	Schedule GTM-21
9	Water Testing	Schedule GTM-22
10	Other Operating Revenue	Schedule GTM-23

CORDES LAKES WATER COMPANY
Docket No. W-02060A-07-0256
Test Year Ended December 31, 2006

GTM-14

CORDES LAKES WATER COMPANY
Docket No. W-02060A-07-0256
Test Year Ended December 31, 2006

OPERATING INCOME ADJUSTMENT #1 - REMOVAL OF SALES TAX FROM REVENUES AND EXPENSES

<u>Line No.</u>	<u>DESCRIPTION</u>	<u>[A] COMPANY PROPOSED</u>	<u>[B] STAFF ADJUSTMENTS</u>	<u>[C] STAFF RECOMMENDED</u>
1	Sales Tax Revenue	\$ 22,609	\$ (22,609)	\$ -
2	Sales Tax Expense	\$ 22,609	\$ (22,609)	\$ -
3				

References:

Col [A]: Company Schedule C-1

Col [B]: Col [C] - Col [A]

Col [C]: Testimony - GTM

OPERATING INCOME ADJUSTMENT #2 - REMOVE NON-UTILITY REVENUES AND EXPENSES FOR CONTRACT LABOR

<u>LINE NO.</u>	<u>DESCRIPTION</u>	<u>[A] COMPANY PROPOSED</u>	<u>[B] STAFF ADJUSTMENTS</u>	<u>[C] STAFF RECOMMENDED</u>
1	Contract Labor Revenue	\$ 160,606	\$ (160,606)	\$ -
2	Contract Labor Expense	\$ 318,078	(160,606)	\$ 157,472
3	Total	<u>\$ 478,684</u>	<u>\$ (321,212)</u>	<u>\$ 157,472</u>

References:

Col [A]: Company Schedule C-1
Col [B]: Col [C] - Col [A]
Col [C]: Data Request 4.1.

OPERATING INCOME ADJUSTMENT #3 - NORMALIZATION OF REPAIRS & MAINTENANCE EXPENSES

<u>LINE NO.</u>	<u>DESCRIPTION</u>	<u>[A] COMPANY PROPOSED</u>	<u>[B] STAFF ADJUSTMENTS</u>	<u>[C] STAFF RECOMMENDED</u>
1	<u>Repairs & Maintenance</u>	<u>\$ 22,275</u>	<u>\$ (6,132)</u>	<u>\$ 16,143</u>
2	Repairs & Maintenance - Company's Test Year: 2006			\$ 22,275
3	Repairs & Maintenance - 2005			10,810
4	Repairs & Maintenance - 2004			15,345
5	Repairs & Maintenance expenses, past three years			<u>\$ 48,430</u>
6	Average Repair & Maintenance expense (line 5/3)			<u>\$ 16,143</u>

References:

Col [A]: Company Schedule C-1

Col [B]: Col [C] - Col [A]

Col [C]: Normalized Repairs & Maintenance Expense Col [C] L6.

OPERATING INCOME ADJUSTMENT #4 - NORMALIZATION OF RATE CASE EXPENSE

<u>LINE NO.</u>	<u>DESCRIPTION</u>	<u>[A] COMPANY PROPOSED</u>	<u>[B] STAFF ADJUSTMENTS</u>	<u>[C] STAFF RECOMMENDED</u>
1	Rate Case Expense	<u>\$ 8,000</u>	<u>\$ (5,333)</u>	<u>\$ 2,667</u>

References:

Col [A]: Company Schedule C-1

Col [B]: Col [C] - Col [A]

Col [C]: Normalized Rate Case Expense (\$8,000/3yrs.)

OPERATING INCOME ADJUSTMENT #5 - DEPRECIATION EXPENSE

Line No.	ACCT NO.	DESCRIPTION	[A] AMOUNT	Depreciable Amount	[B] Projected RATE	[C] EXPENSE
Plant In Service						
1	301	Organization	\$ -	\$ -	0.00%	\$ -
2	302	Franchises	-	-	0.00%	-
3	303	Land and Land Rights	-	-	0.00%	-
4	304	Structures & Improvements	6,657	6,657	3.33%	222
5	305	Collecting & Impounding Reservoirs	-	-	2.50%	-
6	306	Lakes, Rivers, Other Intakes	-	-	2.50%	-
7	307	Wells and Springs	138,155	138,155	3.33%	4,601
8	308	Infiltration Galleries and Tunnels	-	-	6.67%	-
9	309	Supply Mains	-	-	2.00%	-
10	310	Power Generation Equipment	-	-	5.00%	-
11	311	Pumping Equipment	10,558	10,558	12.50%	1,320
12	320	Water Treatment Plant	-	-	3.33%	-
13	330	Distribution Reservoirs & Standpipes	137,243	137,243	2.22%	3,047
14	331	Transmission & Distribution Mains	572,384	9,444	2.00%	189
15	333	Services	19,350	-	3.33%	-
16	334	Meters & Meter Installation	35,589	35,589	8.33%	2,965
17	335	Hydrants	-	-	2.00%	-
18	336	Backflow Prevention Devices	-	-	6.67%	-
19	339	Other Plant & Misc. Equipment	54,149	54,149	6.67%	3,612
20	340	Office Furniture & Equipment	4,490	4,490	6.67%	299
21	341	Transportation Equipment	69,049	69,049	20.00%	13,810
22	342	Stores Equipment	-	-	4.00%	-
23	343	Tools, Ship & Garage Equipment	-	-	5.00%	-
24	344	Laboratory Equipment	-	-	10.00%	-
25	345	Power Operated Equipment	-	-	5.00%	-
26	346	Communication Equipment	-	-	10.00%	-
27	347	Miscellaneous Equipment	582	-	10.00%	-
28	348	Other Tangible Plant	-	-	10.00%	-
29		Subtotal General	\$ 1,048,206	\$ 465,334		\$ 30,063
30		Less: Non- depreciable Account(s) (L3)	-	-		-
31		Depreciable Plant (L29-L30)	\$ 1,048,206	\$ 465,334		
32		Contributions-in-Aid-of-Construction (CIAC)	\$ 76,247			
33		Composite Depreciation/Amortization Rate	6.46%			
34		Less: Amortization of CIAC (L32 x L33)				\$ 4,926
35		Depreciation Expense - STAFF [Col. (C), L29 - L34]				\$ 25,137

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] STAFF ADJUSTMENTS	[C] STAFF RECOMMENDED
36	Depreciation Expense	\$ 44,279	\$ (19,142)	\$ 25,137

OPERATING INCOME ADJUSTMENT #6 - PROPERTY TAXES

LINE NO.	Property Tax Calculation	(C)	
		STAFF AS ADJUSTED	STAFF RECOMMENDED
1	Staff Adjusted Test Year Revenues - 2006	\$ 372,596	\$ 372,596
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	745,192	\$ 745,192
4	Staff Recommended Revenue, Per Schedule GTM-1	372,596	\$ 472,052
5	Subtotal (Line 4 + Line 5)	1,117,788	1,217,244
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	372,596	\$ 405,748
8	Department of Revenue Multiplier	2	2
9	Revenue Base Value (Line 7 * Line 8)	745,192	\$ 811,496
10	Plus: 10% of CWIP -	-	-
11	Less: Net Book Value of Licensed Vehicles	72,750	\$ 72,750
12	Full Cash Value (Line 9 + Line 10 - Line 11)	672,442	\$ 738,746
13	Assessment Ratio	23.5%	23.5%
14	Assessment Value (Line 12 * Line 13)	158,024	\$ 173,605
15	Composite Property Tax Rate (Per Company Schedule C-2, Page 3, Line 1)	9.0000%	9.0000%
16	Staff Test Year Adjusted Property Tax (Line 14 * Line 15)	\$ 14,222	\$ -
17	Company Proposed Property Tax	20,206	
18	Staff Test Year Adjustment (Line 16-Line 17)	\$ (5,984)	
19	Property Tax - Staff Recommended Revenue (Line 14 * Line 15)		\$ 15,624
20	Staff Test Year Adjusted Property Tax Expense (Line 16)		\$ 14,222
21	Increase in Property Tax Expense Due to Increase in Revenue Requirement		\$ 1,402
22	Increase to Property Tax Expense		\$ 1,402
23	Increase in Revenue Requirement		99,456
24	Increase to Property Tax per Dollar Increase in Revenue (Line 19/Line 20)		1.410000%

CORDES LAKES WATER COMPANY
Docket No. W-02060A-07-0256
Test Year Ended December 31, 2006

GTM-20

OPERATING INCOME ADJUSTMENT #7 - TEST YEAR INCOME TAXES

<u>LINE NO.</u>	<u>DESCRIPTION</u>	<u>[A] COMPANY PROPOSED</u>	<u>[B] STAFF ADJUSTMENTS</u>	<u>[C] STAFF RECOMMENDED</u>
1	Income Tax Expense	<u>\$ -</u>	<u>\$ (18,449)</u>	<u>\$ (18,449)</u>

References:

Col [A]: Company Schedule C-1
Col [B]: Col [C] - Col [A]
Col [C]: Schedule GTM-2, Line 43

CORDES LAKES WATER COMPANY
Docket No. W-02060A-07-0256
Test Year Ended December 31, 2006

GTM-21

OPERATING INCOME ADJUSTMENT #8 - REMOVAL OF NON-OPERATING INCOME & EXPENSE

<u>LINE NO.</u>	<u>DESCRIPTION</u>	<u>[A] COMPANY PROPOSED</u>	<u>[B] STAFF ADJUSTMENTS</u>	<u>[C] STAFF RECOMMENDED</u>
1	Interest Income	\$ (2,035)	\$ 2,035	\$ -
2	Interest Expense	\$ 3,049	\$ (3,049)	\$ -

References:

Col [A]: Company Schedule C-1
Col [B]: Col [C] - Col [A]
Col [C]: Schedule GTM-2, Line 43

CORDES LAKES WATER COMPANY
Docket No. W-02060A-07-0256
Test Year Ended December 31, 2006

GTM-22

OPERATING INCOME ADJUSTMENT #9 - Water Testing

<u>LINE NO.</u>	<u>DESCRIPTION</u>	<u>[A] COMPANY PROPOSED</u>	<u>[B] STAFF ADJUSTMENTS</u>	<u>[C] STAFF RECOMMENDED</u>
1	Water Testing Expense	<u>\$ 6,250</u>	<u>\$ (927)</u>	<u>\$ 5,323</u>

References:

Col [A]: Company Schedule C-1

Col [B]: Col [C] - Col [A]

Col [C]: GTM Testimony

CORDES LAKES WATER COMPANY
Docket No. W-02060A-07-0256
Test Year Ended December 31, 2006

GTM-23

OPERATING INCOME ADJUSTMENT #10 - Other Operating Revenue

<u>LINE NO.</u>	<u>DESCRIPTION</u>	<u>[A] COMPANY PROPOSED</u>	<u>[B] STAFF ADJUSTMENTS</u>	<u>[C] STAFF RECOMMENDED</u>
1	Other Operating Revenue	<u>\$ -</u>	<u>\$ 3,555</u>	<u>\$ 3,555</u>

References:

Col [A]: Company Schedule C-1

Col [B]: Col [C] - Col [A]

Col [C]: GTM Testimony

RATE DESIGN

Monthly Usage Charge	Present Rates	Company Proposed Rates	Staff Recommended Rates
3/4"	\$ 11.00	\$ 13.50	\$ 11.00
1"	\$ 11.00	\$ 13.50	\$ 19.50
1 1/2"	N/A	N/A	\$ 39.00
2"	\$ 11.00	\$ 175.00	\$ 62.50
3"	N/A	N/A	\$ 125.00
4"	N/A	N/A	\$ 220.00
6"	N/A	N/A	\$ 390.00
Commodity Rates			
3/4"			
Gallons Included in Minimum	1,000	1,000	-
Excess of Minimum - per 1,000 Gallons			
All Gallons	\$ 2.90	N/A	N/A
From 1 to 20,000 Gallons	N/A	\$ 3.50	N/A
Over 20,000 Gallons	N/A	\$ 4.10	N/A
From 1 to 3,000 Gallons	N/A	N/A	\$ 1.75
From 3,001 to 8,000 Gallons	N/A	N/A	\$ 2.60
Over 8,000 Gallons	N/A	N/A	\$ 3.10
1"			
Gallons Included in Minimum	1,000	1,000	-
Excess of Minimum - per 1,000 Gallons			
All Gallons	\$ 2.90	N/A	N/A
From 1 to 20,000 Gallons	N/A	\$ 3.50	N/A
Over 20,000 Gallons	N/A	\$ 4.10	N/A
From 1 to 20,000 Gallons	N/A	N/A	\$ 2.60
Over 20,000 Gallons	N/A	N/A	\$ 3.10
1 1/2"			
Gallons Included in Minimum	-	-	-
Excess of Minimum - per 1,000 Gallons			
From 1 to 48,000 Gallons	N/A	N/A	\$ 2.60
Over 48,000 Gallons	N/A	N/A	\$ 3.10
2"			
Gallons Included in Minimum	1,000	1,000	-
Excess of Minimum - per 1,000 Gallons			
All Gallons	\$ 2.90	N/A	N/A
From 1 to 50,000 Gallons	N/A	\$ -	N/A
Over 50,000 Gallons	N/A	\$ 4.50	N/A
From 1 to 83,000 Gallons	N/A	N/A	\$ 2.60
Over 83,000 Gallons	N/A	N/A	\$ 3.10
3"			
Gallons Included in Minimum	N/A	N/A	-
From 1 to 178,000 Gallons	N/A	N/A	\$ 2.60
Over 178,000 Gallons	N/A	N/A	\$ 3.10
4"			
Gallons Included in Minimum	N/A	N/A	-
Excess of Minimum - per 1,000 Gallons			
From 1 to 320,000 Gallons	N/A	N/A	\$ 2.60
Over 320,000 Gallons	N/A	N/A	\$ 3.10
6"			
Gallons Included in Minimum	N/A	N/A	-
Excess of Minimum - per 1,000 Gallons			
From 1 to 580,000 Gallons	N/A	N/A	\$ 2.60
Over 580,000 Gallons	N/A	N/A	\$ 3.10

Service Line & Meter Installation Charges	Present	Company	Staff		
	Rates	Proposed Rates	Recommended Rates		
			Service Line Charge	Meter Charge	Total Charge
5/8 x 3/4"	\$100.00				
3/4"	\$120.00	\$ 405	\$ 355	\$ 165	\$ 520
1"	\$160.00	\$ 455	\$ 405	\$ 205	\$ 610
1 1/2"	\$300.00	\$ 665	\$ 440	\$ 415	\$ 855
2"	\$400.00	\$ 1,080	\$ 600	\$ 915	\$ 1,515
3"		\$ 1,460	\$ 775	\$ 1,420	\$ 2,195
4"		\$ 2,985	\$ 1,110	\$ 2,250	\$ 3,360
6"		\$ 4,450	\$ 1,670	\$ 4,445	\$ 6,115
Service Charges					
NSF Check	\$ 5.00	\$ 12.50	\$ 12.50		
Establishment	\$ 5.00	\$ 25.00	\$ 25.00		
Establishment (After Hours)	\$ 15.00	\$ 35.00	\$ 35.00		
Reconnection (Deliquent)	\$ 10.00	\$ 15.00	\$ 15.00		
Reconnection (Deliquent and After Hours)	\$ 20.00	\$ 25.00	\$ 25.00		
Meter Re-Read	\$ 5.00	\$ 10.00	\$ 10.00		
Meter Test	\$ 25.00	\$ 25.00	\$ 25.00		
Deferred Payment, Per Month	NT	1.50%		1.50%	
Deposit Interest	0.00%	6.00%		6.00%	
Deposit Amount	\$ 35.00	Per Rule*		Per Rule*	
		#months times		#months times	
Re-establish within 12 months	\$ 25.00	minimum fee		minimum fee	
Late Charge per month	NT	1.50%		1.50%	
Road cutting or boring	NT	At Actual Cost		NT	

NT = No Tariff

* Per Commission Rules (R14-2-403.B)

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).

TYPICAL BILL ANALYSIS AVERAGE AND MEDIAN COST COMPARISONS

LINE NO.	CUSTOMER CLASS	CURRENT RATES			
		AVERAGE		MEDIAN	
		USAGE	DOLLARS	USAGE	DOLLARS
1	3/4"	4,637	\$ 21.55	2,645	\$ 15.77
2	1"	5,517	24.10	4,000	19.70
3	2"	155,250	458.33	146,000	431.50

LINE NO.	CUSTOMER CLASS	COMPANY PROPOSED					
		AVERAGE			MEDIAN		
		AVERAGE	CHANGE	PERCENT	MEDIAN	DOLLARS	PERCENT
4	3/4"	\$ 26.23	\$ 4.68	21.73%	\$ 19.26	\$ 3.49	22.11%
5	1"	\$ 29.31	5.21	21.62%	\$ 24.00	4.30	21.83%
6	2"	\$ 648.63	190.30	41.52%	\$ 607.00	175.50	40.67%

LINE NO.	CUSTOMER CLASS	STAFF RECOMMENDED					
		AVERAGE			MEDIAN		
		AVERAGE	CHANGE	PERCENT	MEDIAN	INCREASE	PERCENT
7	3/4"	\$ 20.51	\$ (1.04)	-4.83%	\$ 15.63	\$ (0.14)	-0.90%
8	1"	33.84	9.74	40.43%	29.90	10.20	51.77%
9	2"	502.28	43.95	9.59%	473.60	42.10	9.76%

Typical Bill Analysis
Residential 3/4" Meter

Company Proposed	Gallons	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
Average Usage	4,637	\$ 21.55	\$ 26.23	\$ 4.68	21.73%
Median Usage	2,645	\$ 15.77	\$ 19.26	\$ 3.49	22.11%

Staff Recommended					
Average Usage	4,637	\$ 21.55	\$ 20.51	\$ (1.04)	-4.83%
Median Usage	2,645	\$ 15.77	\$ 15.63	\$ (0.14)	-0.90%

Consumption	Bills	Bills	Increase	Bills	Increase
-	\$ 11.00	\$ 13.50	22.73%	\$ 11.00	0.00%
1,000	11.00	13.50	22.73%	12.75	15.91%
2,000	13.90	17.00	22.30%	14.50	4.32%
3,000	16.80	20.50	22.02%	16.25	-3.27%
4,000	19.70	24.00	21.83%	18.85	-4.31%
5,000	22.60	27.50	21.68%	21.45	-5.09%
6,000	25.50	31.00	21.57%	24.05	-5.69%
7,000	28.40	34.50	21.48%	26.65	-6.16%
8,000	31.30	38.00	21.41%	29.25	-6.55%
9,000	34.20	41.50	21.35%	32.35	-5.41%
10,000	37.10	45.00	21.29%	35.45	-4.45%
11,000	40.00	48.50	21.25%	38.55	-3.63%
12,000	42.90	52.00	21.21%	41.65	-2.91%
13,000	45.80	55.50	21.18%	44.75	-2.29%
14,000	48.70	59.00	21.15%	47.85	-1.75%
15,000	51.60	62.50	21.12%	50.95	-1.26%
16,000	54.50	66.00	21.10%	54.05	-0.83%
17,000	57.40	69.50	21.08%	57.15	-0.44%
18,000	60.30	73.00	21.06%	60.25	-0.08%
19,000	63.20	76.50	21.04%	63.35	0.24%
20,000	66.10	80.00	21.03%	66.45	0.53%
25,000	80.60	100.50	24.69%	81.95	1.67%
30,000	95.10	121.00	27.23%	97.45	2.47%
35,000	109.60	141.50	29.11%	112.95	3.06%
40,000	124.10	162.00	30.54%	128.45	3.51%
45,000	138.60	182.50	31.67%	143.95	3.86%
50,000	153.10	203.00	32.59%	159.45	4.15%
75,000	225.60	305.50	35.42%	236.95	5.03%
100,000	298.10	408.00	36.87%	314.45	5.48%

BEFORE THE ARIZONA CORPORATION COMMISSION

MIKE GLEASON

Chairman

WILLIAM A. MUNDELL

Commissioner

JEFF HATCH MILLER

Commissioner

KRISTIN K. MAYES

Commissioner

GARY PIERCE

Commissioner

IN THE MATTER OF THE APPLICATION OF)
CORDES LAKES WATER COMPANY FOR)
AN INCREASE IN ITS RATES)
_____)

DOCKET NO. W-02060A-07-0256

DIRECT TESTIMONY

OF

KATRIN STUKOV

UTILITIES ENGINEER

ARIZONA CORPORATION COMMISSION

UTILITIES DIVISION

OCTOBER 17, 2007

TABLE OF CONTENTS

	<u>Page</u>
EXECUTIVE SUMMARY.....	i
CONCLUSIONS.....	i
RECOMMENDATIONS.....	i
INTRODUCTION.....	1
PURPOSE OF TESTIMONY.....	2
ENGINEERING REPORT	2

EXHIBIT KS, ENGINEERING REPORT

	<u>Page</u>
CONCLUSIONS.....	1
RECOMMENDATIONS.....	1
A. INTRODUCTION AND LOCATION OF COMPANY.....	3
B. DESCRIPTION OF THE WATER SYSTEMS.....	5
Figure 3 System Schematic.....	6
C. WATER USE.....	7
Water Sold	7
Non-account Water	7
System Analysis.....	8
D. GROWTH.....	8
E. ADEQ COMPLIANCE.....	8
Compliance	9
Arsenic	9
Water Testing Expense	9
F. ADWR COMPLIANCE	10
G. ACC COMPLIANCE	10
H. DEPRECIATION RATES.....	10

I. OTHER ISSUES 12

- 1. Service Line and Meter Installation Charges 12
- 2. Curtailment Plan Tariff 12
- 3. Backflow Prevention Tariff 12

ATTACHMENTS

Responses to Data Request received on July 24, 2007 1

Responses to Data Request received on June 7, 2007 2

**EXECUTIVE SUMMARY
CORDES LAKES WATER COMPANY
DOCKET NO. W-02060A-07-0256**

CONCLUSIONS

1. The Arizona Department of Environmental Quality (“ADEQ”) has reported major deficiencies in monitoring and reporting requirements for total coliform. The ADEQ data base shows that this system has exceeded the MCL for total coliform on December 4, 2006. Also, this system had a positive coliform analysis on February 5, 2007. Because of this exceedance, ADEQ has determined that the Company’s system is currently delivering water that does not meet water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.
2. The Company’s water system has a water loss of 10 percent.
3. The Company water system’s current well and storage capacities are adequate to serve the present customer base and reasonable growth.
4. The Company reported arsenic concentration of less than 3 ppb for all of its five wells. Based on this information, the water system is in compliance with the new arsenic standard of 10 ppb.
5. The Company is not located in an Active Management Area (“AMA”) and is not subject to Arizona Department of Water Resources (“ADWR”) reporting and conservation requirements.
6. The Company has no outstanding Arizona Corporation Commission (“ACC”) compliance issues.
7. The Company has a curtailment plan tariff that became effective on April 25, 2003.
8. The Company has a backflow prevention tariff that became effective on January 13, 1995.

RECOMMENDATIONS

1. Staff recommends that any permanent rates and charges in this matter shall become effective on the first day of the month after the Company files with Docket Control, as a compliance item in this docket, ADEQ documentation reporting that there are no compliance deficiencies and the Company is delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.
2. Staff recommends that the Company continue to monitor the water system closely and take action to ensure that water loss remains at 10 percent or less in the future. If the water loss

at any time before the next rate case is greater than 10 percent, the Company shall come up with a plan to reduce water loss to less than 10 percent or prepare a report containing a detailed analysis and explanation demonstrating why water loss reduction to 10 percent or less is not feasible or cost effective. Such a report shall be docketed in this case.

3. Staff recommends that an annual water testing expense of \$5,323 be used for this proceeding.
4. Staff recommends that the Company adopt the depreciation rates delineated in Table B.
5. Staff recommends that the Company adopt Staff's recommended Service Line and Meter Installation Charges as delineated in Table C, plus road crossing or boring cost when road crossing or boring is required.

1 **INTRODUCTION**

2 **Q. Please state your name, place of employment and job title.**

3 A. My name is Katrin Stukov. 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 June 2006.

9
10 **Q. Please list your duties and responsibilities.**

11 A. As a Utilities Engineer, specializing in water and wastewater engineering, I inspect and
12 evaluate water and wastewater systems, obtain data, prepare reports, suggest corrective
13 action and provide technical recommendations on water and wastewater system
14 deficiencies, and provide written and oral testimony on rate applications and other cases
15 before the Commission.

16
17 **Q. How many cases have you analyzed for the Utilities Division?**

18 A. I have analyzed approximately 15 cases covering various responsibilities for the Utilities
19 Division.

20
21 **Q. Have you previously testified before this Commission?**

22 A. Yes, I have testified in 5 proceedings before this Commission.

23
24 **Q. What is your educational background?**

25 A. I graduated from the Moscow University of Civil Engineering with a Bachelor of Science
26 degree in Civil Engineering with a concentration in water & wastewater systems.

1 **Q. Briefly describe your pertinent work experience.**

2 A. Prior to my employment with the Commission, I was a design review environmental
3 engineer with the Arizona Department of Environmental Quality ("ADEQ") for twenty
4 years. My responsibilities with ADEQ included review of projects for the construction of
5 water and wastewater facilities. Prior to that, I worked as a civil engineer in several
6 engineering & consulting firms, including Bechtel Inc. and Brown & Root Inc., in
7 Houston, Texas.

8
9 **PURPOSE OF TESTIMONY**

10 **Q. Were you assigned to provide the Utilities Division Staff's ("Staff") engineering**
11 **analysis and recommendation for the Cordes Lakes Water Company ("Company")**
12 **in this proceeding?**

13 A. Yes. I reviewed the Company's application and responses to data requests, and I visited
14 the water and wastewater systems on August 9, 2007. This testimony and its attachment
15 present Staff's engineering evaluation.

16
17 **ENGINEERING REPORT**

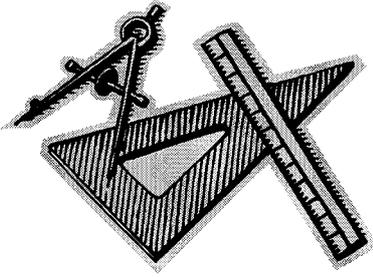
18 **Q. Please describe the attached Engineering Report, Exhibit KS.**

19 A. Exhibit KS presents details and Staff's analysis and findings, and is attached to this direct
20 testimony. Exhibit KS contains the following major topics: (1) a description and analysis
21 of the water system, (2) water use, (3) growth, (4) compliance with the rules of the ADEQ,
22 Arizona Department of Water Resources, and the Arizona Corporation Commission, and
23 (5) depreciation rates.

24
25 Staff's conclusions and recommendations from the Engineering Report are contained in
26 the "Executive Summary".

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

2 A. Yes, it does.



ENGINEERING REPORT FOR CORDES LAKES WATER COMPANY

DOCKET NO. W-02060A-07-0256

AUGUST 27, 2007

CONCLUSIONS

1. The Arizona Department of Environmental Quality (“ADEQ”) has reported major deficiencies in monitoring and reporting requirements for total coliform. The ADEQ data base shows that this system has exceeded the MCL for total coliform on December 4, 2006. Also, this system had a positive coliform analysis on February 5, 2007. Because of this exceedance, ADEQ has determined that the Company’s system is currently delivering water that does not meet water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.
2. The Company’s water system has a water loss of 10 percent.
3. The Company water system’s current well and storage capacities are adequate to serve the present customer base and a reasonable level of growth.
4. The Company reported arsenic concentration of less than 3 ppb for all of its five wells. Based on this information, the water system is in compliance with the new arsenic standard of 10 ppb.
5. The Company is not located in an Active Management Area (“AMA”) and is not subject to Arizona Department of Water Resources (“ADWR”) reporting and conservation requirements.
6. The Company has no outstanding Arizona Corporation Commission (“ACC”) compliance issues.
7. The Company has a curtailment plan tariff that became effective on April 25, 2003.
8. The Company has a backflow prevention tariff that became effective on January 13, 1995.

RECOMMENDATIONS

1. Staff recommends that any permanent rates and charges in this matter shall become effective on the first day of the month after the Company files with Docket Control, as a compliance item in this docket, ADEQ documentation reporting that there are no compliance deficiencies and the Company is delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

2. Staff recommends that the Company continue to monitor the water system closely and take action to ensure that water loss remains at 10 percent or less in the future. If the water loss at any time before the next rate case is greater than 10 percent, the Company shall come up with a plan to reduce water loss to less than 10 percent, or prepare a report containing a detailed analysis and explanation demonstrating why a water loss reduction to 10 percent or less is not feasible or cost effective. Such a report shall be docketed in this case.
3. Staff recommends that annual water testing expense of \$5,323 be used for this proceeding.
4. Staff recommends that the Company adopt the depreciation rates delineated in Table B.
5. Staff recommends that the Company adopt Staff's recommended Service Line and Meter Installation Charges as delineated in Table C, plus road crossing or boring cost when road crossing or boring is required.

A. INTRODUCTION AND LOCATION OF COMPANY

On April 24, 2007, Cordes Lakes Water Company (“Company”) filed a rate application with the Arizona Corporation Commission (“ACC” or “Commission”). The Cordes Lakes Water System (“CLWS”) serves the Cordes Lakes subdivision east of Highway 17 in Cordes Junction. Figure 1 shows the location of the Company within Yavapai County and Figure 2 delineates the approximate two square miles of certificated area.

Figure 1

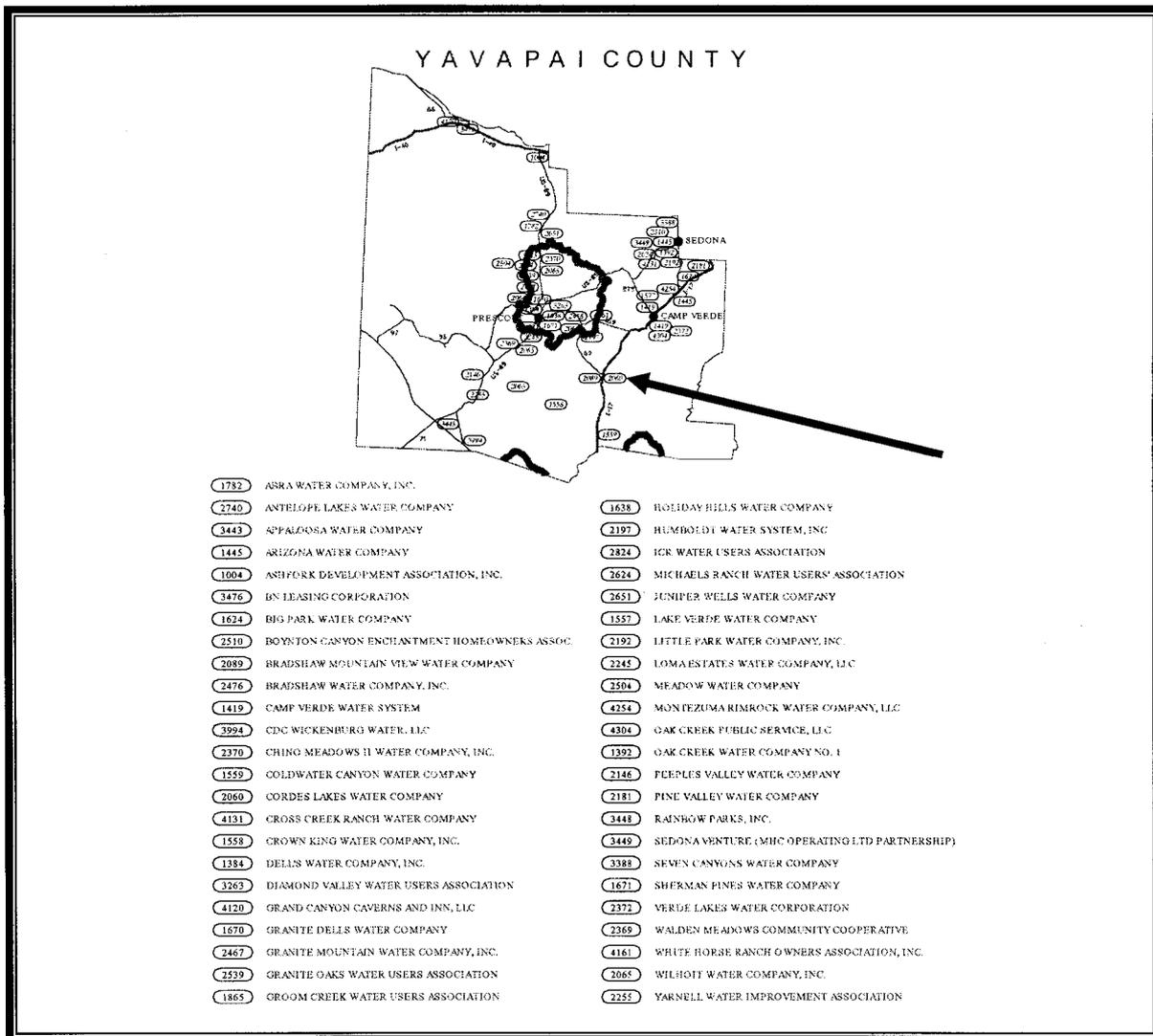
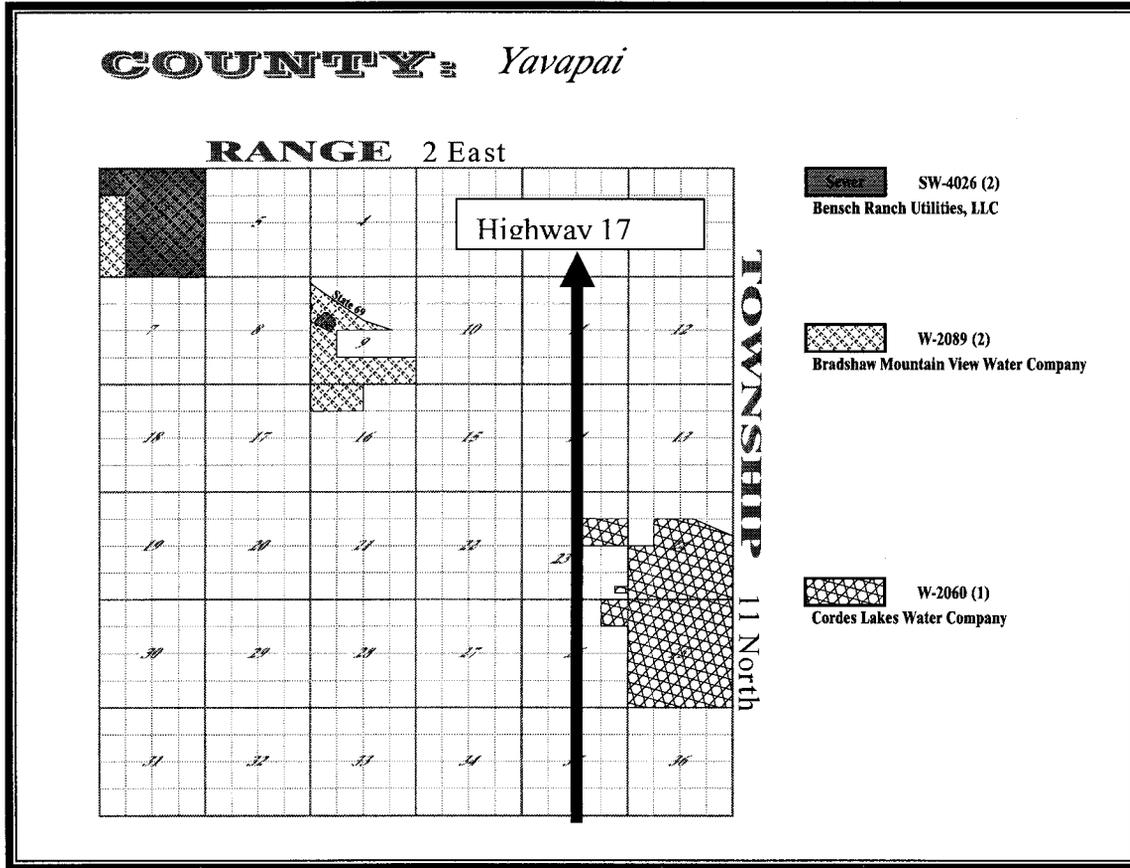


Figure2



B. DESCRIPTION OF THE WATER SYSTEMS

The plant facilities were visited on August 9, 2007, by Katrin Stukov in the accompaniment of Don Ross, the water system's operator, and Neil Folkman, the Company's owner. The CLWS has five pumping sites consisting of five wells (see Footnote # 2), six storage tanks, pumping facilities and a distribution system serving over 1,300 customers. Figure 3 provides a process schematic for the water system. Table A below shows the plant facilities summary¹.

Table A. Plant Facilities Summary

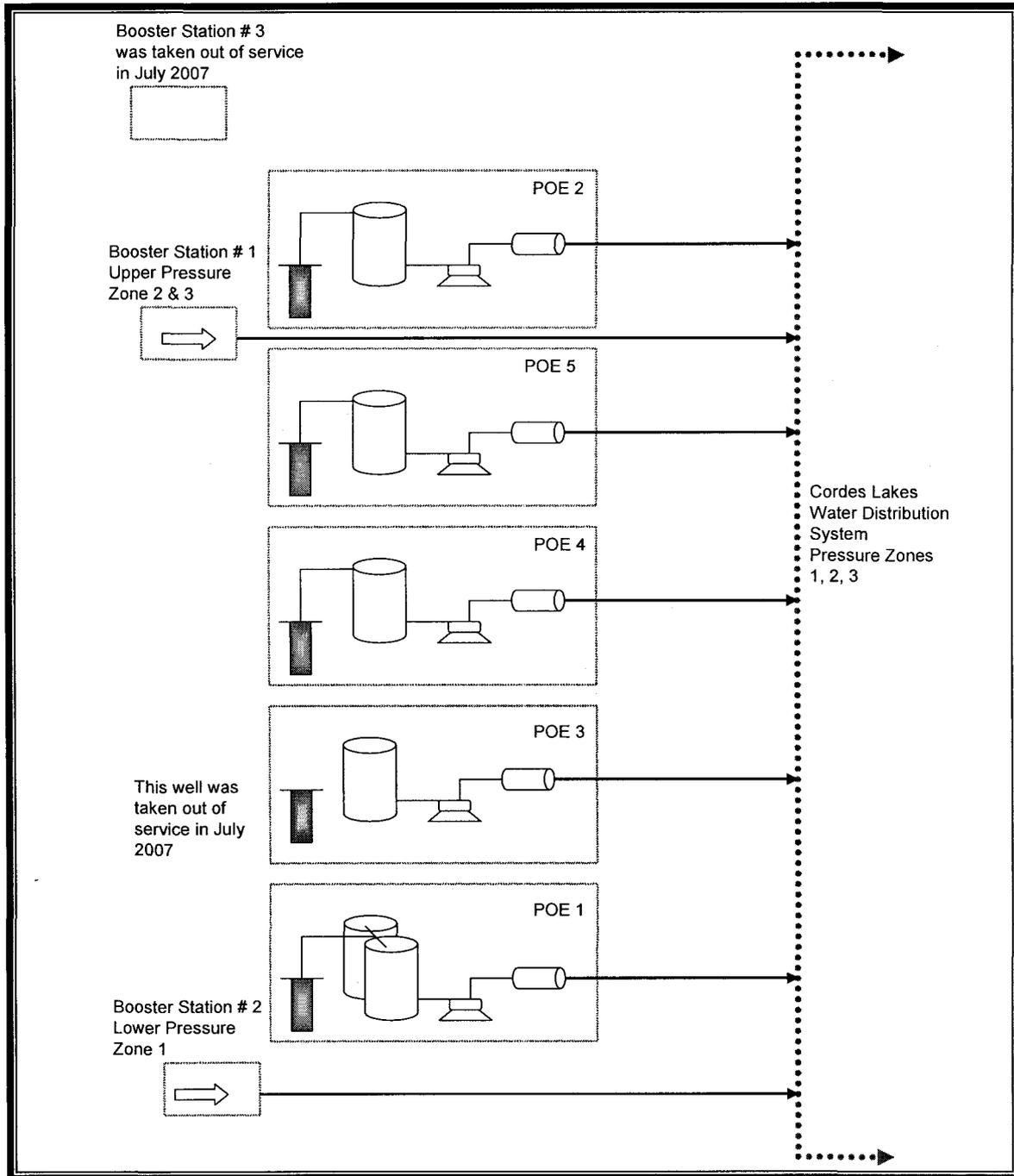
Public Water System ("PWS") No. 13-023								
Location	POE#1 Point of Entry ("POE")	POE #2	POE #3 ²	POE #4	POE #5	Booster Stations		
						#1 ('A' Tract)	#2(lot 1545)	#3 (lot 2115) ³
Well ADWR #	55-690346	55-518196	55-609234	55-609347	55-565855			
Casing Size (inch)	14	8	6	12	10			
Casing Depth (feet)	unknown	380	343	500	343			
Meter Size (inch)	3	3	3	3	3			
Pump Size (HP)	One 7.5	One 7.5	One 2	One 7.5	One 7.5			
Pump Yield (GPM)	65	95	12	94	54			
Well Yield (GPM)	85	86	0	100	45			
Storage tank (gallons)	(2) 45,000	(1) 30,000	(1) 16,000	(1) 30,000	(1) 100,000			
Booster Pumps (HP)	Two 7.5	Two 7.5	Two 5	Two 10	Two 7.5	(1) 2 & (1) 5	(1) 5 & (1) 7.5	(1) 5 & (1) 7.5
Pressure Tanks (gallons)	(1) 2,000	(1) 5,000	(1) 3,000	(1) 5,000	(1) 5,000	(2) 100	(1) 500	(3) 100
Chlorinators		1		1	1			
Pump House	8'x 8'	8'x 8'	10'x 12'	12'x12'	8'x 8'			
Other	Fencing	Fencing	Fencing	Fencing	Fencing	Fencing	Fencing	Fencing
Distribution Mains				Customer Meters				
Size (in inches)	Material	Length (in feet)		Size (in inches)		Quantity		
4	PVC	168,100		3/4		1401		
6	PVC	230,040		1		5		

¹ Based on the Company's responses to Data Requests received on July 24, 2007(See Attachment 1) and Staff's site visit.

² Arizona Department of Water Resources (ADWR) Well # 55-609234 has been out of service since July 2007.

³ Booster Station #3 has been out of service since July 2007.

Figure 3 System Schematic



C. WATER USE

Water Sold

Figure 4 represents the water consumption data for the test year ending December 31, 2006, provided by the Company in its water use data sheet. Customer consumption included a high monthly water use of 224 gallons per day (“GPD”) per connection in June, and the low water use was 110 GPD per connection in December. The average annual use was 154 GPD per connection.

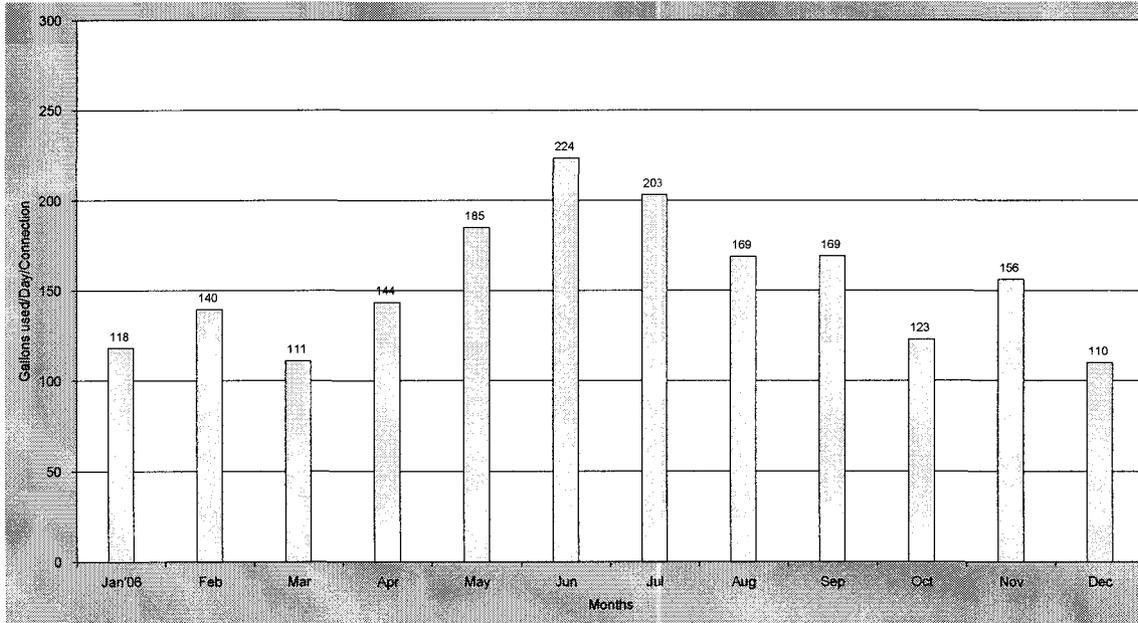


Figure 4 Water Use

Non-account Water

Non-account water should be 10 percent or less. It is important to be able to reconcile the difference between water sold and the water produced by the source. A water balance will allow a company to identify water and revenue losses due to leakage, theft and flushing.

The Company reported 82,488,000 gallons pumped and 74,133,000 gallons sold, resulting in a water loss of 10 percent. Staff recommends that the Company continue to monitor the water system closely and take action to ensure the loss remains 10 percent or less in the future. If the water loss at any time before the next rate case is greater than 10 percent, the Company shall come up with a plan to reduce water loss to less than 10 percent, or prepare a report containing a detailed analysis and explanation demonstrating why a water loss reduction to 10 percent or less is not feasible or cost effective.

System Analysis

Based on the data provided by the Company, the system's current well production capacity is 316 GPM and storage capacity is 266,000 gallons. The system had 1,342 connections as of December 2006. Staff concludes that the Company's current well production and storage capacities are adequate to serve the present customer base and reasonable growth.

D. GROWTH

Based on customer data obtained from the Company's Annual Reports, it is projected that the Company could have approximately 1,630 customers by 2011. Figure 5 depicts actual growth from 2004 to 2006 and projects an estimated growth for the next five years using linear regression analysis.

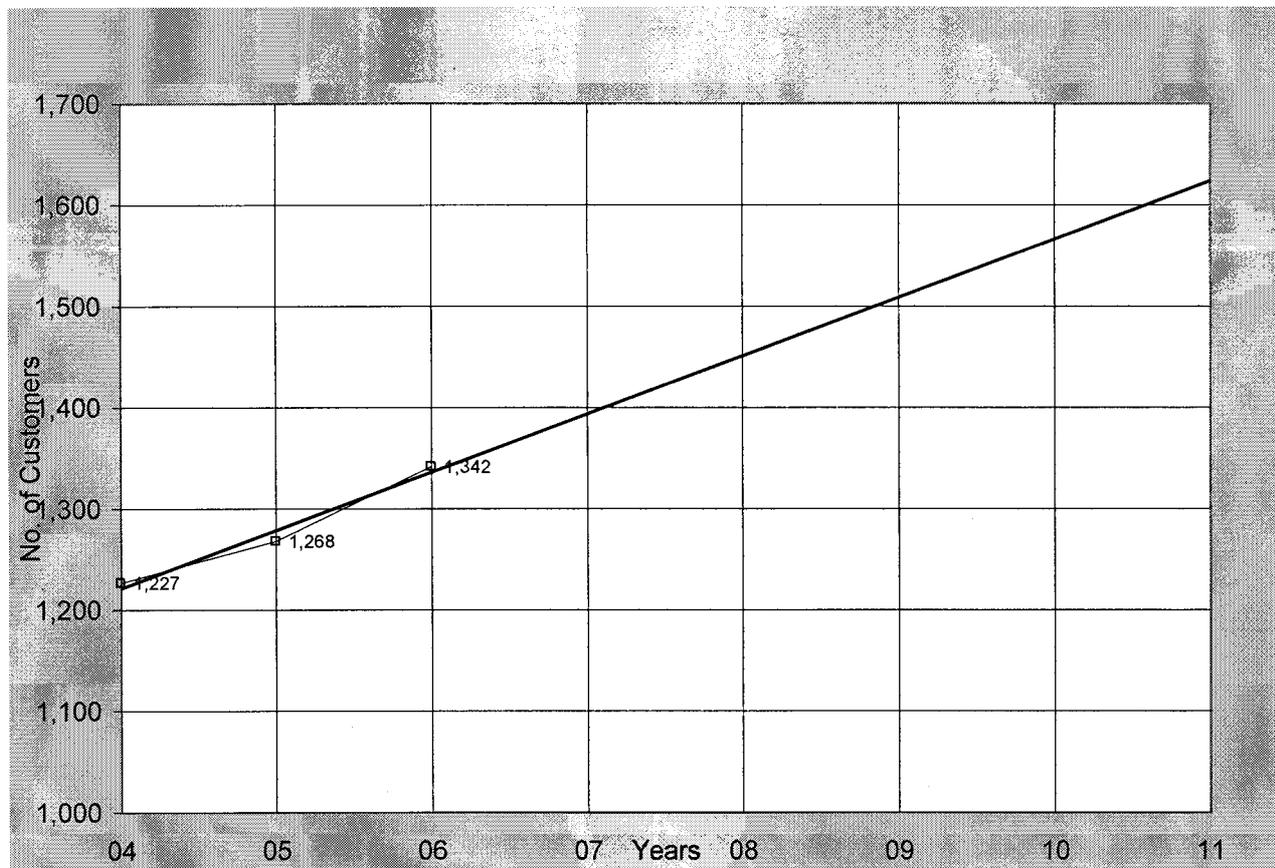


Figure 5 Growth Projection

E. ADEQ COMPLIANCE

Compliance

The ADEQ has reported major deficiencies in monitoring and reporting requirements for total coliform. The ADEQ data base shows that this system has exceeded the MCL for total coliform on December 4, 2006. Also, this system had a positive coliform analysis on February 5, 2007. Because of this exceedance, ADEQ has determined that the Company's system is currently delivering water that does not meet water quality standards required by Arizona Administrative Code, Title 18, Chapter 4⁴.

Arsenic

The U.S. Environmental Protection Agency has reduced the arsenic maximum contaminant level ("MCL") in drinking water from 50 parts per billion ("ppb") to 10 ppb.

The Company reported arsenic levels of less than 3 ppb for all its five wells.⁵ Based on these arsenic levels, CLWS is currently in compliance with the new arsenic MCL.

Water Testing Expense

The Company is subject to mandatory participation in the Monitoring Assistance Program ("MAP"). Participation in the MAP program is mandatory for water systems, which serve less than 10,000 persons (approximately 3,300 service connections). The Company reported its water testing expense at \$6,250⁶ during the test year. Staff has reviewed the Company's testing expense and has recalculated testing costs based on the Company's responses to Data Requests received on June 7, 2007. Table B below shows Staff's annual water monitoring expense estimate of \$5,323 with participation in the MAP program.

⁴ Per ADEQ Compliance Status Report dated April 10, 2007

⁵ Based on the Company's responses to Data Requests received on June 7, 2007 (See Attachment 2)

⁶ Per Company's Rate Application, Schedule E-2

Table B. Water Testing Cost

Monitoring	Cost per test	No. of tests per year	Annual Cost
Total coliform – monthly	\$25	36	\$900
Inorganics – Priority Pollutants	MAP	MAP	MAP
Radiochemical – per 4 years	MAP	MAP	MAP
Phase II and V:			
Nitrate – annual (for 5 wells)	\$36	5	\$180
Nitrite – once per period	MAP	MAP	MAP
Asbestos – per 9 years	MAP	MAP	MAP
MAP – IOCs, SOCs, & VOCs	MAP	MAP	\$3,383 ⁷
Lead & Copper	\$43	20	\$860
Total			\$5,323

F. ADWR COMPLIANCE

The Company is not within an Active Management Area, and consequently is not subject to ADWR reporting and conservation requirements.

G. ACC COMPLIANCE

A check with Utilities Division Compliance Section showed that there are currently no delinquent compliance items for the Company⁸.

H. DEPRECIATION RATES

It appears the Company has been using a depreciation rate of 5.00% in every National Association of Regulatory Utility Commissioners (“NARUC”) plant category. In recent orders, the Commission has been shifting away from the use of composite rates in favor of individual depreciation rates by NARUC category (for example, a uniform 5% composite rate would not really be appropriate for either vehicles or transmission mains and instead, different specific retirement rates should be used). Staff has developed typical and customary depreciation rates within a range of anticipated equipment life. These rates are presented in Table C below and it is recommended that the Company use these depreciation rates by individual NARUC category on a going-forward basis.

⁷ Per MAP invoice for 2006 Calendar Year

⁸ Per ACC Compliance status check dated June 27, 2007

**TABLE C
TYPICAL DEPRECIATION RATES FOR WATER COMPANIES**

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.

I. OTHER ISSUES

1. Service Line and Meter Installation Charges

The Company has requested changes in its service line and meter installation charges. These charges are refundable advances and the Company requested charges that are less than Staff's customary range of charges. After Staff discussions with the Company, the Company agreed to the lower end of Staff's customary range of charges. The Company, also, proposes to charge costs that are based on the actual costs incurred for the road crossing or boring if required. The Company estimates that there are about 10% of lots that can not be served from easement in rear and, therefore, may require road cutting or boring. Therefore, Staff recommends that charges listed below in the right-hand column in Table D below be adopted. Only the road crossing or boring costs, if required, would be determined on a case-by-case basis.

Table D Service Line and Meter Installation Charges

Meter Size	*Company Current Tariff ⁹	Company Proposed Tariff	*Staff's Recommendation		
			Service Line Charge	Meter Charge	Total Charge
5/8 x 3/4-inch ¹⁰	\$100	-			
3/4-inch	\$120	\$405	\$355	\$165	\$520
1-inch	\$160	\$455	\$405	\$205	\$610
1-1/2-inch	\$300	\$665	\$440	\$415	\$855
2-inch	\$400	\$1,080	\$600	\$915	\$1,515
3-inch		\$1,460	\$775	\$1,420	\$2,195
4-inch		\$2,985	\$1,110	\$2,250	\$3,360
6-inch		\$4,450	\$1,670	\$4,445	\$6,115

*Note: Road crossing or boring costs would be at cost when a road crossing or boring is required.

2. Curtailment Plan Tariff

The Company has a curtailment tariff that became effective on April 25, 2003.

3. Backflow Prevention Tariff

The Company has a backflow prevention tariff that became effective on January 13, 1995.

⁹ Became effective on June 1, 1985

¹⁰ The Company reported that it has no 5/8 x 3/4inch meters

CORDES LAKE WATER

DOCKET W-02060A-07-0256

RECEIVED

JUL 24 2007

AZ CORP COMM
Director Utilities

TO KATHIN STUKOR
ENGINEERING - UTILITIES
A.C.C

COMPUTER DISK
ENCLOSED

Cordes Lakes Water Company
Docket # W-02060A-07-0256

Answers to Data Request -2

KS-2.1 Yes

KS-2.2 Yes

KS-2.3 A copy of the layout map of the system (reduced to 8-1/2 x 11) is enclosed indicating the area and the location of well sites. A wall size version of the enclosed map is available upon request. The computer disk provided was made from a full size plan. The size of the Cordes Lakes subdivision is approximately 1520 acres

KS-2.4 Yes

KS-2.5 WELL # 55-690346 (LOT 970)	85 GPM
WELL # 55-518196 (LOT 2935)	86 GPM
WELL # 55-609234 (LOT 844)	15 GPM
WELL # 55-609347 (LOT 2378)	100 GPM
WELL # 55-565855 (LOT 405)	45 GPM

KS-2.6 The system does not chlorinate on a continual or regular basis. Chlorination only occurs when there is a problem with a bacteriological test or work on a line break. Therefore, we do not have to test for chlorine by-products at this time. Within the near future, we plan to install full time gas chlorination

Ks-2.7 The Company runs 20 test samples per year. Reduced sampling has been requested, but no response has been received from the ADEQ.

PREPARED BY NEIL FOLKMAN

Copy to Katrin Stukov
Robin R. Mitchell.

SYSTEM NUMBER	13-023			
DWR #	BOOSTER ONLY			
POE #	N/A			
MAP LOCATION	MOON MTN-8			
PID #				
LOT #	2115			
ADDRESS	19614 MOON MTN			
STORAGE TANK	NONE			
PRESS. TANK	3 @ 100 GAL			
METER SIZE	NONE			
WELL SIZE	N/A			
WELL DEPTH	N/A			
WELL CASING	N/A			
CASING DEPTH	N/A			
STATIC LEVEL	N/A			
DRAW DOWN	N/A			
PUMP CAPACITY	N/A			
PUMPS WELL	NONE			
BOOSTER PUMPS	1 @ 5HP-1@ 7-1/2HP			
AIR COMPRESSOR	NONE			
POWER	230 VOLT SINGLE			
ROTO PHASE	NONE			
PUMP HOUSE	NONE			
FIRE HYDRANT	NONE			
FENCING	68 FT CHAIN LINK			

CORDES LAKES WATER COMPANY

DOCKET NUMBER W-02060A-07-0256

ARIZONA DEPARTMENT OF REVENUE -- TAX CLEARANCE APPLICATION

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY -- MAPS
RECEIPT

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY -- COMPLIANCE
REPORT

WATER USE DATA SHEET

LABORATORY BILLS FOR COPPER, LEAD, BACTERIOLOGICAL TESTS,
NITRATE, CHLORINE

SAMPLE BILL

ANSWERS TO LIST OF DEFICIENCIES 05-23-07

Received
6/7/2007

STUKOV

#2

CORDES LAKES WATER COMPANY

~~U-2060~~ W-02060 RECEIVED

INTRODUCTORY MESSAGE

2007 JUN -7 P 12:42

Cordes Lakes Water Company was formed in 1974 to purchase the water systems owned by Queen Creek Land & Cattle, The two systems were Cordes Lakes, located near Cordes Junction Arizona, and the other was Verde Village located near the City of Cottonwood Arizona. Both systems were certified to serve only the subdivisions of the same name and owned by Queen Creek Land & Cattle. At the time of purchase there were approximately 330 customers in the two systems.

In 2004, the City of Cottonwood under threat of condemnation took over the all of the assets of the Verde Village System. The City requested that the Cordes Lakes Water Company continue to operate the Verde Village system until April 2005

Cordes Lakes Water Company last sought rate relief with a rate application submitted February 16, 1984. The Decision, #54526 was put into effect on June 1, 1985. At the time the Cordes system had 238 customers while the Verde Village system had 1125 customers.

On page 16 of the staff report dated December 4, 1984, the staff indicated that the rates being proposed (and eventually authorized) for the Cordes System would generate a rate of return of zero (0). During the hearing the staff testified that although the Company should be entitled to a higher rate, for the Cordes system, any higher rate than the rate proposed would result in hardships for the Cordes system customers. Further, the Verde Village proposal would generate adequate funds for the Company.

Over the past 20 years several discussions were held with rate consultants both inside and outside the Commission. The opinion of the consultants was that the Cordes system, on its own, could not get rate relief as long as the Verde system was growing so quickly

Therefore, with the loss of the revenue from the Verde System due to the condemnation, the Cordes System has had to exist with inadequate revenue since April 2005. We would appreciate consideration as soon as possible. Our establishment fees are very low, our NSF fee is less than we are charged, and we have no late fees to force more prompt payments. We are forced to send 7 to 10 percent of our customers delinquency letters each month adding \$50 to \$75 to our costs..

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JUN 07 2007

AZ CORP COMM
Director Utilities

CORDES LAKES WATER COMPANY -- W-02060A-07-0256
LIST OF DEFICIENCIES ACC-MAY 23, 2007

1 The Company's sales account includes a number of factors in addition to metered sales. Among the major items

Sales tax	\$22,609
Hub Café	\$ 5,472
Misc revenue (estab, NSF, etc).	\$ 3,785
Balance meter deposits	\$ 2,710
Balance service deposits	\$ 8,120
Deposit refunds	(\$ 3,730)

There was also a charge of \$4685 included in revenue that technically is not part of Cordes revenue but is for income tax only.

2 The Company only has one rate no matter what size of meter installed. The Company has only five 1-in meters installed but does not track the customers with these meters because we have only one rate

3 The Company installs only 3/4 -short length meter. The 3/4-short length meter has a full 3/4 passage but has a laying length of 7-1/2 inch instead of the standard 9-inches. The use of a 3/4-short length meter provides less restriction than a 5/8x3/4 meter.

4. The Company ran out of money and had to take an advance from one of the stockholders. Further advances by stockholders have been made since that date. As we are losing money at the rate of \$2000-\$3000 per month in real dollars, we have only the option of advancing money or not paying our suppliers and our employees.

5. Fixed ..

6. Fixed

7. Fixed

8 Fixed

9. Schedule E-2 shows an expense deduction of \$669, 420 and A-2 shows a deduction \$670,096. The difference \$1486 is shown on schedule C.

10 The revenue for the years before the test year (2004 and 2005) contained some revenue from the City of Cottonwood for operations before and after the Verde Village condemnation. The expenses for 2004 and 2005 shown in schedule E-2 and A-2 have been estimated as they too, have large charges for operations involved with the City of Cottonwood condemnation that are impossible to separate out.

11. Interest shown on E-2 is \$549.00. The interest on A-2 is \$2500 higher. The difference shown on schedule C-1 is accrual for interest on director advance

12. Service charges for NSF checks were increased on October 24, 2006, to \$10.00 when National Bank increased the charge to us to \$10.00. We did not feel that we had to subsidize bad check writers. Interest had been paid since 1973, apparently we did not realize that it was omitted on the last rate tariff schedule.

13. As of February 19, 2007, all five points of entry have arsenic levels of <.003 per 2007 maps report

14. The Company does the following testing;

Bacteriological tests:	3 per month	\$ 25.00 per test
Nitrate tests	5 per year	\$ 36.00 per test
Lead & Copper	20 per year	\$ 43.00 per test
Maps	1 per year	\$3,382.83 per year

Extra bacteriological tests and a chlorine test was performed to correct a violation and to assure several new water lines were properly chlorinated. A new policy at Aerotech Environmental requires \$200 worth of tests per submittal, so it is necessary to submit samples at the same time as another Company to make the \$200 minimum.

15. The system does not chlorinate continuously. At this time we have chlorine pellet feeders attached to each well for emergencies. If money is available we hope to add continuous gas chlorination

16. Compliance report sent for. Result showed non-compliance for two bacteriological tests. Both were handled correctly. Sent info to State and requested a new compliance statement

BEFORE THE ARIZONA CORPORATION COMMISSION

MIKE GLEASON

Chairman

WILLIAM A. MUNDELL

Commissioner

JEFF HATCH-MILLER

Commissioner

KRISTIN K. MAYES

Commissioner

GARY PIERCE

Commissioner

IN THE MATTER OF THE APPLICATION OF)
CORDES LAKES WATER COMPANY FOR A)
PERMANENT RATE INCREASE)

DOCKET NO. W-02060A-07-0256

DIRECT

TESTIMONY

OF

STEVEN P. IRVINE

PUBLIC UTILITIES ANALYST III

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

OCTOBER 17, 2007

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
Summary of Testimony and Recommendations	1
II. The Weighted Average Cost of Capital	3
III. Capital Structure	5
Background.....	5
Cordes' Capital Structure	6
Other Financial Considerations	7
IV. Return on Equity	7
Background.....	7
Risk.....	10
V. Estimating the Cost of Equity	12
Introduction	12
Discounted Cash Flow Model Analysis.....	13
The Constant-Growth DCF.....	14
Multi-Stage DCF	23
Capital Asset Pricing Model.....	25
<i>Historic Market Risk Premium</i>	28
<i>Current Market Risk Premium</i>	29
VI. Summary of Staff's Cost of Equity Analysis.....	30
VII. Final Cost of Equity Estimates for Cordes	32
VIII. Rate of Return Recommendation.....	33
IX. STAFF RESPONSE TO COMPANY'S proposed rate of return	33
X. RECOMMENDATIONS.....	34

SCHEDULES

Capital Structure and Weighted Cost of Capital.....	SPI-1
Final Cost of Equity Estimates for Sample Water Utilities	SPI-2
Average Capital Structure of Sample Water Utilities.....	SPI-3
Growth in Earnings & Dividends of Sample Water Utilities	SPI-4
Sustainable Growth for Sample Water Utilities.....	SPI-5
Selected Financial Data of Sample Water Utilities.....	SPI-6

Calculation of Expected Infinite Annual Growth in Dividends..... SPI-7
Multi-Stage DCF Estimates SPI-8

EXHIBITS

Staff Data Request Exhibit 1
Company Response to Staff Data Request Exhibit 2

EXECUTIVE SUMMARY
CORDES LAKES WATER COMPANY
DOCKET NO. W-02060A-07-0256

The direct testimony of Staff witness Steven P. Irvine addresses the following issues:

Capital Structure – Staff recommends that the Arizona Corporation Commission (“Commission”) adopt a capital structure for Cordes Lakes Water Company (“Cordes” or “Company”) for this proceeding consisting of 0.0 percent debt and 100.0 percent equity.

Cost of Equity – Staff’s 10.0 percent estimated return on equity (“ROE”) for the Company is based on cost of equity estimates for the sample companies ranging from 9.1 percent using the discounted cash flow method (“DCF”) to 10.8 percent using the capital asset pricing model (“CAPM”).

Overall Rate of Return – Staff recommends that the Commission adopt an overall rate of return (“ROR”) of 10.0 percent.

Company’s proposed Rate of Return – The Commission should reject the 5.7 percent rate of return proposed by Cordes as it did not provide any analysis in support of this rate of return.

1 **I. INTRODUCTION**

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

3 A. My name is Steve Irvine. I am a Public Utilities Analyst IV 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 capacity as a Public Utilities Analyst IV, I conduct studies to estimate the cost of
9 equity capital, perform analyses of debt costs and compute the overall rate of return in rate
10 proceedings. I also design rates to generate the revenue requirement in rate proceedings.

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

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

17
18 **Q. What is the scope of your testimony in this case?**

19 A. My testimony provides Staff's recommended rate of return for Cordes Lakes Water
20 Company ("Cordes" or "Company") in this case.

21
22 **Summary of Testimony and Recommendations**

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

24 A. Staff's cost of capital testimony is presented in ten sections. Section I is this introduction.
25 Section II discusses the concept of weighted average cost of capital ("WACC").
26 Section III presents the concept of capital structure and presents Staff's recommended

1 capital structure for Cordes in this proceeding. Section IV discusses the concepts of return
2 on equity ("ROE") and risk. Section V presents the methods employed by Staff to
3 estimate Cordes' ROE. Section VI presents the findings of Staff's ROE analysis. Section
4 VII presents Staff's final cost of equity estimates for Cordes. Section VIII presents Staff's
5 rate of return ("ROR") recommendation for Cordes. Section IX presents Staff's
6 comments on the Company's application as it relates to cost of capital. Finally, Section X
7 summarizes Staff's recommendations.

8
9 **Q. Briefly summarize Staff's proposed capital structure, return on equity and overall**
10 **rate of return for Cordes in this proceeding.**

11 A. Staff recommends a 10.0 percent overall ROR. Staff's recommended ROR reflects a
12 capital structure composed of 0.0 percent debt and 100.0 percent equity, a 10.0 percent
13 ROE for the Company based on cost of equity estimates for the sample companies ranging
14 from 9.1 percent using the discounted cash flow method ("DCF") to 10.8 percent using the
15 capital asset pricing model ("CAPM"). Staff's recommended 10.0 percent ROR is
16 calculated in Schedule SPI-1.

17
18 **Q. Briefly summarize Cordes' proposed capital structure, return on equity and overall**
19 **rate of return for this proceeding.**

20 A. The application does not clearly convey a proposed a capital structure, cost of debt or cost
21 of equity. Schedule D-1 of the application includes three entries: long term debt, service
22 deposit and officers advance. A dollar amount and rate expressed as a percentage is listed
23 for each of these items. Schedule D-1 does not characterize the service deposits or
24 advances as either debt or equity. The schedule also does not indicate the proportions of
25 debt and equity in the capital structure. The schedule also does not indicate a proposed
26 return on debt, equity, or total rate of return. Schedule A-1 of the application does list

1 required rate of return as 5.7 percent. Staff asked the Company in a data request to clarify
2 its proposed level of debt and equity in the capital structure as well as the proposed cost of
3 each and total proposed cost of capital.¹ The Company's response to these questions does
4 not clarify the Company's proposal and indicates some confusion on the part of Company
5 regarding cost of capital.²

6
7 **II. THE WEIGHTED AVERAGE COST OF CAPITAL**

8 **Q. Please explain the term cost of capital.**

9 A. Cost of capital is the opportunity cost of an investment. For an investor, it is the rate of
10 return that one would expect to earn in investments with risk similar to the investment
11 being considered. One can invest in a company through a variety of securities such as
12 stock, bonds, and debt. The cost of capital to a company issuing a variety of securities is
13 an average of the expected returns on the securities the company has issued weighted
14 according to the size of each security relative to the company's entire security portfolio.
15 This total cost of capital is referred to as the weighted average cost of capital ("WACC").
16 While a company may determine the size of the dividends it pays or offer debt at
17 particular rates at its own discretion, in a competitive market, the market determines the
18 expected return on its equity capital. Equity investors are attracted to an equity investment
19 when the expected returns are similar to those of other entities with similar risk. That is,
20 the cost of equity capital is determined by the market.

¹ Exhibit 1

² Exhibit 2

1 **Q. What is the WACC formula?**

2 A. The WACC formula is as follows:

3 Equation 1

4

$$5 \quad WACC = \sum_{i=1}^n W_i * r_i$$

6

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

9

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

12 A. For purposes of this example, assume that an entity has a capital structure composed of
13 70.0 percent debt and 30.0 percent equity. Also, assume that the embedded cost of debt is
14 7.0 percent and the expected return on equity, i.e. the cost of equity, is 10.0 percent.
15 Calculation of the WACC is as follows:

16 $WACC = (70.0\% * 7.0\%) + (30.0\% * 10.0\%)$

17 $WACC = 4.90\% + 3.00\%$

18 $WACC = 7.90\%$

19

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

III. CAPITAL STRUCTURE**Background****Q. Please explain the capital structure concept.**

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

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

A. A company's capital structure is described by simply stating the percentage of each component of the capital structure relative to the whole capital structure. The following is an example of a hypothetical capital structure. Assume that the capital structure for an entity that is financed by \$10,000 of capital leases, \$30,000 of long-term debt, \$5,000 of short-term debt, \$10,000 of preferred stock and \$45,000 of common stock. The capital structure for the company is shown in Table 1.

Table 1

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

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

4

5 **Cordes' Capital Structure**

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

7 A. It is unclear what the Company proposes for a capital structure.

8

9 **Q. What capital structure does Staff recommend for Cordes?**

10 A. Staff recommends a capital structure composed of 100.0 percent equity and 0.0 percent
11 debt as shown in Schedules SPI-1.

12

13 **Q. What is the basis for Staff's capital structure recommendation?**

14 A. Information provided in the application and responses to a Staff data request provided no
15 clear indication that the Company has debt.³ Staff reviewed past filings made by Cordes
16 with the Commission and found no applications for approval of debt.

17

18 **Q. How does Cordes' capital structure compare to capital structures of publicly traded
19 water utilities?**

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

23

³ Exhibit 2

1 **Q. Does Staff discuss the matter of a cost of equity adjustment as it relates to capital**
2 **structure differences between Cordes and the sample water companies?**

3 A. Yes. This matter is discussed in Section VII, Final Cost of Equity Estimates for Cordes.
4

5 **Other Financial Considerations**
6

7 **Q. Are there any other financial considerations that should be noted?**

8 A. Yes. The Company included a \$50,000 liability in the comparative balance sheet in
9 Schedule E-1 of its application. The liability is shown as having existed longer than a
10 period of one year. Such liabilities are long-term debt. However, the Company did not
11 seek Commission approval for such debt as required by ARS §40-302.A. As the debt was
12 not approved by the Commission, it has not been included in Staff's recommended capital
13 structure.
14

15 **IV. RETURN ON EQUITY**

16 **Background**

17 **Q. Please define the term cost of equity.**

18 A. Cost of equity is the compensation that investors expect for bearing the risk of ownership
19 of a stock. The return that investors expect for a given stock is equivalent to the expected
20 returns of other firms with equivalent risk. Investors can expect a given stock's return to
21 be similar to returns of other stocks with equivalent levels of risk as investors can simply
22 select the other stocks as an alternative. Investors are likely to do so if there are other
23 stocks available with similar levels of risk and higher returns. Cost of equity is therefore
24 determined by the market given the prevailing market conditions.
25

1 **Q. Can the cost of equity for Cordes be determined by market data related to its stock**
2 **and earnings?**

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

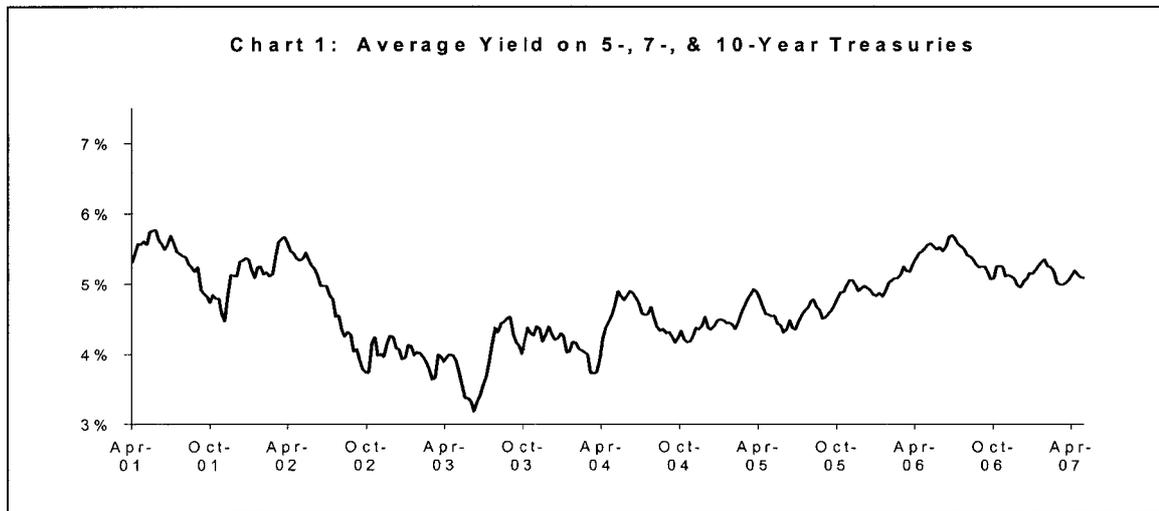
7
8 **Q. Do interest rates affect cost of equity?**

9 A. Yes. According to the Capital Asset Pricing Model ("CAPM"), the direction of change in
10 interest rates is an indicator of the direction of change in cost of equity. The CAPM is a
11 market based model used for cost of capital estimation that Staff employs to estimate
12 Cordes' cost of equity. The CAPM model is discussed in greater detail in Section V of
13 this testimony.

14
15 **Q. What has been the general trend in interest rates in recent years?**

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

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Source: Federal Reserve

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

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

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Source: Federal Reserve

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

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

Risk

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

A. Risk is uncertainty that results from the variability of returns from an investment. Greater variability results in greater risk. Because investors are generally averse to risk, investments with greater inherent risk must promise higher expected yields.⁴ Risk can be separated into two components: market risk and non-market risk. Market risk can also be referred to as systematic or non-diversifiable risk. Non-market risk can also be referred to as unique or diversifiable risk.

⁴ Scott, David L. Wall Street Words, revised edition. Houghton Mifflin Company. Boston. 1988. p. 324.

1 **Q. What is market risk?**

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

11
12 **Q. What is business risk?**

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

17
18 **Q. What is financial risk?**

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

23
24 **Q. What is non-market risk?**

25 A. Non-market risk, or firm-specific risk, is risk that results from forces which are firm
26 specific, or singular to a firm. Examples of forces that contribute to non-market risk

1 include but are not limited to: strikes, lawsuits, failure of a product line, and loss of a
2 client. Different firms experience their own unique, or non-market, risks. By holding a
3 diverse portfolio, an individual investor can eliminate non-market risk.

4
5 **Q. Do market and non-market risk affect cost of equity?**

6 A. Market risk does affect cost of equity. Because non-market risk is diversifiable, investors
7 cannot expect to be compensated for non-market risk, i.e., non-market risk does not affect
8 cost of equity.

9
10 **V. ESTIMATING THE COST OF EQUITY**

11 **Introduction**

12 **Q. Did Staff directly estimate Cordes' cost of equity?**

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

20
21 **Q. What companies did Staff select as proxies or comparables for Cordes?**

22 A. Staff's sample consisted of: American States Water, California Water, Connecticut Water
23 Services, Middlesex Water, Aqua America, and SJW Corp. These companies were
24 selected as they are publicly traded and a significant portion of their revenues come from
25 regulated operations.

26

1 **Q. What models did Staff implement to estimate Cordes' cost of equity?**

2 A. Staff's estimate of the cost of equity is based on the Discounted Cash Flow ("DCF") and
3 the CAPM.

4
5 **Q. Why did Staff choose to base its analysis on the DCF and CAPM?**

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

10
11 **Discounted Cash Flow Model Analysis**

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

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

22
23 **Q. Are alternative growth rate models used in Staff's application of the DCF?**

24 A. Yes. Staff uses two versions of the DCF. In one version, Staff uses a single continuous
25 growth rate. This is referred to as the constant growth DCF. In the second version Staff

1 uses a two-stage growth rate that assumes that dividend growth will change in the future.

2 This second model is referred to as the multi-stage or non-constant growth DCF.

3 **The Constant-Growth DCF**

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

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

Equation 2:

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

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

6 This formula assumes that the company has a constant earnings retention rate and that its
7 earnings will continue to grow at a single constant rate. According to this equation, a
8 stock with a current market price of \$10 per share, an expected annual dividend of \$0.60
9 per share and an expected dividend growth rate of 4.0 percent per year has a cost of equity
10 of 10.0 percent. This is calculated as follows: ($\$0.60/\10 or 6.0 percent) + (4.0 percent) =
11 10.0 percent.

12
13 **Q. How did Staff select the dividend yield components D_1 and P_0 in the constant-growth
14 DCF formula?**

15 A. Staff used the expected annual dividend⁵ (D_1) and stock price (P_0) at the close of the
16 market on August 15, 2007, as reported by *MSN Money*.

17

⁵ *Value Line Summary & Index*. July 27, 2007, announced company dividends <http://www.ctwater.com> and <http://ir.aquaamerica.com>

1 **Q. Why did Staff use the August 15, 2007 spot stock price rather than a historical**
2 **average stock price to calculate the dividend yield component of the DCF formula?**

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

10
11 **Q. How did Staff estimate the dividend growth (g) component of the constant-growth**
12 **DCF model represented by Equation 2?**

13 A. The growth component used by Staff is determined by averaging six different estimation
14 methods. The results are shown in Schedule SPI-7. Staff calculated both historical and
15 projected growth estimates on dividend-per-share ("DPS")⁶, earnings-per-share ("EPS")⁷
16 and sustainable growth bases.

17
18 **Q. Why did Staff include EPS growth in estimation of the dividend growth component**
19 **of the constant-growth DCF model?**

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

24

⁶ Derived from information provided by *Value Line*

⁷ Derived from information provided by *Value Line*

1 **Q. How did Staff calculate historical DPS growth?**

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

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

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

9
10 **Q. How did Staff calculate the historical EPS growth rate?**

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

16
17 **Q. How did Staff estimate the projected EPS growth?**

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

20
21 **Q. How did Staff calculate its historical and projected sustainable growth rates?**

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

25

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

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

6

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

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

10

Equation 3:

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

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

11

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

14 A. Staff calculated the historical retention rates by averaging the retention rates for the
15 sample companies from 1996 to 2005. The historical average retention rate is 3.0 percent
16 as shown in SPI-5.

17

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

20 A. Staff averaged the projected retention growth rates for the period 2009 to 2011 shown in
21 *Value Line* for the sample water utilities. The average of the retention rate projections is
22 4.3 percent as shown in SPI-5.

23

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

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

8
9 **Q. Is there any financial implication of a market-to-book ratio greater than 1.0?**

10 A. Yes. A market-to-book ratio greater than 1.0 implies that investors expect an entity to
11 earn an accounting/book return on its equity that exceeds its cost of equity. The
12 relationship between required returns and expected cash flows is readily observed in the
13 fixed securities market. For example, assume an entity contemplating issuance of bonds
14 with a face value of \$10 million at either 6.0 percent or 7.0 percent, and thus, paying
15 annual interest of \$600,000 or \$700,000, respectively. Regardless of investors' required
16 return on similar bonds, investors will be willing to pay more for the bonds if issued at 7.0
17 percent than if the bonds are issued at 6.0 percent. For example, if the current interest rate
18 required by investors is 6.0 percent, then investors would bid \$10 million for the 6.0
19 percent bonds and more than \$10 million for the 7.0 percent bonds. Similarly, if equity
20 investors require a 7.0 percent return and expect an entity to earn accounting/book returns
21 of 12.0 percent, the market will bid up the price of the entity's stock to provide the
22 required return of 7.0 percent.

23

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

3 A. Staff has assumed that investors expect the market-to-book ratio to remain greater than
4 1.0. Given that, Staff has added a stock financing growth rate (vs) term to the retention
5 ratio (br) term to calculate its historical and projected sustainable growth rates.

6
7 **Q. Do the historical and projected sustainable growth rates Staff uses to develop its**
8 **DCF cost of equity in this case include stock financing growth as an input?**

9 A. Yes.

10

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

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

18

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

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

21

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

⁸ Gordon, Myron J. *The Cost of Capital to a Public Utility*, MSU Public Utilities Studies, Michigan, 1974. pp 31-35.

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

2 A. Variable v is calculated as follows:

3

Equation 5 :

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

4

5 For example, assume that a share of stock has a \$40 book value and is selling for \$80.

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

7

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

8

In this example, v is equal to 0.50.

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

2 A. Variable s is calculated as follows:

3

4

Equation 6:

5

6

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

7

8

For example, assume that an entity has \$100 in existing equity, and it sells \$25 of stock.

9

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

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

10

In this example, s is equal to 25.0 percent.

11

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

13

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

14

15

16

17

18

19

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

21

A. A market-to-book ratio greater than 1.0 reflects that investors expect an entity to earn a book/accounting return on their equity investment greater than the cost of equity. Equation 5 shows that when the market-to-book ratio is greater than 1.0 the v term is also greater than zero. The excess by which new shares are issued and sold over book value per share

22

23

24

1 of outstanding stock is a contribution that accrues to existing stockholders in the form of a
2 higher book value. The resulting higher book value leads to higher expected earnings and
3 dividends. Continued growth from the vs term is dependent upon the continued issuance
4 and sale of additional shares at a price that exceeds book value per share.

5
6 **Q. What vs estimate did Staff calculate from its analysis of the sample water utilities?**

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

9
10 **Q. What would one expect to occur should a stock have a market-to-book ratio greater
11 than 1.0 as a result of investors' expectations that earnings would exceed the cost of
12 equity capital and the entity subsequently is authorized rates equal to its cost of
13 equity capital?**

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

15
16 **Q. If the average market-to-book ratio of the sample water utilities falls to 1.0 due to
17 authorized ROE's equaling the cost of equity capital, would Staff's inclusion of the vs
18 term in its constant-growth DCF analysis result in an overestimate of its sustainable
19 dividend growth rate and the resulting DCF ROE estimate?**

20 A. Yes. Inclusion of the vs term assumes that the market-to-book ratio continues to exceed
21 1.0, and that the water utilities will continue to issue and sell stock at prices exceeding
22 book value resulting in benefits for existing shareholders. If the market-to-book ratio
23 declines to 1.0, the stock financing term is not necessary.

24

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

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

6
7 **Q. What is Staff's expected infinite annual growth rate in dividends?**

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

11
12 **Q. What is Staff's constant-growth DCF estimate?**

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

14
15 **Multi-Stage DCF**

16 **Q. Why did Staff include the multi-stage DCF in its estimate of Cordes' cost of equity?**

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

19
20 **Q. Please describe the multi-stage DCF used in Staff's analysis?**

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

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

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

3

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

4

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

6 A. First, Staff projected future dividends for each of the sample water utilities using the near-
7 term and long-term growth rate periods discussed previously. Second, Staff calculated the
8 rate (cost of equity) which equates the present value of the forecasted dividends to the
9 current stock price for each of the sample water utilities. Finally, Staff calculated an
10 average of the individual sample companies' cost of equity estimates.

11

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

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

16

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

3 A. Staff calculated the arithmetic mean of growth in GDP from 1929 to 2006.⁹ Use of the
4 historic arithmetic mean of GDP assumes that dividend growth for the utility will be
5 similar to the historical growth in the overall economy.

6
7 **Q. What is the historical GDP growth rate that Staff used in stage-2 growth?**

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

9
10 **Q. What is Staff's multi-stage DCF estimate?**

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

12
13 **Q. What is Staff's overall DCF estimate?**

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

17
18 **Capital Asset Pricing Model**

19 **Q. Please describe the capital asset pricing model and the premise it is based on.**

20 A. The CAPM is a model used in pricing of securities. The CAPM formula is based on the
21 premise that the return on a security is equal to the sum of a risk free rate and a risk
22 premium. The risk free rate portion of the formula compensates an investor for the risk
23 inherent in investing in the market. The risk premium portion of the formula compensates
24 an investor for taking on additional risk. The model illustrates the relationship between
25 risk and expected return. It is useful in establishing expected returns for a security given

⁹ www.bea.doc.gov

1 its risk and the returns of other securities of similar risk. In 1990, Professors Harry
2 Markowitz, William Sharpe, and Merton Miller earned the Nobel Prize in Economic
3 Sciences for their contribution to the development of the CAPM. The CAPM assumes
4 that investors hold portfolios sufficiently diversified to eliminate any non-systematic
5 (unique) risk.¹⁰

6
7 **Q. What is the mathematical formula for the CAPM?**

8 A. The mathematical formula for the CAPM is:

9
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

10
11 The equation shows that the expected return (K) on a security is equal to the risk-free
12 interest rate (R_f) plus the product of the market risk premium ("Rp") ($R_m - R_f$) multiplied
13 by beta (β) where beta represents the risk of the investment relative to the market.

14
15 **Q. What is the risk free rate?**

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

17

¹⁰ Brigham, Eugene F. and Ehrhardt, Michael C. Financial Management Theory and Practice 11th Edition. 2005. Thomson South-Western. United States. P. 182.

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

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

3

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

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

9

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

11 A. Beta represents the correlation between price variation of an individual security and the
12 price variation of the market. Beta is a measure of systematic (market) risk. Systematic
13 risk, as opposed to unsystematic (unique) risk, cannot be eliminated by diversification.
14 Investors who hold diverse portfolios can eliminate non-systematic risk. Therefore, only
15 systematic risk affects the cost of equity.

16

17 **Q. How is the beta measurement expressed?**

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

22

23 **Q. How did Staff estimate Cordes' beta?**

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

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

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

6

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

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

11

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

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

16

17 **Q. How many risk premium CAPM analyses did Staff conduct in its analysis of Cordes'**
18 **cost of equity capital?**

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

22

23 **Historic Market Risk Premium**

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

25 A. Staff referred to the *Ibbotson Associates' Stocks, Bonds, Bills, and Inflation 2005*
26 *Yearbook* and selected Ibbotson's measure of the average premium of the market over

1 intermediate treasury securities since 1926. Ibbotson Associates calculates the historical
2 risk premium by averaging the historical arithmetic differences between the S&P 500 and
3 the intermediate-term government bond income returns. Staff's historic market risk
4 premium is 7.6 percent as shown in Schedule SPI-2.

5
6 **Current Market Risk Premium**

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

8 A. Staff solved equation 8 for the market risk premium using a DCF derived expected return
9 (K) of 11.43 percent based on *Value Line's* current projections for the dividend yield (1.7
10 percent) and growth (9.73 percent¹¹) for all dividend paying stocks; the 30-year Treasury
11 note rate (5.0 percent) for the risk free rate (R_f); and the market beta of 1.0. Staff
12 calculated a current market risk premium of 6.43 percent.¹²

13
14 **Q. What are the results of Staff's historical and current market risk premium CAPM
15 analyses?**

16 A. Staff's cost of equity estimate is 11.0 percent using the historical market risk premium
17 CAPM and 10.5 percent using current market risk premium CAPM.

18
19 **Q. What is Staff's overall CAPM estimate?**

20 A. Staff's overall CAPM estimate is 10.8 percent which is the average of the historical
21 market risk premium CAPM and the current market risk premium CAPM estimates as
22 shown in Schedule SPI-2.

23

¹¹ 3 to 5 year growth = 45%. $1.45^{0.25} = 1.0973$; $(1.0973 - 1.0 = .0973$ or 9.73%)

¹² If $11.43 = 5.0\% + 1(R_m - R_f)$, then, $(R_m - R_f) = 6.43\%$

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

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

4 A. Staff's constant-growth DCF estimate of the cost of equity for the sample water utilities is
5 8.6 percent. The results are shown in Schedule SPI-2. A summary of the analysis is as
6 follows:

7 $k = \text{Dividend yield} + \text{Expected dividend growth}$

8 $k = 2.8\% + 5.8\%$

9 $k = 8.6\%$

10
11 **Q. What is Staff's multi-stage DCF analysis estimate of the cost of equity for the sample**
12 **water companies?**

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

16 Company	17 Equity Cost
	18 Estimate (k)
19 American States Water	9.2%
20 California Water	9.7%
21 Aqua America	8.8%
22 Connecticut Water	10.2%
23 Middlesex Water	10.6%
24 SJW Corp	<u>8.5%</u>
Average	9.5%

25
26 **Q. What is Staff's overall DCF estimate of the cost of equity?**

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

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

3 A. Staff's CAPM estimate of the cost of equity for the sample companies using the historical
4 market risk premium is 11.0 percent. The results are shown in Schedule SPI-2. A
5 summary of the analysis is as follows:

6
7 $k = \text{historical risk free rate} + \text{beta} * \text{historical market risk premium}$

8 $k = 4.5\% + 0.85 * 7.6\%$

9 $k = 4.5\% + 6.5\%$

10 $k = 11.0\%$
11

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

14 A. Staff's CAPM estimate of the cost of equity for the sample companies using the current
15 market risk premium is 10.5 percent. The results are shown in Schedule SPI-2. A
16 summary of the analysis is as follows:¹³

17
18 $k = \text{current risk free rate} + \text{beta} * \text{current market risk premium}$

19 $k = 5.0\% + 0.85 * 6.4\%$

20 $k = 5.0\% + 5.5\%$

21 $k = 10.5\%$
22

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

24 A. Staff's overall CAPM estimate for the sample utilities is 10.8 percent. This estimate is
25 calculated by averaging the historical market risk premium CAPM and the current market
26 risk premium CAPM estimates for the sample companies as shown in Schedule SPI-2.
27

¹³ Rounded Figures

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

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

3
4 **Table 2**

Method	Estimate
Average DCF Estimate	9.1%
Average CAPM Estimate	10.8%
Overall Average	10.0%

5 Staff's average estimate of the cost of equity of the sample water utilities is 10.0 percent.

6
7 **VII. FINAL COST OF EQUITY ESTIMATES FOR CORDES**

8 **Q. Does capital structure influence the cost of equity?**

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

14
15 **Q. Does Staff's recommended capital structure differ from the average capital structure
16 of the sample companies?**

17 A. Yes. Staff's recommended capital structure includes no debt. This debt free capital
18 structure reflects less financial risk than the average of the sample companies. The sample
19 companies average 50.1 percent debt and 49.9 percent equity.

20
21 **Q. Does Staff recommend an adjustment to recognize the difference in financial risk
22 between Cordes and the sample companies?**

23 A. No. Staff agrees that a debt free capital structure is appropriate for Cordes. The Company
24 is privately held and has no access to capital markets. An entity that lacks access to the

1 capital markets has comparatively less ability to manage its capital structure efficiently
2 than an entity with access to the capital markets. Therefore, an entity lacking access to the
3 capital markets should appropriately maintain a higher level of equity to maintain
4 financial health. A downward adjustment to return on equity would serve as a
5 disincentive for the Company to maintain a capital structure that is appropriate for its
6 circumstances.

7
8 **Q. What is Staff's ROE recommendation for Cordes?**

9 A. Staff recommends an ROE of 10.0 percent.

10
11 **VIII. RATE OF RETURN RECOMMENDATION**

12 **Q. What is Staff's overall rate of return recommendation for Cordes?**

13 A. Staff recommends a 10.0 percent ROR for Cordes. Staff's recommendation is based on a
14 capital structure composed of 0.0 percent debt and 100.0 percent equity and a 10.0 percent
15 ROE as shown in Schedule SPI-1 and Table 3 below.

16
17 **Table 3**

	Weight	Cost	Weighted Cost
Long-term Debt	0.0%	0.0%	0.0%
Common Equity	100.0%	10.0%	<u>10.0%</u>
Cost of Capital/ROR			10.0%

18
19 **IX. STAFF RESPONSE TO COMPANY'S PROPOSED RATE OF RETURN**

20 **Q. Please summarize the Company's cost of capital recommendations.**

21 A. The Company proposes a 5.7 percent rate of return in its Schedule A-1. While this figure
22 is not supported by the information contained in Company Schedule D-1, it does appear to
23 represent the Company's proposed rate of return. It is unclear from Schedule D-1 and

1 from a response to a data request on the subject what the Company proposes for a capital
2 structure to be used for purposes of rate making in this rate case.¹⁴

3
4 **Q. Has the Company provided any testimony or financial models that support a 5.7**
5 **percent rate of return?**

6 A. No testimony or financial models have been provided and the Company makes no clear
7 recommendation for either debt or equity. A rate of return of 5.7 percent is shown in the
8 Company's Schedule A-1. The figure can be derived from data contained in Schedule A-
9 1. Schedule A-1 includes an entry for Required Rate of Return and for Adjusted Rate
10 Base which are \$30,000 and \$524,384 respectively. Division of the Required Rate of
11 Return figure by the Adjusted Rate Base figure yields 5.7 percent. No information is
12 provided to support the Required Operating Income figure and no information is provided
13 to clearly support the 5.7 percent Rate of Return.

14
15 **X. RECOMMENDATIONS**

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

17 A. Staff recommends a 10.0 percent ROR for Cordes. Staff's recommendation is based on a
18 capital structure composed of 0.0 percent debt and 100.0 percent equity and a 10.0 percent
19 ROE as shown Table 4 below.

20
21 **Table 4**

	Weight	Cost	Weighted Cost
Long-term Debt	0.0%	0.0%	0.0%
Common Equity	100.0%	10.0%	<u>10.0%</u>
Cost of Capital/ROR			10.0%

22

¹⁴ Exhibit 2

1 Staff further recommends that the Commission reject the Company's proposed 5.7 percent
2 ROR. The Company did not provide any analysis in support of this rate of return.
3 Furthermore, the Company's application fails to make any clear recommendation for the
4 cost of debt or equity individually.

5

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

7 A. Yes, it does.

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



BRIAN C. McNEIL
Executive Director

ARIZONA CORPORATION COMMISSION

October 16, 2007

CERTIFIED MAIL

Chief Clerks Office
Illinois Commerce Commission
527 East Capitol Avenue
Springfield, Illinois 62701

To Whom It May Concern:

Arizona Corporation Commission Staff is requesting the customer complaint history for Horizon Telecom, Inc. d/b/a Horizon Telecom of Nevada, Inc. (Horizon). Staff understands that Horizon is certified to provide telecommunications services in the state of Illinois and that Horizon is currently providing telecommunications services to customers in the state of Illinois.

Horizon Telecom, Inc. d/b/a Horizon Telecom of Nevada, Inc has applied for a Certificate of Convenience and Necessity to provide telecommunications in the state of Arizona. Staff is inquiring about Horizon's customer history, in Illinois, in order to ensure quality service to potential customers in Arizona.

If Horizon has had complaints filed against it in Illinois, please indicate:

- A. Whether the complaints filed are formal or informal complaints;
- B. The types of complaints filed (i.e. slamming, cramming, billing, or service);
- C. If the complaints were resolved; and
- D. Whether the complaints were resolved in favor of Horizon or in favor of the complainant.

If you have any questions, please contact me by telephone at (602) 364-0235 or by email at callen@azcc.gov. Thank you for your prompt response to this request.

Respectfully,

Candrea Allen
Executive Consultant I
Arizona Corporation Commission
Utilities Division

CA:kdh

Original: Candrea Allen

Cordes Lakes Water Company
 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 ¹			
Debt	0.0%	0.0%	0.0%
Common Equity	100.0%	10.0%	10.0%
Weighted Average Cost of Capital/ROR			<u>10.0%</u>

[D] : [B] x [C]

Supporting Schedule: SPI-3

Cordes Lakes Water Company
 Final Cost of Equity Estimates
 Sample Water Utilities

[A]	[B]	[C]	[D]	[E]
DCF Method		D/P_a¹	+ q²	= k
Constant Growth DCF Estimate		2.8%	+ 5.8%	= 8.6%
Multi-Stage DCF Estimate				= 9.5%
Average of DCF Estimates				9.1%
CAPM Method		R_f	+ β³	= (R_D)⁶
Historical Market Risk Premium ³	+	4.5%	+ 0.85	= 7.6% ⁶
Current Market Risk Premium ⁴	+	5.0%	+ 0.85	= 6.4% ⁷
Average of CAPM Estimates				10.8%
Average				10.0%
Total				10.0%

1 MSN Money and Value Line

2 SPI-7

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

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

5 Value Line

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

7 Testimony

Cordes Lakes Water Company
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	52.2%	47.8%	100.0%
California Water	45.1%	54.9%	100.0%
Aqua America	54.5%	45.5%	100.0%
Connecticut Water	46.5%	53.5%	100.0%
Middlesex Water	54.7%	45.3%	100.0%
SJW Corp	<u>47.9%</u>	<u>52.1%</u>	<u>100.0%</u>
Average Sample Water Utilities	50.1%	49.9%	100.0%
Cordes Lakes Water Company	0.0%	100.0%	100.0%

Source:
Sample Water Companies from Value Line

Cordes Lakes Water Company
Growth in Earnings and Dividends
Sample Water Utilities

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

¹ Value Line

² Note that the figures -1.2% and -1.8% have been excluded from the calculation.

This has been done as negative growth is inconsistent with the DCF model.

Cordes Lakes Water Company
Sustainable Growth
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]
Company	Retention Growth 1997 to 2006 br	Retention Growth Projected br	Stock Financing Growth vs	Sustainable Growth 1997 to 2006 br + vs	Sustainable Growth Projected br + vs
American States Water	2.6%	4.5%	1.5%	4.1%	6.1%
California Water	2.3%	4.5%	4.3%	6.6%	8.9%
Aqua America	4.5%	3.9%	5.7%	10.2%	9.6%
Connecticut Water	2.8%	No Projection	0.7%	3.4%	No Projection
Middlesex Water	1.2%	No Projection	3.9%	5.1%	No Projection
SJW Corp	4.7%	No Projection	0.0%	4.7%	No Projection
Average Sample Water Utilities	3.0%	4.3%	2.7%	5.7%	8.2%

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

Cordes Lakes Water Company
Selected Financial Data of Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[G]
Company	Symbol	Spot Price 8/15/2007	Book Value	Mkt To Book	Value Line Beta	Raw Beta
American States Water	AWR	39.75	17.07	2.3	0.80	<u>0.67</u>
California Water	CWT	39.00	18.17	2.1	0.90	0.82
Aqua America	WTR	23.94	7.12	3.4	0.90	0.82
Connecticut Water	CTWS	24.33	12.13	2.0	0.90	0.82
Middlesex Water	MSEX	18.1	9.60	1.9	0.85	0.75
SJW Corp	SJW	33.56	12.21	<u>2.7</u>	<u>0.75</u>	<u>0.60</u>
Average				2.4	0.85	0.75

[C]: Men Money

[D]: Value Line

[E]: [C] / [D]

[F]: Value Line

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

Cordes Lakes Water Company
 Calculation of Expected Infinite Annual Growth in Dividends
 Sample Water Utilities

[A] <u>Description</u>	[B] <u>g</u>
DPS Growth - Historical ¹	2.8%
DPS Growth - Projected ¹	4.9%
EPS Growth - Historical ¹	4.0%
EPS Growth - Projected ¹	9.3%
Sustainable Growth - Historical ²	5.7%
<u>Sustainable Growth - Projected²</u>	<u>8.2%</u>
Average	5.8%

¹ Schedule SPI-4

² Schedule SPI-5

ARIZONA CORPORATION COMMISSION

Staff's Sixth Set of Data Requests to
Cordes Lakes Water Company
Docket No. W-02060A-07-0256

GTM-6.1 – Please explain why there are six turbo 3 meters attached to wells?

GTM-6.2 – Please identify any non-metered revenue (e.g. establishment charges, reconnection charges, meter rereads, or meter test removal) recognized during 2006?

GTM-6.3 – Please identify any other meter sizes (e.g. 2" meter to The Hub) not previously identified and provide a bill count for those meters.

GTM-6.4 - What is the company's proposal for the level of debt in the capital structure, expressed in dollars?

GTM-6.5 - What is the company's proposal for the level of equity in the capital structure, expressed in dollars?

GTM-6.6 - What is the company's proposal for cost of debt, expressed as a percentage?

GTM-6.7 - What is the company's proposed cost of equity, expressed as a percentage?

GTM-6.8 - What is the company's proposed total cost of capital, expressed as a percentage?

Cordes Lakes Water Company
Docket # W-02060A-07-0256

Answers to Data Request -6

GTM-6.1 – To measure water flow

GTM-6.2 - We do not keep a lot of separate records concerning these items except for charges recorded in Cordes. Marsha keeps records of establishment charges, reconnect fees, after hour charges, cut locks and other damages paid for in the Cordes office as part her bank deposit reconciliation. When deposited, however, the charges end up getting recorded as sales. Establishment charges that are added to first bills and paid with the bill end up getting recorded as water sales. NSF fees are handled in Tempe by reversing the payment and adding the NSF fee. When paid the amount is recorded as sales and the end of month reconciliation records the debit for the original bad check. Likewise any charges added to the bill eventually end up getting recorded as sales. Again, if paid in Cordes they are recorded on the reconciliation of Marsha's records but eventually record as sales. We have estimated as follows:

Estab. Charges	\$2,100
Reconnect	\$ 990
After Hours	\$ 100
NSF	\$ 450
Misc	\$ 145

All fees collected are taxable at the rate of 6.3%. Deposits and meter advances, of course, are not taxed

GTM-6.3 - You have bill counts for the 5 1-inch meters and the Hub Café.

GTM-6.4 THRU 6.8 – These are extremely confusing to both my accountant and me. Assuming the deposits and advances are not debt and no interest is paid on deposits, the cost of debt would be the minimum required by law, 5% on the outstanding \$50,000 balance. If this is a problem the Company can sell its unusable lots and pay the debt. The Company would be comfortable with a \$50,000 line of credit but can live without it. For present the cost would be \$2,500 declining as payments are made. Since the Company does not intended to sell any equity, pay dividends, or change the capital structure, we assume the future cost of equity and capital is what it is now, but as indicated, our accountant does not understand what is wanted on a company the size and structure of Cordes.

